APPENDIX B

Configuring GE_XP, 10GE_XP, GE_XPE, and 10GE_XPE Cards Using PCLI

This chapter explains how to provision GE_XP, 10GE_XP, GE_XPE, and 10GE_XPE cards using Pseudo Command Line Interface (PCLI).

Note The procedures and tasks described in this chapter for the Cisco ONS 15454 platform is applicable to the Cisco ONS 15454 M2 and Cisco ONS 15454 M6 platforms, unless noted otherwise.

Note Unless otherwise specified, "ONS 15454" refers to both ANSI and ETSI shelf assemblies.

Before You Begin

Before performing any of the following procedures, investigate all alarms and clear any trouble conditions. Refer to the *Cisco ONS 15454 DWDM Troubleshooting Guide* as necessary.

Caution Provisioning TXP and MXP cards can be service affecting. You should make all changes during a scheduled maintenance window.

This section lists the chapter procedures (NTPs). Turn to a procedure for applicable tasks (DLPs).

- NTP-G222 Access PCLI Text Interface, page B-2.
- NTP-G223 Create a Policy on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-4.
- NTP-G216 Enable Link Integrity on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-12.
- NTP-G220 Enable IGMP Snooping on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-14.
- NTP-G217 Enable IGMP Fast-Leave Processing on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-15.
- NTP-G218 Configure a Multicast Router Port on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-16.

- NTP-G219 Enable IGMP Report Suppression on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-17.
- NTP-G224 Enable MVR on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-18.
- NTP-G225 Provision SVLAN Rate Limiting on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Card Using PCLI, page B-13.
- NTP-G226 Enable MAC Address Learning on SVLANs for GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-11.
- NTP-G227 Create SVLAN for GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-19.
- NTP-G282 Configure the Channel Group on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-23
- NTP-G286 Configure EFM on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-26
- NTP-G284 Configure CFM on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-28
- NTP-G288 Configure REP on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-32

NTP-G222 Access PCLI Text Interface

Purpose	This procedure explains how to access PCLI text interface using CTC or Telnet.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 Complete the "DLP-G46 Log into CTC" task on page 3-30 at the node where you want to access PCLI. If you are already logged in, continue with Step 2.

Step 2 PCLI can be accesses in the following ways:

- To access PCLI text interface using CTC, select **Tools > Open Pseudo IOS Connection** menu option or right-click on the node in the Network View and select **Open Pseudo IOS Connection**.
- To access PCLI from the command prompt, telnet or SSH may be used depending on the access state set for PCLI access in **Provisioning > Security > Pseudo IOS Access** in Node view. If the access state is set to the default state, non-secure, a PCLI session can be established using telnet as shown in the following procedure:

	Command or Action	Purpose

Step 1	`telnet <node ip or node name> <port number>`
	
	Example:
	`telnet 10.76.148.176 65000`
	`MSTP-176>`
		Establishes a PCLI session using Telnet.
		
		Note The default port number for non-secure mode is 65000. The port number can be provisioned in CTC. To do so, go to Node view and click **Provisioning > Security > Pseudo IOS Access.**

Step 2	`exit`
	
	Example:
	`MSTP-176> exit`
		Exits PCLI text interface.

Step 3	`enable shelf/slot`
	
	Example:
	`MSTP 176# enable 1/12`
		Enters the Privileged EXEC mode from where you can enter other configuration modes. Several show commands are also available in the Privileged EXEC mode.

Stop. You have completed this procedure.		—

- If the access state is set to secure, a PCLI session can be established using a SSH client like Open SSH as shown in the following procedure:

	Command or Action	Purpose

Step 1	`ssh -p <node ip or node name > <port number>`
	
	Example:
	`ssh -p 10.76.148.194 64000`
	`MSTP-176>`
		Establishes a PCLI session using SSH.
		
		Note The default port number for secure mode is 64000. The port number can be provisioned in CTC. To do so, go to Node view and click **Provisioning > Security > Pseudo IOS Access.**

Step 2	`exit`
	
	Example:
	`MSTP-176> exit`
		Exits PCLI text interface.

Step 3	`enable shelf/slot`
	
	Example:
	`MSTP 176> enable 1/12`
		Enters the Privileged EXEC mode from where you can enter other configuration modes. Several show commands are also available in the Privileged EXEC mode.
		
		For more information on PCLI commands see the *Cisco ONS DWDM Reference Manual.*

Stop. You have completed this procedure.		—

Stop. You have completed this procedure.

