

Chapter 22

Summary of GMPLS Configuration Statements

This chapter provides a reference for each Generalized Multiprotocol Label Switching (GMPLS) configuration statement. The statements are organized alphabetically.

address

Syntax	<code>address ip-address;</code>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols link-management peer <i>peer-name</i>], [edit protocols link-management peer <i>peer-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Specify the ID of the peer.
Default	The loopback address is advertised.
Options	<i>ip-address</i> —IP address of the peer.
Usage Guidelines	See “Configuring the LMP Peer ID” on page 439.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

control-channel

Syntax	<code>control-channel control-channel-interface;</code>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols link-management peer <i>peer-name</i>], [edit protocols link-management peer <i>peer-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Specify the control channel interface for the peer.
Options	<i>control-channel-interface</i> —Name of the control channel interface.
Usage Guidelines	See “Configuring LMP Peers” on page 439.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

dead-interval

Syntax	dead-interval <i>seconds</i> ;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ospf area <i>area-number</i> peer-interface <i>peer-interface-name</i>], [edit protocols ospf area <i>area-number</i> peer-interface <i>peer-interface-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Specify how long Open Shortest Path First (OSPF) and OSPF version 3 (OSPFv3) wait before declaring that a neighboring router is unavailable. This is an interval during which the router receives no hello packets from the neighbor.
Options	<i>seconds</i> —Interval to wait. Range: 1 through 65,535 Default: 40 seconds (four times the hello interval)
Usage Guidelines	See “Configuring Peer Interfaces in RSVP and OSPF” on page 440.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	hello-interval on page 455

disable

See the following sections:

- [disable \(for GMPLS\) on page 454](#)
- [disable \(for OSPF\) on page 455](#)

disable (for GMPLS)

Syntax	disable;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols link-management te-link <i>te-link-name</i>], [edit protocols link-management te-link <i>te-link-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Disable a traffic engineering link.
Default	The configured object is enabled (operational) unless explicitly disabled.
Usage Guidelines	See “Configuring Peer Interfaces in RSVP and OSPF” on page 440.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

disable (for OSPF)

Syntax	disable;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ospf area <i>area-number</i> peer-interface <i>peer-interface-name</i>], [edit protocols ospf area <i>area-number</i> peer-interface <i>peer-interface-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Disable an OSPF peer interface.
Default	The configured object is enabled (operational) unless explicitly disabled.
Usage Guidelines	See “Configuring Peer Interfaces in RSVP and OSPF” on page 440.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

hello-interval

Syntax	hello-interval <i>seconds</i> ;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ospf area <i>area-number</i> peer-interface <i>peer-interface-name</i>], [edit protocols ospf area <i>area-number</i> peer-interface <i>peer-interface-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Specify how often the router sends hello packets out the peer interface. The hello interval must be the same for all routers on a shared logical IP network.
Options	<i>seconds</i> —Length of time between hello packets. Range: 1 through 255 Default: 10 seconds; 120 seconds (nonbroadcast networks)
Usage Guidelines	See “Configuring Peer Interfaces in RSVP and OSPF” on page 440.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	dead-interval on page 454.

interface

Syntax	interface <i>interface-name</i> ;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols link-management te-link <i>te-link-name</i>], [edit protocols link-management te-link <i>te-link-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Specify the egress router interface.
Options	<i>interface-name</i> —Name of the interface to the egress router.
Usage Guidelines	See “Configuring LMP” on page 436.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

label-switched-path

Syntax	label-switched-path <i>label-switched-path-name</i> ;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols link-management te-link <i>te-link-name</i>], [edit protocols link-management te-link <i>te-link-name</i>]
Release Information	Statement introduced in JUNOS Release 7.4.
Description	Specify the LSP to be used by the forwarding adjacency.
Options	<i>label-switched-path-name</i> —Name of the LSP.
Usage Guidelines	See “Configuring a Forwarding Adjacency” on page 449.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

link-management

Syntax	link-management { ... }
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols], [edit protocols]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Enable Link Management Protocol (LMP) on the router.
Usage Guidelines	See “Configuring LMP” on page 436.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

