

M Commands

macro

Description Executes a macro file, which can consist of one or more macros. If you do not use the *macroName* option to specify a macro, the command searches in the specified macro file for a macro named “start,” and returns an error if the “start” macro is not found. If you do not specify *fileName*.mac, you must specify **name** *macroName*; the command then searches only in local memory for a file called *macroName*.mac that contains the *macroName* macro. There is no **no** version.

Syntax macro [test | verbose] { *fileName*.mac [*macroName* [*arg*]*] | name *macroName* [*arg*]* }

- test—Displays the output of the macro without issuing the commands to the router, and displays comments
- verbose—Echoes each command as the macro executes and displays comments
- *fileName*—Name of the file containing the macro; requires the .mac extension
- *macroName*—Name of a macro within the macro file
- *arg*—Zero or more arguments passed to the macro; if the argument contains a space or other special character, the argument must be enclosed within double quotation marks
- *—Indicates that one or more parameters can be repeated multiple times in a list in the command line

Mode All modes

Release Information Command introduced before JUNOS Release 7.1.0.

map-class frame-relay

Description Creates a map class. Command is used when configuring Frame Relay end-to-end fragmentation and reassembly. The **no** version removes the map-class.

Syntax [no] map-class frame-relay *mapName*

- *mapName*—Name of the map class; use up to 64 characters

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

map-group

Description Associates a map list to an NBMA interface when configuring static mapping. The **no** version removes the association. Use in conjunction with the **map-list** command.

Syntax [no] map-group *name*

- *name*—Name of the map group

Mode Interface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

map-list

Description Creates a map list for an NBMA interface when configuring static mapping. The **no** version removes the map list. Use in conjunction with the **map-group** command.

Syntax [no] map-list *name*

- *name*—Name of the map list; a string of up to 31 characters

Mode Map List Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mark

Description Sets the precedence field of the ToS byte (for IPv4) or traffic class byte (for IPv6) in the IP header to a specified value for packets that match the current classifier control list. This command is not tied to a rate limit profile, but marks packets based on a classifier control list. The **no** version removes the mark rule from the policy list; the **suspend** version temporarily suspends the mark rule; the **no suspend** version resumes application of a suspended rule.



NOTE: This command replaces the Policy List Configuration mode version of the **mark** command, which may be removed completely in a future release.

Syntax For IPv4:

```
[ no ] [ suspend ] mark { tosByteValue mask maskValue |
tos-precedence tosPrecNum | tos tosNum | dsfield dsFieldNum }
profile colorMarkProfileName }
```

- *tosByteValue*—ToS byte value to be assigned to packets; in the range 0–255
- *maskValue*—Mask to be used when applying ToS byte values to packets; in the range 1–255
- *tosPrecNum*—ToS precedence value to be assigned to packets; in the range 0–7
- *tosNum*—ToS value to be assigned to packets; in the range 0–255
- *dsFieldNum*—DS field value to be assigned to packets; in the range 0–63
- *colorMarkProfileName*—Name of the color-mark profile (up to 40 alphanumeric characters)

For IPv6:

```
[ no ] [ suspend ] mark { tcByteValue mask maskValue | tc-precedence tcPrecNum |
tcfield tcFieldNum | dsfield dsFieldNum } profile colorMarkProfileName }
```

- *tcByteValue*—Traffic class field value to be assigned to packets; in the range 0–255
- *maskValue*—Mask to be used when applying traffic class field values to packets; in the range 1–255
- *tcPrecNum*—Traffic class field precedence value to be assigned to packets; in the range 0–7
- *tcFieldNum*—Traffic class field value to be assigned to packets; in the range 0–255
- *dsFieldNum*—DS field value to be assigned to packets; in the range 0–63
- *colorMarkProfileName*—Name of the color-mark profile (up to 40 alphanumeric characters)

Mode Classifier Group Configuration

Release Information Command introduced before JUNOS Release 7.1.0.
colorMarkProfileName variable added in JUNOS Release 7.2.0.

Related Topics

- Policy Rule Precedence

mark-clp

Description Marks the CLP bit in the ATM header of packets matching the current classifier control list. The **no** version removes the mark rule from a policy list; the **suspend** version temporarily suspends a mark rule; the **no suspend** version resumes application of a suspended rule.

Syntax [no] [suspend] mark-clp *clpValue*

- *clpValue*—Value of the CLP bit, 0 or 1

Mode Classifier Group Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

Related Topics

- Assigning Values to the ATM CLP Bit
- Policy Rule Precedence

mark-de

Description Marks the DE bit in the Frame Relay header of packets matching the current classifier control list. The **no** version removes the mark rule from a policy list; the **suspend** version temporarily suspends a mark rule; the **no suspend** version resumes application of a suspended rule.