NTP-G223 Create a Policy on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to create a policy on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note For detailed information on PCLI, see the *Cisco ONS 15454 DWDM Reference Manual.*

Step 1 Complete the "NTP-G222 Access PCLI Text Interface" task on page B-2 at the node where you want to create a policy. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks, as needed:

- DLP-G517 Create an Ingress Policy on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards Using PCLI, page B-4
- DLP-G518 Create a Egress Policy on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-5
- DLP-G519 Create a Service Instance Policy on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-7
- DLP-G520 Apply an Ingress Policy to a Port on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-8
- DLP-G521 Apply an Egress Policy to a Port on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-9
- DLP-G522 Apply a Service Instance Policy to a Port on GE_XPE or 10GE_XPE Cards Using PCLI, page B-9

Stop. You have completed this procedure.

DLP-G517 Create an Ingress Policy on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards Using PCLI

Purpose	This procedure explains how to create CIR, EIR, CBS, EBS and Ingress COS parameters as part of Ingress policy on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	None

Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note Once the CIR, EIR, CBS, EBS and Ingress COS parameters are created, the policy can be used across other cards of these types in the node. See "DLP-G520 Apply an Ingress Policy to a Port on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI" task on page B-8.

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`policy-map` *`name`*
	
	Example:
	`MSTP 176# (config) policy-map pmap`
	`MSTP-176# (config-pmap)#`
		Enters policy map configuration mode.

Step 3	`police cir percent % bc bytes be bytes`
	
	Example:
	`MSTP-176(config-pmap)#police cir percent 20 bc 64 be 128`
		Sets CIR, EIR, CBS and EBS values.

Step 4	`set cos` *`number`* **Example:** `MSTP 176 (config-pmap)# set cos 6`	Sets the Ingress COS parameter.

Step 5	`exit`
	
	Example:
	`MSTP-176(config-pmap# exit`
		Exits policy map configuration mode.

	Stop. You have completed this procedure.	—

DLP-G518 Create a Egress Policy on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to create an egress policy on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	None

Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note Once the Egress policy is created, the policy can be used across other cards of these types in the node. "DLP-G521 Apply an Egress Policy to a Port on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI" task on page B-9.

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`policy-map name`
	
	Example:
	`MSTP 176# (config) policy-map pmap`
	`MSTP-176# (config-pmap)#`
		Enters policy map configuration mode.

Step 3	`wrr-queue cos-map <queue-id> <cos1> <cosn>`
	
	Example:
	`MSTP-176(config-pmap)#wrr-queue cos-map 1 1`
		Maps a queue ID to a given COS.

Step 4	`wrr-queue <queue-id> weight <1-16> bandwidth percent <%>`
	
	Example:
	`MSTP 176 (config-pmap)# wrr-queue 1 weight 2 band per 90`
		Sets the WRR and bandwidth values on a queue.

Step 5	`exit`
	
	Example:
	`MSTP-176(config-pmap# exit`
		Exits policy map configuration mode.

	Stop. You have completed this procedure.	—

DLP-G519 Create a Service Instance Policy on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to create a service instance policy which can be used to define a COS for a CVLAN on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note Once the service instance policy is created, the policy can be used across other cards of these types in the node. "DLP-G522 Apply a Service Instance Policy to a Port on GE_XPE or 10GE_XPE Cards Using PCLI" task on page B-9

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`policy-map` *`name`*
	
	Example:
	`MSTP 176# (config) policy-map pmap`
	`MSTP-176# (config-pmap)#`
		Enters policy map configuration mode.

Step 3	`set cos <`*`number`*`>`
	
	Example:
	`MSTP 176 (config-pmap)# set cos 6`
		Sets the COS value.

Step 4	`exit`
	
	Example:
	`MSTP-176(config-pmap)# exit`
		Exits policy map configuration mode.

	Stop. You have completed this procedure.	—

DLP-G520 Apply an Ingress Policy to a Port on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to apply an Ingress policy to a port on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	• Complete DLP-G517 Create an Ingress Policy on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards Using PCLI, page B-4. • Before you apply the Ingress policy on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE card, make sure the port is shutdown.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	*`interface type port`*
	
	Example:
	`MSTP 176# (config) interface giga 1`
	`MSTP-176# (config-if)#`
		Enters interface configuration mode.

Step 3	`service-policy input <name>`
	
	Example:
	`MSTP 176 (config-if)# service-pol input ingresspolicy1`
		Maps the specified ingress policy to the port.

Step 4	`exit`
	
	Example:
	`MSTP-176(config-if# exit`
		Exits interface configuration mode.

	Stop. You have completed this procedure.	—

DLP-G521 Apply an Egress Policy to a Port on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to apply an Egress policy to a port on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	• Complete DLP-G518 Create a Egress Policy on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-5.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	*`interface type port`*
	
	Example:
	`MSTP 176# (config) interface giga 1`
	`MSTP-176# (config-if)#`
		Enters interface configuration mode.

Step 3	`service-policy output <name>`
	
	Example:
	`MSTP 176 (config-if)# service-policy output egresspolicy1`
		Maps the specified Egress policy to the port.

Step 4	`exit`
	
	Example:
	`MSTP-176(config-if)# exit`
		Exits interface configuration mode.

