CHAPTER 24

Using MPLS-TP Commands

MPLS-TP is a carrier-grade packet transport technology that enables the move from SONET and SDH time-division multiplexing (TDM) to packet switching. MPLS-TP enables MPLS to be deployed in a transport network and to operate similarly to existing transport technologies. MPLS-TP enables MPLS to support packet transport services with a degree of predictability that is similar to the existing transport networks.

The goal of MPLS-TP is to provide connection-oriented transport for packet and TDM services over networks leveraging the widely deployed MPLS technology. Operations, administration, and maintenance (OAM) and resiliency features are defined and implemented in MPLS-TP to ensure:

- Scalable operations
- High availability
- Performance monitoring
- Multidomain support
- Carrier-grade packet transport networks

An MPLS-TP tunnel has:

- Two endpoints where the tunnel is configure as a tunnel interface
- One or two bidirectional label switched path (LSP) pairs between the endpoints. If there are two pairs, then one is a working path, the second a protection path.
- Pair of bidirectional LSPs that are congruent.
- Where there is no control plane, the LSPs are configured at all the midpoints.
- The MPLS-TP tunnel is used to carry pseudowires.

Supported Network Elements

You can run the MPLS-TP commands on the following network elements:

- Cisco 7600 Series Routers
- Cisco Carrier Packet Transport (CPT) System
- Cisco ASR 9000 Series Aggregation Services Routers
- Cisco ASR 903 Series Aggregation Services Routers

Configuring MPLS-TP Components

The following commands facilitate the configuration of MPLS-TP components:

Tunnel Ping

Use the **Tunnel Ping** command to ping the MPLS-TP tunnel.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > Tunnel Ping.**

Step 3 Enter values for the following parameters.

Input Parameter	Description
TunnelId	The unique identifier of the MPLS-TP tunnel. The range of the tunnel is from 1 to 65535
LSP Path	The LSP path information- path, working.

Step 4 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 5 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 6 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 7 To close the dialog box, click **Close**.

Tunnel Trace

Use the **Tunnel Trace** command to trace the MPLS-TP tunnel.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > Tunnel Trace**

Step 3 Enter values for the following parameters.

Input Parameter	Description
TunnelID	The unique identifier of the MPLS-TP tunnel. The range of the tunnel is from 1 to 65535
LSP Path	The LSP path information.

Step 4 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 5 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 6 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 7 To close the dialog box, click **Close**.

LSP Path Lockout

Use the **LSP Path Lockout** command to lock the LSP path.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > LSP path lockout.**

Step 3 Enter values for the following parameters.

Input Parameter	Description
TunnelID	The unique identifier of the MPLS-TP tunnel. The range of the tunnel is from 1 to 65535
LSP Path	The LSP path information- Protect LSP, Working LSP.
Lockout	The lockout of the LSP is signaled from one endpoint to the other.

Step 4 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 5 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 6 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 7 To close the dialog box, click **Close**.

Note You can acccess the Lsp Path Lock Out command at both the Lsp tunnel level and the end point level. While executing the commands in the end point level, Prime Network retrieves the values from the IMO object. You must specify if the Lsp is protected or working Lsp while executing the commands in the tunnel level.

LSP Ping

Use the LSP Ping command to ping the LSP tunnel interface.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > LSP ping.**

Step 3 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 4 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 5 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 6 To close the dialog box, click **Close**.

Lsp Trace

Use the LSP trace command to trace the LSP tunnel interface.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > LSP Trace.**

Step 3 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 4 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 5 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 6 To close the dialog box, click **Close**.

Lsp Lockout

Use the LSP Lockout command to perform an LSP lockout.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > LSP Lockout.**

Step 3 Enter values for the following parameters.

Input Parameter	Description
LSP Path	The LSP path information- Protect LSP, Working LSP.

Step 4 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 5 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 6 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 7 To close the dialog box, click **Close**.