NOTE: This command replaces the Policy List Configuration version of the **mark-de** command, which may be removed completely in a future release.

Syntax [no] [suspend] mark-de *deValue*

- *deValue*—Value of the DE bit; 0 or 1

Mode Classifier Group Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

Related Topics

- Assigning Values to the ATM CLP Bit
- Policy Rule Precedence

mark-exp

Description Defines an MPLS policy rule that specifies the value of the EXP bits. The **no** version removes the rule from the policy list; the **suspend** version temporarily suspends the policy rule; the **no suspend** version resumes application of a suspended rule.



NOTE: This command replaces the Policy List Configuration version of the **mark-exp** command, which may be removed completely in a future release.

Syntax [no] [suspend] mark-exp *expValue* [mask *expMask*] [profile *ProfileName*]

- *expValue*—EXP bit value assigned to packets; number in the range 0–7
- *expMask*—Mask applied to modify some of the EXP bits in IP packet; integer in the range 1–7
- *profileName*—Name of the rate-limit profile to be used in a policy (up to 40 alphanumeric characters)

Mode Classifier Group Configuration

Release Information Command introduced before JUNOS Release 7.1.0.
profileName variable added in JUNOS Release 7.2.0.

Related Topics

- Assigning Values to the ATM CLP Bit
- Policy Rule Precedence

mark-user-priority

Description Defines a policy rule that specifies the value of the 802.1p VLAN user priority bits. The **no** version removes the rule from the policy list; the **suspend** version temporarily suspends the policy rule; the **no suspend** version resumes application of a suspended rule.



NOTE: This command replaces the Policy List Configuration version of the **mark-user-priority** command, which may be removed completely in a future release.

Syntax [no] [suspend] mark-user-priority *userPriorityValue*

- *userPriorityValue*—EXP bit value assigned to packets; number in the range 0–7

Mode Classifier List Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

Related Topics

- Policy Rule Precedence

mask destination

Description	Sets the minimum mask size for the destination address for the prefix and destination prefix aggregation caches. The no version restores the default mask size.
Syntax	mask destination <i>destinationMinimumSize</i> no mask destination <ul style="list-style-type: none">■ <i>destinationMinimumSize</i>—Mask number in the range 1—32; default is 0
Mode	Flow Cache Configuration
Release Information	Command introduced in JUNOS Release 8.1.0.

masked-key

Description	Specifies the encrypted form of the preshared key that the router uses in IKE negotiations. Once you enter a preshared key, the router encrypts the key and displays it in masked form to increase the security of the key. If you need to reenter the key, you can enter it in its masked form using this command. There is no no version. To delete a key, use the no version of the ipsec key manual command.
Syntax	masked-key <i>encryptedKey</i> <ul style="list-style-type: none">■ <i>encryptedKey</i>—Encrypted key value; to obtain this value, enter the unencrypted key using the key command in IPsec Manual Key Configuration mode, and then display the masked version of the key with the show configuration command
Mode	IPsec Manual Key Configuration
Release Information	Command introduced before JUNOS Release 7.1.0.

mask source

Description	Sets the minimum mask size for the source address for the prefix and source prefix aggregation caches. The no version restores the default mask size.
Syntax	mask source <i>sourceMinimumSize</i> no mask source <ul style="list-style-type: none">■ <i>sourceMinimumSize</i>—Mask number in the range 1—32; default is 0
Mode	Flow Cache Configuration
Release Information	Command introduced in JUNOS Release 8.1.0.

mask-val

Description Sets the mask value. For rate limits, use this command with the **committed-action**, **conformed-action**, and **exceeded-action** commands. For color-mark profiles, use the **mask-val** command in Color Mark Profile Configuration mode. The **no** version restores the default value, 255.

Syntax [no] mask-val *value*

- *value*—Mask value in the range 0–255. Use the following mask values to set the appropriate bits in the ToS field of the IP packet header:
 - IP Precedence—0xE0 (three most significant bits)
 - DS Field—0xFC (six significant bits)
 - TOS (IP) or Traffic Class field (IPv6)—0xFF (default)

Mode Color Mark Profile Configuration, Rate Limit Profile Configuration

Release Information Command introduced before JUNOS Release 7.1.0.
Color Mark Profile Configuration mode added in JUNOS Release 7.2.0.