	Stop. You have completed this procedure.	—

DLP-G522 Apply a Service Instance Policy to a Port on GE_XPE or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to apply a service instance policy to a port on GE_XPE or 10GE_XPE cards using PCLI.
Tools/Equipment	None

Prerequisite Procedures
- Complete DLP-G519 Create a Service Instance Policy on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-7.
- Before you apply the Egress policy on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE card, make sure the port is shutdown.

Required/As Needed As needed

Onsite/Remote Onsite or remote

Security Level Provisioning or higher

Note A service instance cannot be edited on a a port using PCLI. The service instance policy must be specified at the time of service instance creation.

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	*`interface type port`*
	
	Example:
	`MSTP 176# (config) interface giga 1`
	`MSTP-176# (config-if#`
		Enters interface configuration mode.

Step 3	`service instance ethernet` *`vlan`*
	
	Example:
	`MSTP 176# (config-if) service instance ethernet vlan1`
	`MSTP-176# (config-if-srv)#`
		Enters service instance configuration mode.

Step 4	`rewrite ingress tag translate 1-to-1 <multipurpose vlan> push dot1q <svlan>`
	
	Example:
	`MSTP 176 (config-if-srv)# rewrite ingress tag translate 1 1 push dot1 1`
		Specifies the CVLAN and SVLAN relation on the port.

Step 5	`service policy input <policy name>`
	
	Example:
	`MSTP 176 (config-if-srv)# service-policy input serviceinstancepolicy1`
		Associates the service instance policy specified to a port.

Step 6	`exit`
	
	Example:
	`MSTP-176(config-if-srv)# exit`
	`MSTP-176(config-if)#`
		Exits service instance configuration mode.

	Command or Action	Purpose

Step 7	`exit`
	
	Example:
	`MSTP-176(config-if)# exit`
		Exits interface configuration mode.

	Stop. You have completed this procedure.	—

NTP-G226 Enable MAC Address Learning on SVLANs for GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to enable MAC address learning on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	NTP-G222 Access PCLI Text Interface, page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note For detailed information on PCLI, see the *Cisco ONS 15454 DWDM Reference Manual.*

Step 1 Complete the "NTP-G222 Access PCLI Text Interface" task on page B-2 at the node where you want to enable MAC address learning. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`enable shelf/slot`
	
	Example:
	`MSTP 176# enable 1/12`
		Selects shelf and slot to be configured for a card.

Step 2	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 3	`mac-address-table learning vlan <vlan-id>`
	
	Example:
	`MSTP-176(config)# mac-address-table learning vlan 2`
		Enables interface based learning of MAC address. Repeat the command on each SVLAN to enable MAC address learning.

	Command or Action	Purpose

Step 4	`mac-address-table learning interface <type> <port>`
	
	Example:
	`MSTP-176(config)# mac-address-table learning gigabitethernet 2`
		Enables interface based learning of MAC address. Repeat the command on each SVLAN to enable MAC address learning.

Step 5	**`exit`** **Example:** `MSTP-176(config)# exit`	Exits global configuration mode.
Step 6	Return to your originating procedure (NTP).	—

NTP-G216 Enable Link Integrity on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to enable link integrity on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	NTP-G222 Access PCLI Text Interface, page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note For detailed information on PCLI, see the *Cisco ONS 15454 DWDM Reference Manual.*

Step 1 Complete the "NTP-G222 Access PCLI Text Interface" task on page B-2 at the node where you want to enable link integrity. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`vlan profile` *`name`*
	
	Example:
	`MSTP 176 (config)# vlan profile profile4`
	`MSTP 176 (config-profile)`
		Enters VLAN profile configuration mode.

	Command or Action	Purpose

Step 3	`link integrity`
	
	Example:
	`MSTP 176 (config-profile) link integrity`
		Enables link integrity.

Step 4	`exit`
	
	Example:
	`MSTP-176(config-profile)# exit`
		Exits VLAN profile configuration mode.

Step 5	`vlan profile name vlan svlanid interface type port`
	
	Example:
	`MSTP 176 (config)# vlan profile a vlan 2 interface gigabitethernet 2`
		Associates the SVLAN profile to a SVLAN on a port.

Step 6	`interface type port`
	
	Example:
	`MSTP 176 (config)# interface gigabitethernet 2`
		Enters interface configuration mode.

Step 7	`link integrity action {none | squelch | propagate}`
	
	Example:
	`MSTP 176 (config-if)# link integrity action squelch`
		When an AIS packet is received on a SVLAN terminating on the UNI port, the UNI port is squelched.

Step 8	`exit`
	
	Example:
	`MSTP-176(config-profile)# exit`
		Exits interface configuration mode.