local-address

Syntax	<code>local-address ip-address;</code>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols link-management te-link <i>te-link-name</i>], [edit logical-routers <i>logical-router-name</i> protocols link-management te-link <i>te-link-name</i> interface <i>interface-name</i>], [edit protocols link-management te-link <i>te-link-name</i>], [edit protocols link-management te-link <i>te-link-name</i> interface <i>interface-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Specify the local IP address associated with the traffic engineering link.
Options	<i>local-address</i> —Local IP address of the traffic engineering link.
Usage Guidelines	See “Configuring the Local IP Address for the Traffic Engineering Link” on page 437 and “Configuring the Local IP Address for the Forwarding Adjacency” on page 450.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

peer

Syntax	<pre>peer peer-name { address ip-address; control-channel interface; te-link te-link-name; }</pre>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols link-management], [edit protocols link-management]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Configure a network peer.
Options	<i>peer-name</i> —Name of the network peer. The remaining statements are described separately in this chapter.
Usage Guidelines	See “Configuring LMP Peers” on page 439.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

peer-interface

See the following sections:

- `peer-interface` (for OSPF) on page 458
- `peer-interface` (for RSVP) on page 458

peer-interface (for OSPF)

Syntax	peer-interface <i>peer-interface-name</i> { dead-interval <i>seconds</i> ; disable; hello-interval <i>seconds</i> ; retransmit-interval <i>seconds</i> ; transit-delay <i>seconds</i> ; }
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ospf area <i>area-name</i>], [edit protocols ospf area <i>area-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Configure the control channel. The peer interface name is the same as the peer interface name configured under LMP.
Usage Guidelines	See “Configuring Peer Interfaces in RSVP and OSPF” on page 440 and “Advertising a Forwarding Adjacency Using OSPF” on page 451.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.
See Also	<i>JUNOS Routing Protocols Configuration Guide</i>

peer-interface (for RSVP)

See peer-interface on page 317.

remote-address

Syntax	remote-address <i>ip-address</i> ;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols link-management te-link <i>te-link-name</i>], [edit logical-routers <i>logical-router-name</i> protocols link-management te-link <i>te-link-name</i> interface <i>interface-name</i>], [edit protocols link-management te-link <i>te-link-name</i>], [edit protocols link-management te-link <i>te-link-name</i> interface <i>interface-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Specify the remote IP address for the traffic engineering link.
Options	<i>ip-address</i> —Remote IP address mapped to the traffic engineering link.
Usage Guidelines	See “Configuring the Remote IP Address for the Traffic Engineering Link” on page 438 and “Configuring the Remote IP Address for the Forwarding Adjacency” on page 450
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

remote-id

Syntax	<code>remote-id id-number;</code>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols link-management te-link <i>te-link-name</i>], [edit logical-routers <i>logical-router-name</i> protocols link-management te-link <i>te-link-name</i> interface <i>interface-name</i>], [edit protocols link-management te-link <i>te-link-name</i>], [edit protocols link-management te-link <i>te-link-name</i> interface <i>interface-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Specify the ID assigned to a traffic engineering link or an interface (resource) on the peer node.
Options	<i>id-number</i> —ID number for the remote device.
Usage Guidelines	See “Configuring the Remote ID for the Traffic Engineering Link” on page 438.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

retransmit-interval

Syntax	<code>retransmit-interval seconds;</code>
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ospf area <i>area-number</i> peer-interface <i>peer-interface-name</i>], [edit protocols ospf area <i>area-number</i> peer-interface <i>peer-interface-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Specify how long the router waits to receive a link-state acknowledgment packet before retransmitting link-state advertisements to a peer interface’s neighbors.
Options	<i>seconds</i> —Interval to wait. Range: 1 through 65,535 Default: 5 seconds
Usage Guidelines	See “Configuring Peer Interfaces in RSVP and OSPF” on page 440.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

te-link

Syntax `te-link te-link-name {
 disable;
 interface interface-name {
 disable;
 local-address ip-address;
 remote-address ip-address;
 remote-id id-number;
 }
 local-address ip-address;
 remote-address ip-address;
 remote-id id-number;
 }`

Hierarchy Level [edit logical-routers *logical-router-name* protocols link-management],
 [edit logical-routers *logical-router-name* protocols link-management peer *peer-name*],
 [edit protocols link-management],
 [edit protocols link-management peer *peer-name*]

Release Information Statement introduced before JUNOS Release 7.4.