Related Topics

- Creating a Two-Rate Rate-Limit Profile
- Setting the Mask Value for MPLS Rate-Limit Profiles
- Setting the Mask Value for IP and IPv6 Rate-Limit Profiles

match as-path

Description Matches a BGP AS path access list. The **no** version removes the match clause from a route map unless you specify a value, in which case only that value is removed from the match clause.

Syntax match as-path *listName* [*listName*]*

no match as-path [*listName*]*

- *listName*—Name of an AS path access list; string of up to 32 characters
- *—Indicates that one or more parameters can be repeated multiple times in a list in the command line

Mode Policy List Configuration, Route Map Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

match community

Description Matches a BGP community list. The **no** version removes the match clause from a route map unless you specify a value, in which case only that value is removed from the match clause.

Syntax match community *listName* [*listName*]* [exact-match]
no match community [*listName*]* [exact-match]

- *listName*—String of up to 32 characters that designates a community list; you can optionally use a regular expression to specify the *listName*
- exact-match—Limits the match to a route that contains only the communities contained in the specified list; cannot be used with a community list specified by a regular expression
- *—Indicates that one or more parameters can be repeated multiple times in a list in the command line

Mode Policy List Configuration, Route Map Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

match distance

Description Matches any routes that have the specified administrative distance. The **no** version removes the match clause from a route map unless you specify a value, in which case only that value is removed from the match clause.



NOTE: Matching a distance is useful only when applied to a route being redistributed out of a routing table. Distance is used to determine the relative preference between routes to the same prefix in order to pick the best route to that prefix in the routing table. Distance has no meaning in any other circumstance and any attempt to match distance will fail.

Syntax match distance *distance* [*distance*]*
no match distance [*distance*]

- *distance*—Administrative distance in the range 0–255
- *—Indicates that one or more parameters can be repeated multiple times in a list in the command line

Mode Policy List Configuration, Route Map Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

match extcommunity

Description Matches a BGP extcommunity list. The **no** version removes the match clause from a route map unless you specify a value, in which case only that value is removed from the match clause.

Syntax match extcommunity *listName* [*listName*]* [exact-match]
 no match extcommunity [*listName*]*

- *listName*—Name of the extended-community list
- *—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- exact-match—Limits the match to a route that contains only the extended communities contained in the specified list; cannot be used with an extended community list specified by a regular expression

Mode Policy List Configuration, Route Map Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

match ip address

Description Matches any routes that have a destination network number address that is permitted by a standard or extended access list, a prefix list, or a prefix tree, or performs policy routing on packets. You cannot mix references in the same match command; you can only specify either access list(s), prefix list(s), or prefix tree(s). The **no** version removes the match clause from a route map unless you specify a value, in which case only that value is removed from the match clause.

Syntax match ip address { *accessListName* [*accessListName*]* |
 prefix-list *prefixListName* [*prefixListName*]* | prefix-tree *treeName* [*treeName*]* }
 no match ip address [*accessListName*]* | prefix-list [*prefixListName*]* |
 prefix-tree [*treeName*]*

- *accessListName*—String of up to 32 alphanumeric characters
- *prefixListName*—Name of a single prefix list; string of up to 32 characters
- *treeName*—Name of a single prefix tree; string of up to 32 characters
- *—Indicates that one or more parameters can be repeated multiple times in a list in the command line

Mode Policy List Configuration, Route Map Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

match ip next-hop

Description Matches any routes that have a next-hop router address passed by the specified access list, prefix list, or prefix tree. You cannot mix references in the same match command; you can only specify either access list(s), prefix list(s), or prefix tree(s). The **no** version removes the match clause from a route map unless you specify a value, in which case only that value is removed from the match clause.

Syntax match ip next-hop { *accessListName* [*accessListName*]* |
prefix-list *prefixListName* [*prefixListName*]* | prefix-tree *treeName* [*treeName*]* }
no match ip next-hop [*accessListNumber*]* | prefix-list [*listName*]* |
prefix-tree [*treeName*]*

- *accessListName*—Name of a single standard access list; string of up to 32 characters
- *prefixListName*—Name of a single prefix list; string of up to 32 characters
- *treeName*—Name of a single prefix tree; string of up to 32 characters
- *—Indicates that one or more parameters can be repeated multiple times in a list in the command line

Mode Policy List Configuration, Route Map Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

match ipv6 address

Description Matches any routes that have a destination network number address that is permitted by an access list or prefix list. The **no** version removes all address match clauses from a route map unless you specify either an access list or a prefix list, in which case only the list match is removed from the route map.