Step 9	Return to your originating procedure (NTP).	—

NTP-G225 Provision SVLAN Rate Limiting on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Card Using PCLI

Note For detailed information on PCLI, see the *Cisco ONS 15454 DWDM Reference Manual.*

Step 1 Complete the "NTP-G222 Access PCLI Text Interface" task on page B-2 at the node where you want to provision SVLAN rate limiting. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`vlan profile name`
	
	Example:
	`MSTP 176 (config)# vlan profile profile4`
	`MSTP 176 (config-profile)`
		Enters VLAN profile configuration mode.

Step 3	`police cir percent <%> pir percent <%> bc <byte> be <byte>`
	
	Example:
	`MSTP-176(config-profile)# police cir percent 20 bc 64 be 128`
		Enters ingress rate limits.

Step 4	`exit`
	
	Example:
	`MSTP-176(config-profile)# exit`
		Exits VLAN profile configuration mode.

Step 5	`vlan profile name vlan svlanid interface type port`
	
	Example:
	`MSTP 176 (config)# vlan profile a vlan 2 interface gigabitethernet 2`
		Associates the SVLAN profile to a SVLAN on a port.

Step 6	Return to your originating procedure (NTP).	—

NTP-G220 Enable IGMP Snooping on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to enable IGMP snooping on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note For detailed information on PCLI, see the *Cisco ONS 15454 DWDM Reference Manual.*

Step 1 Complete the "NTP-G222 Access PCLI Text Interface" task on page B-2 at the node where you want to enable IGMP snooping. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`vlan <vlan-id>`
	
	Example:
	`MSTP-176# (config)# vlan 2`
	`MSTP-176# (config-vlan)#`
		Enters VLAN configuration mode.

Step 3	`ip igmp snooping`
	
	Example:
	`MSTP-176(config-vlan)# ip igmp snooping`
		Enables IGMP snooping.
		Note To disable IGMP snooping, use the **no ip igmp snooping** command.

Step 4	`exit`
	
	Example:
	`MSTP-176(config-vlan)# exit`
		Exits VLAN configuration mode.

Step 5	Return to your originating procedure (NTP)	—

NTP-G217 Enable IGMP Fast-Leave Processing on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to enable fast-leave processing on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note For detailed information on PCLI, see the *Cisco ONS 15454 DWDM Reference Manual.*

Step 1 Complete the "NTP-G222 Access PCLI Text Interface" task on page B-2 at the node where you want to enable IGMP fast-leave processing. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`vlan <vlan-id>`
	
	Example:
	`MSTP-176# (config)# vlan 2`
	`MSTP-176# (config-vlan)#`
		Enters VLAN configuration mode.

Step 3	`ip igmp snooping immediate-leave`
	
	Example:
	`MSTP-176(config-vlan)# ip igmp snooping immediate-leave`
		Enables IGMP fast-leave processing.
		Note To disable fast-leave processing, use the **no ip igmp snooping immediate-leave** configuration command.

Step 4	`exit`
	
	Example:
	`MSTP-176(config-vlan)# exit`
		Exits VLAN configuration mode.

	Stop. You have completed this procedure.	—

NTP-G218 Configure a Multicast Router Port on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to configure multicast router port on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note For detailed information on PCLI, see the *Cisco ONS 15454 DWDM Reference Manual.*

Step 1 Complete the "NTP-G222 Access PCLI Text Interface" task on page B-2 at the node where you want to configure multicast router ports. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`interface {gigabitethernet | tengigabitethernet} port`
	
	Example:
	`MSTP-176(config)# interface gigabitethernet 1`
	`MSTP-176(config-if)#`
		Enters interface configuration mode.

Step 3	`ip igmp snooping mrouter`
	
	Example:
	`MSTP-176(config-if)# ip igmp snooping mrouter`
		Enables multicast router port functionality on a port.
		Note To disable multicast router functionality on the port, enter interface configuration mode, and use the **no ip igmp snooping mrouter** command.

Step 4	`exit`
	
	Example:
	`MSTP-176(config-if)# exit`
		Exits interface configuration mode.

	Stop. You have completed this procedure.	—

NTP-G219 Enable IGMP Report Suppression on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains to how enable IGMP report suppression on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note For detailed information on PCLI, see the *Cisco ONS 15454 DWDM Reference Manual.*

Step 1 Complete the "NTP-G222 Access PCLI Text Interface" task on page B-2 at the node where you want to enable report suppression. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`vlan id`
	
	Example:
	`MSTP-176# (config)# vlan 2`
	`MSTP-176# (config-vlan)#`
		Enters VLAN configuration mode.

Step 3	`ip igmp snooping report-suppression`
	
	Example:
	`MSTP-176(config-vlan))# ip igmp snooping report-suppression`
		Globally enables IGMP snooping report suppression.
		Note To disable report suppression, use the **no ip igmp snooping report-suppression** in VLAN configuration mode.

Step 4	`exit`
	
	Example:
	`MSTP-176(config-vlan)# exit`
		Exits VLAN configuration mode.