Description Represent a collection of physical ports or time slots. Assign a traffic engineering link to the specified network peer.

Options *te-link-name*—Name of the collection of physical ports or the name of the time slots.

disable—Disable the traffic engineering link or an interface to a traffic engineering link.

The other statements are described separately in this chapter.

Usage Guidelines See “Configuring LMP Traffic Engineering Links” on page 437.

Required Privilege Level routing—To view this statement in the configuration.
 routing-control—To add this statement to the configuration.

traceoptions

Syntax traceoptions {
 file *filename* <files *number*> <no-stamp> <replace> <size *size*>
 <(world-readable | no-world-readable)>;
 flag *flag* <*flag-modifier*> <disable>;
 }

Hierarchy Level [edit logical-routers *logical-router-name* protocols link-management],
 [edit protocols link-management]

Release Information Statement introduced before JUNOS Release 7.4.

Description Trace options for the LMP protocol.

Options disable—(Optional) Disable the tracing operation. You can use this option to disable a single operation when you have defined a broad group of tracing operations, such as all.

filename—Name of the file to receive the output of the tracing operation. Enclose the name within quotation marks. All files are placed in the directory `/var/log`.

files *number*—(Optional) Maximum number of trace files. When a trace file named *trace-file* reaches its maximum size, it is renamed *trace-file.0*, then *trace-file.1*, and so on, until the maximum number of trace files is reached. Then the oldest trace file is overwritten.

If you specify the maximum number of files, you also must specify the maximum file size with the `size` option.

Range: 2 through 1000

Default: 2 files

flag—Tracing operation to perform. To specify more than one tracing operation, include multiple `flag` statements.

- all—Trace all available operations
- init—Output from the initialization messages
- parse—Operation of the parser
- process—Operation of the general configuration
- route-socket—Operation of route socket events
- routing—Operation of the routing protocols
- server—Server processing operations
- show—show command servicing operations

flag-modifier—(Optional) Modifier for the tracing flag. You can specify one or more of these modifiers:

- **detail**—Provide detailed trace information
- **receive**—Packets being received
- **send**—Packets being transmitted

no-stamp—(Optional) Do not place timestamp information at the beginning of each line in the trace file.

Default: If you omit this option, timestamp information is placed at the beginning of each line of tracing output.

no-world-readable—(Optional) Disallow any user to read the log file.

replace—(Optional) Replace an existing trace file if there is one.

Default: If you do not include this option, tracing output is appended to an existing trace file.

size size—(Optional) Maximum size of each trace file, in kilobytes (KB), megabytes (MB), or gigabytes (GB). When a trace file named *trace-file* reaches this size, it is renamed *trace-file.0*. When the *trace-file* again reaches its maximum size, *trace-file.0* is renamed *trace-file.1* and *trace-file* is renamed *trace-file.0*. This renaming scheme continues until the maximum number of trace files is reached. Then the oldest trace file is overwritten.

If you specify a maximum file size, you also must specify a maximum number of trace files with the **files** option.

Syntax: *xk* to specify KB, *xm* to specify MB, or *xg* to specify GB

Range: 10 KB through the maximum file size supported on your system

Default: 1 MB

world-readable—(Optional) Allow any user to read the log file.

Usage Guidelines See “Tracing LMP Traffic” on page 442 and the *JUNOS Network Management Configuration Guide*.

Required Privilege Level routing and trace—To view this statement in the configuration.
routing-control and trace-control—To add this statement to the configuration.

transit-delay

Syntax	transit-delay <i>seconds</i> ;
Hierarchy Level	[edit logical-routers <i>logical-router-name</i> protocols ospf area <i>area-number</i> peer-interface <i>peer-interface-name</i>], [edit protocols ospf area <i>area-number</i> peer-interface <i>peer-interface-name</i>]
Release Information	Statement introduced before JUNOS Release 7.4.
Description	Set the estimated time required to transmit a link-state update on the peer interface. When calculating this time, you should account for transmission and propagation delays.
Options	<i>seconds</i> —Estimated time. Range: 1 through 65,535 Default: 1 second
Usage Guidelines	See “Configuring Peer Interfaces in RSVP and OSPF” on page 440.
Required Privilege Level	routing—To view this statement in the configuration. routing-control—To add this statement to the configuration.