Syntax match ipv6 address
{ *accessListName* [*accessListName*]* | prefix-list *prefixListName* [*prefixListName*]* }
no match ipv6 address [[*accessListName*]* | prefix-list [*prefixListName*]*]

- *accessListName*—String of up to 32 alphanumeric characters
- *prefixListName*—Name of a single prefix list; string of up to 32 characters
- *—Indicates that one or more parameters can be repeated multiple times in a list in the command line

Mode Policy List Configuration, Route Map Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

match ipv6 next-hop

Description Matches any routes that have a next-hop router address passed by the specified access list or prefix list. The **no** version removes all next-hop match clauses from a route map unless you specify either an access list or prefix list, in which case only the list match is removed from the route map.

Syntax match ipv6 next-hop
 { *accessListName* [*accessListName*]* | prefix-list *prefixListName* [*prefixListName*]* }
 no match ipv6 next-hop [[*accessListName*]* | prefix-list [*prefixListName*]*]

- *accessListName*—String of up to 32 alphanumeric characters
- *prefixListName*—Name of a single prefix list; string of up to 32 characters
- *—Indicates that one or more parameters can be repeated multiple times in a list in the command line

Mode Policy List Configuration, Route Map Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

match ipv6 route-source

Description Matches any routes that are advertised from addresses contained in the specified prefix list. The **no** version removes all route-source match clauses from a route map unless you specify a prefix list, in which case only that prefix list match is removed from the route map.

Syntax match ipv6 route-source *prefixListName* [*prefixListName*]*
 no match ipv6 route-source [*prefixListName*]*

- *prefixListName*—Name of a single prefix list; string of up to 32 characters
- *—Indicates that one or more parameters can be repeated multiple times in a list in the command line

Mode Policy List Configuration, Route Map Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

match level

Description Matches import routes for the specified type. The **no** version removes the match clause from a route map unless you specify a value, in which case only that value is removed from the match clause.

Syntax match level { backbone | level-1 | level-1-2 | level-2 | stub-area }*
no match level [backbone | level-1 | level-1-2 | level-2 | stub-area]

- backbone—Specifies OSPF backbone area
- level-1—Specifies Level 1 area
- level-1-2—Specifies Level 1 and a level 2 area
- level-2—Specifies Level 2 subdomain
- stub-area—Specifies OSPF NSSA area
- *—Indicates that one or more parameters can be repeated multiple times in a list in the command line

Mode Policy List Configuration, Route Map Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

match metric

Description Matches a route for the specified metric value. The **no** version removes the match clause from a route map unless you specify a value, in which case only that value is removed from the match clause.

Syntax match metric *metricValue* [*metricValue*]*
no match metric [*metricValue*]

- *metricValue*—Number in the range 0–4294967295, which indicates the preference value for a specific route in a route map
- *—Indicates that one or more parameters can be repeated multiple times in a list in the command line

Mode Policy List Configuration, Route Map Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

match metric-type

Description	Matches routes having the specified metric type. The no version removes the match clause from a route map.
Syntax	<pre>match metric-type { external internal }</pre> <pre>no match metric-type [external internal]</pre> <ul style="list-style-type: none"> ■ external—Specifies IS-IS external metric type ■ internal—Specifies IS-IS internal metric type
Mode	Policy List Configuration, Route Map Configuration
Release Information	Command introduced before JUNOS Release 7.1.0.

match mpls-label

Description	Matches on MPLS-labeled routes. By including this command in the appropriate route map (export, global export, global import route map), you can restrict importing or exporting to only labeled or only unlabeled routes. The no version removes the configuration.
Syntax	<pre>[no] match mpls-label</pre>
Mode	Route Map Configuration
Release Information	Command introduced in JUNOS Release 7.1.0.

match policy-list

Description	References a policy list having the specified name. The no version removes the match clause from a route map.
Syntax	<pre>match policy-list <i>listName</i> [<i>listName</i>]*</pre> <pre>no match policy-list [<i>listName</i>]*</pre> <ul style="list-style-type: none"> ■ <i>listName</i>—Name of a policy list; string of up to 32 characters ■ *—Indicates that one or more parameters can be repeated multiple times in a list in the command line
Mode	Route Map Configuration
Release Information	Command introduced before JUNOS Release 7.1.0.