	Stop. You have completed this procedure.	—

NTP-G224 Enable MVR on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to enable MVR on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note For detailed information on PCLI, see the *Cisco ONS 15454 DWDM Reference Manual.*

Step 1 Complete the "NTP-G222 Access PCLI Text Interface" task on page B-2 at the node where you want to enable MVR. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`mvr group ip-address count`
	
	Example:
	`MSTP-176(config)# mvr group 228.1.23.4`
		Specify the starting IP address for a range of multicast group addresses for which MVR needs to be enabled. Use the count parameter to limit the number of groups.
		Note A maximum of 256 MVR multicast groups can be configured on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE card.
		Note MVR is applied only on multicast groups configured here. For multicast groups that are not in this range, normal IGMP processing occurs.
		Note Count can be set from 1 to 256. Use 1 to enable MVR on a single group. The IP address range must be 224.0.0.0 to 239.255.255.255.

Step 3	`mvr vlan` *`vlan-id`* **Example:** `MSTP-176(config)# mvr vlan 2`	Specifies the VLAN in which multicast data is received; all ports must belong to this VLAN. The VLAN range is 1 to 4093.

Step 4	`mvr`
	
	Example:
	`MSTP-176(config)# mvr`
		Enables MVR.
		Note To disable MVR, use the **no mvr** in global configuration mode.

Step 5	`exit`
	
	Example:
	`MSTP-176(config-if)# exit`
		Exits global configuration mode.

Step 6	Return to your originating procedure (NTP).	—

NTP-G227 Create SVLAN for GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to create or delete SVLANs on GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	None
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note For detailed information on PCLI, see the *Cisco ONS 15454 DWDM Reference Manual.*

Step 1 Complete the "NTP-G222 Access PCLI Text Interface" task on page B-2 at the node where you want to create an SVLAN. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`vlan <vlan-id>`
	
	Example:
	`MSTP-176# (config)# vlan 2`
		Creates a VLAN.
		Note To delete an SVLAN, use the **no config vlan <vlan-id>** command in global configuration mode.

Step 3	`exit`
	
	Example:
	`MSTP-176(config)# exit`
		Exits global configuration mode.

	Stop. You have completed this procedure.	—

NTP-G228 Create a Service Instance Using PCLI

Purpose	This procedure explains how to create a service instance that is used to define the VLAN configuration on the UNI and NNI ports of GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	Create SVLANs that you want to include in the service instance.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note For detailed information on PCLI, see the *Cisco ONS 15454 DWDM Reference Manual.*

Step 1 Complete the "NTP-G222 Access PCLI Text Interface" task on page B-2 at the node where you want to create an SVLAN. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	*`interface type port`*
	
	Example:
	`MSTP 176# (config) interface giga 1`
	`MSTP-176# (config-if)#`
		Enters interface configuration mode.

Step 3	`service instance ethernet` *`vlan`*
	
	Example:
	`MSTP 176# (config-if)# service instance ethernet vlan10`
	`MSTP-176# (config-if-srv)#`
		Enters service instance configuration mode.
		If the port is configured as a UNI, then go to Step 4. If the port is configured as an NNI port, go to step Step 14.

Step 4	`encapsulation default`
	
	Example:
	`MSTP 176# (config-if-srv)# encapsulation default`
		Configures the port in transparent mode.
		Note Before executing this command, the ports must be in disabled state.
		Note The encapsulation and rewrite commands must be executed as pairs. Every rewrite command must be preceeded by an encapsulation command. Only one encapsulation and rewrite command pair can be executed per port.

Step 5	`rewrite ingress tag push dot1q <svlan>`
	
	Example:
	`MSTP 176# (config-if-srv)# rewrite ingress tag push dot1q 10`
		Note Before executing this command, the ports must be in disabled state.
		Note The encapsulation and rewrite commands must be executed as pairs. Every rewrite command must be preceeded by an encapsulation command. Only one encapsulation and rewrite command pair can be executed per port.

Step 6	`encapsulation dot1q <first cvlan> <last cvlan>`
	
	Example:
	`MSTP 176# (config-if-srv)# encapsulation dot1 20 30`
		Configures a port in selective add mode with a range of CVLANs mapped to a given SVLAN.
		Tagged frames with VLAN ID in the range between 20 to 30 (Inclusive of 20 and 30) are matched.

Step 7	`rewrite ingress tag push dot1q <svlan>`
	
	Example:
	`MSTP 176# (config-if-srv)# rewrite ingress tag push dot1q 10`
		Note Before executing this command, the ports must be in disabled state.
		Note The encapsulation and rewrite commands must be executed as pairs. Every rewrite command must be preceeded by an encapsulation command. Only one encapsulation and rewrite command pair can be executed per port.
		Note Multiple encapsulation and rewrite commands can be configured as part of the same service instance.