Note You can acccess the Lsp Lock Out command at both the Lsp tunnel level and the end point level. While executing the commands in the end point level, Prime Network retrieves the values from the IMO object. You must specify if the Lsp is protected or working Lsp while executing the commands in the tunnel level.

Lsp Path No Lockout

Use the lsp no lock out command to remove a lock out of the lsp path.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > LSP Path No Lockout.**

Step 3 Enter values for the following parameters

Input Parameter	Description
LSP Path	The LSP path information- Protect LSP, Working LSP.

Step 4 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 5 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 6 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 7 To close the dialog box, click **Close**.

Note You can acccess the Lsp No Lockout command at both the Lsp tunnel level and the end point level. While executing the commands in the end point level, Prime Network retrieves the values from the IMO object. You must specify if the Lsp is protected or working while executing the commands in the tunnel level.

Add Global Configuration

Use the Add Global Configuration command to add a new global configuration.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > Add Global Configuration.**

Note To view the command in the Cisco Carrier Packet Transport (CPT) System, you must right-click the Cisco Carrier Packet Transport (CPT) System in the Prime Network Vision List or Map View and click **Logical Inventory > CPT Context Container**.

Step 3 Enter values for the following parameters.

Input Parameter	Description
Router-id	The unique identifier of the router.
Global-id	The range of the identifier for the global configuration.
Fault OAM refresh timer value	The refresh timer value.
Wait before restoring timer value	The waiting time value before restore.

Step 4 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 5 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 6 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 7 To close the dialog box, click **Close**.

Remove Global Configuration

Use the Remove Global Configuration command to remove a global configuration.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > Remove Global Configuration.**

Note To view the command in the Cisco Carrier Packet Transport (CPT) System, you must right-click the Cisco Carrier Packet Transport (CPT) System in the Prime Network Vision List or Map View and click **Logical Inventory > CPT Context Container**.

Step 3 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 4 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 5 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 6 To close the dialog box, click **Close**.

Update Global Configuration

Use the Update Global Configuration command to update an existing global configuration.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > Update Global Configuration.**

Note To view the command in the Cisco Carrier Packet Transport (CPT) System, you must right-click the Cisco Carrier Packet Transport (CPT) System in the Prime Network Vision List or Map View and click **Logical Inventory > CPT Context Container.**

Step 3 Enter values for the following parameters.

Input Parameter	Description
Router-id	The unique identifier of the router.
Global-id	The range of the identifier for the global configuration.
Fault OAM refresh timer value	The refresh timer value.
Wait before restoring timer value	The waiting time value before restore.

Step 4 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 5 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 6 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 7 To close the dialog box, click **Close**.

Add Link Configuration

Use the Add Link Configuration command to add link configuration.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > Add Link Configuration.**

Note To view the command in the Cisco Carrier Packet Transport (CPT) System, you must right-click the Cisco Carrier Packet Transport (CPT) System in the Prime Network Vision List or Map View and click **Logical Inventory > CPT Context Container**.

Step 3 Enter values for the following parameters.

Input Parameter	Description
MPLS-TP link number	The link number of the MPLS-TP link number.
Next Hop Router Address	The next hop router address.

Step 4 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 5 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 6 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 7 To close the dialog box, click **Close**.

Remove Link Configuration

Use the Remove Link Configuration command to remove a link configuration.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > Remove Link Configuration.**

Note To view the command in the Cisco Carrier Packet Transport (CPT) System, you must right-click the Cisco Carrier Packet Transport (CPT) System in the Prime Network Vision List or Map View and click **Logical Inventory > CPT Context Container**.

Step 3 Enter values for the following parameters.

Input Parameter	Description
MPLS-TP link number	The link number of the MPLS-TP link number.

Step 4 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 5 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 6 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 7 To close the dialog box, click **Close**.

Add BFD Template Configuration

Use the Add BFD Template Configuration command to add a BFD template configuration.