match route-type

Description	Matches routes of the specified type. The no version removes the match clause from a route map unless you specify a value, in which case only that value is removed from the match clause.
Syntax	<pre>match route-type internal [intra inter] [level-1 level-2] [external [type-1 type-2]] [level-1 level-2]* match route-type external [type-1 type-2] [level-1 level-2] [internal [intra inter]] [level-1 level-2]* match route-type { level-1 level-2 } [internal [intra inter]] [level-1 level-2] [external [type-1 type-2]] [level-1 level-2]* match route-type { level-1 level-2 } [external [type-1 type-2]] [level-1 level-2] [internal [intra inter]] [level-1 level-2]* no match route-type [internal [intra inter] external [type-1 type-2] level-1 level-2]</pre> <ul style="list-style-type: none">■ internal—Specifies internal routes<ul style="list-style-type: none">■ intra—OSPF intra-area routes■ inter—OSPF interarea routes■ external—Specifies external routes<ul style="list-style-type: none">■ type-1—OSPF type 1 external routes■ type-2—OSPF type 2 external routes■ level-1—Specifies IS-IS level 1 routes■ level-2—Specifies IS-IS level 2 routes■ *—Indicates that one or more parameters can be repeated multiple times in a list in the command line
Mode	Policy List Configuration, Route Map Configuration
Release Information	Command introduced before JUNOS Release 7.1.0.

match-set summary prefix-tree

Description	Sets condition for a route map that matches routes based on the network base address set in the specified prefix tree and summarizes them by preserving only the bits set in the prefix tree. The no version disables the use of the prefix tree by the route map.
Syntax	<pre>match-set summary prefix-tree <i>treeName</i> no match-set summary prefix-tree</pre> <ul style="list-style-type: none">■ <i>treeName</i>—Name of the prefix tree
Mode	Route Map Configuration
Release Information	Command introduced before JUNOS Release 7.1.0.

match tag

Description Matches the tag value of the destination routing protocol. The **no** version removes the match clause from a route map unless you specify a value, in which case only that value is removed from the match clause.

Syntax match tag *tagValue* [*tagValue*]*
no match tag [*tagValue*]*

- *tagValue*—Number in the range 0–4294967295
- *—Indicates that one or more parameters can be repeated multiple times in a list in the command line

Mode Policy List Configuration, Route Map Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

max-branches

Description Specifies the maximum number of branches the ANCP neighbor can have. The **no** version returns the maximum number of branches to its default value (unlimited branches).

Syntax [no] max-branches *maxBranches*

- *maxBranches*—Maximum number of branches allowed for the ANCP neighbor in the range 1–64000

Mode L2C Neighbor Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

max-discovery-table-entries

Description Specifies the maximum number of discovery table entries the ANCP neighbor can have. The **no** version returns the maximum number of table entries to its default value, 10,000 entries.

Syntax max-discovery-table-entries *maxEntries*
no max-discovery-table-entries

- *maxEntries*—Maximum number of discovery table entries allowed for the ANCP neighbor in the range 1–64000

Mode L2C Neighbor Configuration

Release Information Command introduced in JUNOS Release 7.2.0.

maximum-paths

Description Controls the maximum number of equal-cost paths to the same destination that BGP, IS-IS, OSPF, or RIP can install in the routing table to support ECMP.

For BGP and RIP, issue the command from Router Configuration mode to apply the value to routes in the global RIB. In Address Family Configuration mode, issue the command only in the context of IPv4 unicast and IPv6 unicast address families to apply the value only to routes in the global RIB or the specific VRF for the IPv4 unicast or IPv6 unicast address family; This command is not supported for VPNv4 or VPNv6 address families.

For IS-IS or OSPF, issue the command from Router Configuration mode.

The **no** version restores the default value, 1 path for BGP or 4 paths for IS-IS, OSPF, and RIP.

Syntax For BGP:

`maximum-paths [ibgp | eibgp] maxPaths`

`no maximum-paths [ibgp | eibgp] [maxPaths]`

- **ibgp**—Specifies that the *maxPaths* value applies only to routes received from internal (IBGP) peers; if no keyword is specified, the *maxPaths* value applies only to routes received from external (EBGP) peers
- **eibgp**—Specifies that the *maxPaths* value applies to routes received from IBGP and EBGP peers; can be used only for VRF IPv4 unicast and IPv6 unicast address families
- ***maxPaths***—Maximum number of parallel paths (routes) in the range 1–16

For IS-IS and RIP:

`maximum-paths maxPaths`

`no maximum-paths`

- ***maxPaths***—Maximum number of parallel paths (routes) in the range 1–16

For OSPF:

`maximum-paths maxPaths`

`no maximum-paths maxPaths`

- ***maxPaths***—Maximum number of parallel paths (routes) in the range 1–16

Mode Address Family Configuration, Router Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

maximum routes

Description	Sets a warning threshold and maximum limit for routes imported by a PE router into a VRF from associated CE routers. The no version removes the limit and warning threshold.
Syntax	maximum routes <i>limit</i> { <i>warningThreshold</i> warning-only } no maximum routes <ul style="list-style-type: none"> ■ <i>limit</i>—Number in the range 1–4294967295 that when exceeded prevents routes from being imported into the routing table; when first exceeded generates a limit-exceeded log entry; if the route count fluctuates below and up to this value, an interval of five minutes must pass before another limit-exceeded log entry can be generated ■ <i>warningThreshold</i>—Percentage in the range 1–100 that when first exceeded generates a warning-threshold-exceeded log entry; if the route count fluctuates around this value, an interval of five minutes must pass before another warning-threshold-exceeded log entry can be generated ■ warning-only—Causes the <i>limit</i> to function as a <i>warningThreshold</i>; specifies that exceeding the <i>limit</i> generates a warning-threshold-exceeded log entry instead of a limit-exceeded log entry and permits routes exceeding the <i>limit</i> to be added to the routing table; if the route count fluctuates around the <i>limit</i>, an interval of five minutes must pass before another warning-threshold-exceeded log entry can be generated
Mode	VRF Configuration
Release Information	Command introduced before JUNOS Release 7.1.0.

maximum-voql

Description	Specifies a maximum value for the virtual output queue length (VOQL) for all simple shared shapers on the router. The VOQL tracks the amount of data over queued between simple shared-shaper rate periods. The no version removes the specified maximum VOQL value from all simple shared shapers on the router.
Syntax	maximum-voql <i>maximumVoqlValue</i> no maximum-voql <ul style="list-style-type: none"> ■ <i>maximumVoqlValue</i>—Maximum value for the VOQL in the range 0–10000; default value is 4000
Mode	QoS Shared Shaper Control Configuration
Release Information	Command introduced in JUNOS Release 8.0.0.
Related Topics	<ul style="list-style-type: none"> ■ Configuring Simple Shared Shaper Algorithm Variables

max-interfaces

Description For Tunnel Server Configuration mode, provisions the maximum number of tunnel-service interfaces to be used on a tunnel-server port. The **default** version restores the default configuration. On dedicated tunnel-server ports, the default configuration is **all-available** (the maximum number of tunnel-service interfaces that the tunnel-service module supports). On shared tunnel-server ports, the default configuration is zero tunnel-service interfaces provisioned. The **no** version unprovisions the tunnel-server port by reducing the number of provisioned tunnel-service interfaces to zero.

For IPSec Tunnel Profile Configuration mode, defines the maximum number of interfaces that the IPSec tunnel profile can instantiate. The **no** version returns the maximum value to zero (0) to indicate no limit to the number of interfaces that can be instantiated on this profile.

Syntax For Tunnel Server Configuration mode:
max-interfaces { *maxInterfacesValue* | all-available }
no max-interfaces

For IPSec Tunnel Profile Configuration mode:
max-interfaces *maxInterfacesValue*
no max-interfaces

- *maxInterfacesValue*—For Tunnel Server configuration, the maximum number of tunnel-service interfaces that can be provisioned on a tunnel-server port in the range 0–16000; For IPSec Tunnel Profile configuration, the maximum number of interfaces that the IPSec tunnel profile can instantiate in the range 0–32767
- all-available—Specifies that the maximum number of tunnel-service interfaces that can be provisioned on a tunnel-server port matches the maximum number supported by the tunnel-server module

Mode IPSec Tunnel Profile Configuration, Tunnel Server Configuration

Release Information Command introduced before JUNOS Release 7.1.0.
IPSec Tunnel Profile Configuration mode added in JUNOS Release 7.3.0.

max-lsp-lifetime

Description Sets the maximum time that IS-IS link-state packets persist without being refreshed. The **no** version restores the default time.

Syntax max-lsp-lifetime *seconds*
no max-lsp-lifetime

- *seconds*—Number in the range 1–65535; the lifetime of LSP in seconds; default value is 1200 seconds

Mode Router Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

max-response-failure

Description Terminates a test when the *maxFailureValue* is reached. That is, when there is no response to a designated number of operation requests, the test is terminated. This feature applies only to pathEcho entries. The **no** version restores the default value, five consecutive failures.

Syntax max-response-failure *maxFailureValue*
no max-response-failure

- *maxFailureValue*—Number of operation requests not responded to; 0 turns this feature off; default value is 5

Mode RTR Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

max-sessions

Description For RADIUS, specifies the number of outstanding requests to a server. The **no** version reverts to the default value.

For AAA domain map, and tunnel group tunnels, sets the maximum sessions per tunnel. The **no** version disables the feature. The **default** version sets the value to zero.