	Command or Action	Purpose

Step 8	`encapsulation dot1q <first cvlan> <last cvlan>`
	
	Example:
	`MSTP 176# (config-if-srv)# encapsulation dot1 20 20`
		Configures a port in selective translate mode.
		Tagged frames with VLAN ID 20 are matched.

Step 9	`rewrite ingress tag translate 1-to-1 <svlan>`
	
	Example:
	`MSTP 176# (config-if-srv)# rewrite ingress tag translate 1 10`
		Overwrites the Ingress tag 20 with the SVLAN tag value of 10.
		Note No two encapsulation and rewrite commands on the port that are configured either as part of a given service instance or as a different service instance can have the same SVLAN.

Step 10	`encapsulation untagged`
	
	Example:
	`MSTP 176# (config-if-srv)# encapsulation untagged`
		Configures a port in double add mode.
		To match untagged packets specify CVLAN to be 0.

Step 11	`rewrite ingress tag push dot1q <multipurpose vlan> second-dot1q <svlan>`
	
	Example:
	`MSTP 176# (config-if-srv)# rewrite ingress tag push dot1q 10 second-dot1q 20`
		To add two SVLAN tags to the Ingress untagged packet.
		Note Only one encapsulation and rewrite command pair can be executed per port.
		Note This configuration is supported only on GE_XPE & 10 GE_XPE cards.

Step 12	`encapsulation dot1q <first cvlan> <last cvlan>`
	
	Example:
	`MSTP 176# (config-if-srv)# encapsulation dot1q 9 9`
		Matches tagged frames with VLAN ID, 9.

Step 13	`rewrite ingress tag translate 1-to-1 <multipurpose vlan> push dot1q <svlan>`
	
	Example:
	`MSTP 176# (config-if-srv)# rewrite ingress tag translate 1 25 push dot1 30`
		Translates CVLAN tag to SVLAN tag 25 and adds another SVLAN tag, 30.
		Note This configuration is supported only on GE_XPE & 10 GE_XPE cards.

Step 14	`bridge-domain <svlan>`
	
	Example:
	`MSTP 176# (config-if-srv)# bridge-domain 10`
		Adds the port to SVLAN 10.

Step 15	`exit`
	
	Example:
	`MSTP 176# (config-if-srv)# exit`
	`MSTP 176# (config-if)#`
		Exits service instance configuration mode.

	Command or Action	Purpose

Step 16	`exit`
	
	Example:
	`MSTP 176# (config-if)# exit`
	`MSTP-176(config)#`
		Exits interface configuration mode.

Step 17	`exit`
	
	Example:
	`MSTP-176(config)# exit`
		Exits global configuration mode.

	Stop. You have completed this procedure.	—

NTP-G282 Configure the Channel Group on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to create and configure the channel group on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G222 Access PCLI Text Interface" task on page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note For detailed information on PCLI, see the *Cisco ONS 15454 DWDM Reference Manual.*

Step 1 Complete the "NTP-G222 Access PCLI Text Interface" task on page B-2 at the node where you want to create and configure the channel group. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks, as needed:

- DLP-G619 Create a Channel Group on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-24
- DLP-G620 Add Ports to a Channel Group on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-25

Stop. You have completed this procedure.

DLP-G619 Create a Channel Group on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to create a channel group and change the channel group mode on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G222 Access PCLI Text Interface" task on page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note You can create up to 11 channel groups on GE_XP and GE_XPE cards and up to 2 channel groups on 10GE_XP and 10GE_XPE cards.

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`interface channel-group` *`number`* **Example:** `MSTP 176(config)# interface channel-group 7`	Creates a channel group with id 7.

Step 3	`interface` *`channel-number`*
	
	Example:
	`MSTP 176#(config)# interface 1`
	`MSTP-176# (config-if)#`
		Enters interface configuration mode.

Step 4	`mode` *`chanlgrp-mode`* **Example:** `MSTP 176 (config-if)# mode passive`	Sets a channel group mode to passive.

Step 5	`exit`
	
	Example:
	`MSTP-176(config-if)# exit`
		Exits interface configuration mode.

	Stop. You have completed this procedure.	—

DLP-G620 Add Ports to a Channel Group on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to add ports to a channel group on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G222 Access PCLI Text Interface" task on page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note You can assign up to eight ports to a channel group on the GE_XP and GE_XPE cards and up to three ports on the 10GE_XP and 10GE_XPE cards.

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`interface` *`type port`*
	
	Example:
	`MSTP 176# (config) interface giga 15`
	`MSTP-176# (config-if)#`
		Enters interface configuration mode.

Step 3	`channel-group` *`port-number`* **Example:** `MSTP 176 (config-if)# channel-group 1`	Adds a port to a channel group.

Step 4	`exit`
	
	Example:
	`MSTP-176(config-if)# exit`
		Exits interface configuration mode.