Note This command does not apply to Cisco IOS XR devices.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > Add BFD Template Configuration.**

Note To view the command in the Cisco Carrier Packet Transport (CPT) System, you must right-click the Cisco Carrier Packet Transport (CPT) System in the Prime Network Vision List or Map View and click **Logical Inventory > CPT Context Container**.

Step 3 Enter values for the following parameters.

Input Parameter	Description
Template Type	The template type.
Template Name	The template name.
Interval Type	The interval type.
Interval Value	The interval value.
For compute hold down Check/UnCheck Multiplier	Check/Uncheck the multiplier.
Multiplier value	The multiplier value.

Step 4 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 5 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 6 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 7 To close the dialog box, click **Close**.

Remove BFD Template Configuration

Use the Remove BFD Template Configuration command to remove a BFD template configuration.

Note This command does not apply to Cisco IOS XR devices.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > Remove BFD Template Configuration.**

Note To view the command in the Cisco Carrier Packet Transport (CPT) System, you must right-click the Cisco Carrier Packet Transport (CPT) System in the Prime Network Vision List or Map View and click **Logical Inventory > CPT Context Container**.

Step 3 Enter values for the following parameters.

Input Parameter	Description
Template Type	The template type.
Template Name	The template name.

Step 4 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 5 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 6 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 7 To close the dialog box, click **Close**.

Show BFD Template

Use the Show BFD Template command to show a BFD template configuration.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > Show BFD Template Configuration.**

Note To view the command in the Cisco Carrier Packet Transport (CPT) System, you must right-click the Cisco Carrier Packet Transport (CPT) System in the Prime Network Vision List or Map View and click **Logical Inventory > CPT Context Container**.

Step 3 Enter values for the following parameters.

Input Parameter	Description
Template Name	The template name.

Step 4 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 5 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 6 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 7 To close the dialog box, click **Close**.

Show BFD Template At Tunnel

Use the Show BFD Template At Tunnel command to show a BFD template at the tunnel.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > Show BFD Template At Tunnel.**

Step 3 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 4 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 5 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 6 To close the dialog box, click **Close**.

Add Label Range Configuration

Use the Add Label Range Configuration command to add a label range configuration.

Note This command does not apply to Cisco IOS XR devices.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > Add Label Range Configuration.**

Step 3 Enter values for the following parameters.

Input Parameter	Description
Dynamic Label Minimum Value	The dynamic label minimum value.
Dynamic Label Maximum Value	The dynamic label maximum value.
Static Label Minimum Value	The static label minimum value.
Static Label Maximum Value	The static label maximum value.

Step 4 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 5 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 6 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 7 To close the dialog box, click **Close**.

Remove Label Range Configuration

Use the Remove Label Range Configuration command to remove a label range configuration.

Note This command does not apply to Cisco IOS XR devices.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > Remove Label Range Configuration.**

Step 3 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 4 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 5 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 6 To close the dialog box, click **Close**.

BFD Global Configuration

Use the BFD Global Configuration command to perform a BFD global configuration.

Note This command is only supported on Cisco ASR 9000 Series Aggregation Services Routers.

Step 1 In the inventory window, expand the Logical Inventory tree and MPLS-TP node.

Step 2 Right-click and choose **MPLS-TP Global > Commands > Configuration > BFD Global Configuration.**

Step 3 Enter values for the following parameters.

Input Parameter	Description
BFD minimum-interval	The BFD interval minimum value.
BFD Multiplier	The BFD multiplier.

Step 4 To see the commands that will be applied on the device, click **Preview**.

You can view the commands in the Result tab. You can go back and make any required changes to the input parameters.

Step 5 To schedule the command, click the Scheduling tab. For more details on scheduling, see Scheduling a Command.

Step 6 To run the commands, click **Execute Now**.

Any errors are displayed in the Result tab.

Step 7 To close the dialog box, click **Close**.