For L2TP, sets the maximum sessions allowed for destination and host profiles by the LNS. The **no** and **default** versions disable the feature.

Syntax For RADIUS:
max-sessions *sessionLimit*
no max-sessions

- *sessionLimit*—Maximum number of outstanding requests to a specific server in the range from 10 through to the maximum value; default value is 255

For information about the number of concurrent RADIUS requests that the router supports for authentication and accounting servers, see *JUNOS Release Notes, Appendix A, System Maximums*.

For AAA domain map and tunnel group tunnels:
max-sessions *maxSessionsPerTunnel*

{ no | default } max-sessions

- *maxSessionsPerTunnel*—Maximum number of sessions that can be configured on a tunnel in the range 0–4294967295; default value is zero

For L2TP:
max-sessions *maxSessionsPerProfile*

{ no | default } max-sessions

- *maxSessionsPerProfile*—Maximum number of sessions that can be established at the LNS for a destination or host profile; in the range from 1 through to a maximum of the chassis-wide limit; default value is the chassis-wide limit

For information about the maximum number of L2TP sessions supported per chassis, see *JUNOS Release Notes, Appendix A, System Maximums*.

Mode Domain Map Tunnel Configuration, L2TP Destination Profile Configuration, L2TP Destination Profile Host Configuration, RADIUS Configuration, Tunnel Group Tunnel Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mdl carrier

Description	Specifies that a T3 interface is used in the carrier environment. The no version restores the default situation, in which an interface does not operate in the carrier environment.
Syntax	[no] mdl carrier
Mode	Controller Configuration
Release Information	Command introduced before JUNOS Release 7.1.0.

mdl string

Description	Allows you to specify an MDL message on a T3 interface as defined in the ANSI T1.107a-1990 specification. The no version restores the default value to the specified MDL message or to all MDL messages.
Syntax	<pre>mdl string { eic <i>eicValue</i> fic <i>ficValue</i> lic <i>licValue</i> unit <i>unitValue</i> pfi <i>pfiCode</i> port <i>portValue</i> generator <i>genValue</i> }</pre> <pre>no mdl string { <i>eic</i> <i>fic</i> <i>lic</i> <i>unit</i> <i>pfi</i> <i>port</i> <i>generator</i> }</pre> <ul style="list-style-type: none"> ■ <i>eicValue</i>—Equipment identification code; 1–10 characters; default value is the null value. ■ <i>ficValue</i>—Frame identification code; 1–10 characters; default value is the null value. ■ <i>licValue</i>—Line identification code; 1–11 characters; default value is the null value. ■ <i>unitValue</i>—Unit identification code; 1–6 characters; default value is the null value. ■ <i>pfiCode</i>—Facility identification code to send in the MDL path message; 1–38 characters; default value is the null value. ■ <i>portValue</i>—Equipment port number to send in the MDL idle signal message; 1–38 characters; default value is the null value. ■ <i>genValue</i>—Generator number to send in the MDL test signal message; 1–38 characters; default value is the null value.
Mode	Controller Configuration
Release Information	Command introduced before JUNOS Release 7.1.0.

mdl transmit

Description	Transmits an MDL message from a T3 interface. The no version disables transmission of the specified MDL message or all MDL messages.
Syntax	<pre>[no] mdl transmit { path-id idle-signal test signal } no mdl transmit</pre> <ul style="list-style-type: none">■ path-id—Transmits a path identification message every second; default value is disabled■ idle-signal—Transmits an idle signal message every second; default value is disabled■ test-signal—Transmits a test signal message every second; default value is disabled
Mode	Controller Configuration
Release Information	Command introduced before JUNOS Release 7.1.0.

mdt-data-delay

Description	Configures a timeout before switching to data MDT. The no version returns to the default.
Syntax	<pre>mdt-data-delay <i>timeout</i> no mdt-data-delay</pre> <ul style="list-style-type: none">■ timeout—Timeout value measured in 0.1 seconds in the range 1-255 seconds; the default is 30
Mode	IP PIM Data MDT Configuration
Release Information	Command introduced in JUNOS Release 8.2.0.

mdt-data-holddown

Description	Configures the time in seconds before switching back to the default MDT group from the data MDT group. The no version returns to the default.
Syntax	<pre>mdt-data-holddown <i>timeout</i> no mdt-data-holddown</pre> <ul style="list-style-type: none">■ timeout—Time before switching back to the default MDT group, in the range 1–300 seconds; the default is 60
Mode	IP PIM Data MDT Configuration
Release Information	Command introduced in JUNOS Release 8.2.0.