	Stop. You have completed this procedure.	—

NTP-G286 Configure EFM on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to configure EFM on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G222 Access PCLI Text Interface" task on page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note For detailed information on PCLI, see the *Cisco ONS 15454 DWDM Reference Manual.*

Step 1 Complete the "NTP-G222 Access PCLI Text Interface" task on page B-2 at the node where you want to configure EFM. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks, as needed:

- DLP-G643 Enable EFM on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-26
- DLP-G644 Configure the EFM Mode on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-27

Stop. You have completed this procedure.

DLP-G643 Enable EFM on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to enable EFM on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G222 Access PCLI Text Interface" task on page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note EFM is enabled on an interface.

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`interface` *`type port`*
	
	Example:
	`MSTP 176# (config) interface giga 1`
	`MSTP-176# (config-if)#`
		Enters interface configuration mode.

Step 3	`ethernet oam mode` *`efm_mode`* **Example:** `MSTP 176 (config-if)# ethernet oam mode passive`	Enables EFM on an interface.

Step 4	`exit`
	
	Example:
	`MSTP-176(config-if)# exit`
		Exits interface configuration mode.

	Stop. You have completed this procedure.	—

DLP-G644 Configure the EFM Mode on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to configure the EFM mode on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G222 Access PCLI Text Interface" task on page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`interface type port`
	
	Example:
	`MSTP 176# (config) interface giga 1`
	`MSTP-176# (config-if)#`
		Enters interface configuration mode.

Step 3	`ethernet oam mode efm-mode`
	
	Example:
	`MSTP 176 (config-if)# ethernet oam mode passive`
		Sets the EFM mode to passive.

Step 4	`exit`
	
	Example:
	`MSTP-176(config-if)# exit`
		Exits interface configuration mode.

	Stop. You have completed this procedure.	—

NTP-G284 Configure CFM on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to configure CFM on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G222 Access PCLI Text Interface" task on page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note For detailed information on PCLI, see the *Cisco ONS 15454 DWDM Reference Manual.*

Step 1 Complete the "NTP-G222 Access PCLI Text Interface" task on page B-2 at the node where you want to configure CFM. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks, as needed:

- DLP-G635 Enable CFM on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-29

- DLP-G636 Create a Maintenance Domain on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-29
- DLP-G637 Create a Maintenance Intermediate Point on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-30
- DLP-G638 Create a Maintenance End Point on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-31

Stop. You have completed this procedure.

DLP-G635 Enable CFM on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to enable CFM on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G222 Access PCLI Text Interface" task on page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`ethernet cfm ieee`
	
	Example:
	`MSTP 176(config)# ethernet cfm ieee`
		Enables CFM on the card.

Step 3	`exit`
	
	Example:
	`MSTP-176(config)# exit`
		Exits global configuration mode.

	Stop. You have completed this procedure.	—

DLP-G636 Create a Maintenance Domain on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to create a maintenance domain on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None

Prerequisite Procedures	"NTP-G222 Access PCLI Text Interface" task on page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`ethernet cfm domain` *`domain_name`* `level` *`level`* **Example:** `MSTP 176 (config)# ethernet cfm domain test_domain level 4`	Creates a maintenance domain with a specific maintenance level.

Step 3	`exit`
	
	Example:
	`MSTP-176(config)# exit`
		Exits global configuration mode.

	Stop. You have completed this procedure.	—

DLP-G637 Create a Maintenance Intermediate Point on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to create a Maintenance Intermediate Point (MIP) on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G222 Access PCLI Text Interface" task on page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 1	`interface type port`
	
	Example:
	`MSTP 176# (config) interface giga 1`
	`MSTP-176# (config-if)#`
		Enters interface configuration mode.

Step 2	`ethernet cfm mip level level vlan vlan`
	
	Example:
	`MSTP 176 (config-if)# ethernet cfm mip level 4 vlan 100`
		Creates a MIP and configures the MIP parameters.

Step 3	`exit`
	
	Example:
	`MSTP-176(config-if)# exit`
		Exits interface configuration mode.

	Stop. You have completed this procedure.	—

DLP-G638 Create a Maintenance End Point on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to create a Maintenance End Point (MEP) on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G222 Access PCLI Text Interface" task on page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 1	`interface type port`
	
	Example:
	`MSTP 176# (config) interface giga 1`
	`MSTP-176# (config-if)#`
		Enters interface configuration mode.

Step 2	`ethernet cfm mep domain domain_name mepid mepid vlan vlan`
	
	Example:
	`MSTP 176 (config-if)# ethernet cfm mep domain test_mep mepid 100 vlan 200`
		Creates a MEP and configures the MEP parameters.

Step 3	`exit`
	
	Example:
	`MSTP-176(config-if)# exit`
		Exits interface configuration mode.

	Stop. You have completed this procedure.	—

NTP-G288 Configure REP on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to configure REP on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G222 Access PCLI Text Interface" task on page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note For detailed information on PCLI, see the *Cisco ONS 15454 DWDM Reference Manual.*

Step 1 Complete the "NTP-G222 Access PCLI Text Interface" task on page B-2 at the node where you want to configure REP. If you are already logged in, continue with Step 2.

Step 2 Complete the following tasks, as needed:

- DLP-G649 Create a Segment on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-33

- DLP-G650 Configure STCN on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI, page B-34
- DLP-G651 Configure Preemption Delay on the Primary Edge Port Using PCLI, page B-35
- DLP-G652 Configure VLAN Load Balancing on the Primary Edge Port Using PCLI, page B-36

Stop. You have completed this procedure.

DLP-G649 Create a Segment on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to enable REP on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G222 Access PCLI Text Interface" task on page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`interface type port`
	
	Example:
	`MSTP 176# (config) interface giga 1`
	`MSTP-176# (config-if)#`
		Enters interface configuration mode.

Step 3	`rep segment id edge primary`
	
	Example:
	`MSTP 176# (config-if) rep segment 10 edge primary`
		Enables REP on a port and assigns a segment ID to the port. This command also configures the port as the primary edge port.

Step 4	`rep segment id edge`
	
	Example:
	`MSTP 176# (config-if) rep segment 10 edge`
		Configures the port as the secondary edge port.

Step 5	`rep segment id edge no-neighbor`
	
	Example:
	`MSTP 176# (config-if) rep segment 10 edge no-neighbor`
		Specifies that the edge port must not have a neighbor port.

	Command or Action	Purpose

Step 6	`rep segment id preferred`
	
	Example:
	`MSTP 176# (config-if) rep segment 10 preferred`
		Configures the edge port as a preferred alternate port.

Step 7	`exit`
	
	Example:
	`MSTP-176(config-if)# exit`
		Exits interface configuration mode.

	Stop. You have completed this procedure.	—

DLP-G650 Configure STCN on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE Cards Using PCLI

Purpose	This procedure explains how to configure segment topology change notifications (STCNs) on the GE_XP, 10GE_XP, GE_XPE, or 10GE_XPE cards using PCLI.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G222 Access PCLI Text Interface" task on page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`interface type port`
	
	Example:
	`MSTP 176# (config) interface giga 1`
	`MSTP-176# (config-if)#`
		Enters interface configuration mode.

Step 3	`rep stcn segment id`
	
	Example:
	`MSTP 176 (config-if)# rep stcn segment 25`
		Configures a edge port to send REP STCNs to a specific segment.

	Command or Action	Purpose

Step 4	`rep stcn interface id`
	
	Example:
	`MSTP 176 (config-if)# rep stcn interface 10`
		Configures a edge port to send REP STCNs to a specific interface.

Step 5	`exit`
	
	Example:
	`MSTP-176(config-if)# exit`
		Exits interface configuration mode.

	Stop. You have completed this procedure.	—

DLP-G651 Configure Preemption Delay on the Primary Edge Port Using PCLI

Purpose	This procedure explains how to configure preemption time delay on a primary edge port using PCLI.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G222 Access PCLI Text Interface" task on page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`interface type port`
	
	Example:
	`MSTP 176# (config) interface giga 1`
	`MSTP-176# (config-if)#`
		Enters interface configuration mode.

Step 3	`rep preempt delay seconds`
	
	Example:
	`MSTP 176 (config-if)# rep preempt delay 100`
		Configures preemption time delay of 100 seconds on the primary edge port.

Step 4	`exit`
	
	Example:
	`MSTP-176(config-if)# exit`
		Exits interface configuration mode.

	Stop. You have completed this procedure.	—

DLP-G652 Configure VLAN Load Balancing on the Primary Edge Port Using PCLI

Purpose	This procedure explains how to configure VLAN load balancing on a primary edge port using PCLI.
Tools/Equipment	None
Prerequisite Procedures	"NTP-G222 Access PCLI Text Interface" task on page B-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Complete the following tasks, as needed:

	Command or Action	Purpose

Step 1	`configure terminal`
	
	Example:
	`MSTP 176# configure terminal`
		Enters global configuration mode.

Step 2	`interface` *`type port`*
	
	Example:
	`MSTP 176# (config) interface giga 1`
	`MSTP-176# (config-if)#`
		Enters interface configuration mode.

Step 3	`rep block port id` *`port_id`* `vlan` *`vlan_list`* **Example:** `MSTP 176 (config-if)# rep block port id 0X0080001647FB1780 vlan 1-100`	Configures the alternate port to block VLANs 1 to 100.

Step 4	`rep block port preferred vlan vlan_list`
	
	Example:
	`MSTP 176 (config-if)# rep block port preferred vlan 1-100`
		Configures VLAN load balancing for the preferred port.

Step 5	`exit`
	
	Example:
	`MSTP-176(config-if)# exit`
		Exits interface configuration mode.

	Stop. You have completed this procedure.	—