mdt-data-timeout

Description	Configures the time in seconds before leaving the data MDT group. The no version returns to the default.
Syntax	mdt-data-timeout <i>timeout</i> no mdt-data-timeout <ul style="list-style-type: none"> ■ <i>timeout</i>—Time before leaving the data MDT group, in the range 1–1200 seconds; the default is 180
Mode	IP PIM Data MDT Configuration
Release Information	Command introduced in JUNOS Release 8.2.0.

mdt-interval

Description	Configures the time in seconds between successive MLD join TLVs. The no version returns to the default.
Syntax	mdt-interval <i>time</i> no mdt-interval <ul style="list-style-type: none"> ■ <i>time</i>—Time between successive MLD join TLV in the range 1–300 seconds; the default is 60
Mode	IP PIM Data MDT Configuration
Release Information	Command introduced in JUNOS Release 8.2.0.

medium ipv4

Description	Specifies the medium type of a tunnel to IPv4 (the only medium type currently supported). The no version restores the default value, ipv4.
Syntax	medium ipv4 no medium
Mode	Domain Map Tunnel Configuration, Tunnel Group Tunnel Configuration
Release Information	Command introduced before JUNOS Release 7.1.0.

member interface

Description Adds a member VLAN or S-VLAN subinterface to a Martini layer 2 circuit associated with a load-balancing group. This command creates an MPLS shim interface and associates it with the group. The **no** version removes the member subinterface from the circuit. Repeat as needed to remove all member subinterfaces used by a load-balanced circuit, thereby deleting the circuit from the group.

Syntax [no] member interface *interfaceType interfaceSpecifier*

- *interfaceType*—One of the following interface types listed in *Interface Types and Specifiers in About This Guide*
 - serial
 - pos
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers in About This Guide*

Mode L2 Transport Load-Balancing-Circuit Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

Related Topics

- Configuring CE-Side Load Balancing for Martini Layer 2 Transport

member-interface

Description Adds a member interface, also known as a bundle member, to an MLPPP bundle, an MLFR bundle, or an IEEE 802.3ad link aggregation group (LAG) bundle. The **no** version removes the specified member interface from the bundle.

Syntax [no] member-interface *interfaceType interfaceSpecifier*

- *interfaceType*—One of the following interface types listed in *Interface Types and Specifiers in About This Guide*
 - serial (MLFR bundle or MLPPP bundle)
 - pos (MLFR bundle only)
 - fastEthernet (IEEE 802.3ad LAG bundle only)
 - gigabitEthernet (IEEE 802.3ad LAG bundle only)
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers in About This Guide*

Mode Interface Configuration, Subinterface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

memory

Description Configures memory warning parameters. When the router reaches the high memory utilization value, it sends warning messages. When memory usage falls to the abated memory utilization value, the router stops sending warning messages. The **no** version returns the memory warning parameters to the default values.

Syntax [no] memory warning *highUtilization abatedUtilization*

- *highUtilization*—High memory utilization value; in the range 1–99; default value is 85
- *abatedUtilization*—Abated memory utilization value; in the range 1–99; default value is 75

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

message-digest-key md5

Description Enables OSPF MD5 authentication for the remote-neighbor interface and configures the MD5 key. The **no** version deletes an MD5 key.



NOTE: If all the MD5 keys have been deleted, the authentication type is still MD5, but you need to configure MD5 keys.

NOTE: To disable MD5 authentication for the remote-neighbor interface, use the **authentication-none** command.

Syntax message-digest-key *keyID* md5 [0 | 8] *msgDigestKey*
no message-digest-key *keyID*

- *keyID*—Key identifier in the range 1–255
- md5—Specifies use of the MD5 algorithm
- 0—Indicates the *msgDigestKey* is entered in unencrypted form (plaintext); this is the default option
- 8—Indicates the *msgDigestKey* is entered in encrypted form (ciphertext)
- *msgDigestKey*—OSPF password; string of up to 16 alphanumeric characters

Mode Remote Neighbor Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

metric

Description Sets the metric to the same value for all active IS-IS IPv4 and IPv6 interfaces at the specified level. If you do not specify level 1 routers or level 2 routers, then the metric is applied to both level 1 and level 2 routers. The **no** version restores the individual default value, 10.

Syntax `metric globalDefault [level-1 | level-2]`
`no metric [level-1 | level-2]`

- *globalDefault*—Metric used for all IS-IS interfaces; a number in the range 1–16777215; overridden by the **isis metric** command
- level-1—Configuration applies only to level 1 routing
- level-2—Configuration applies only to level 2 routing

Mode Router Configuration

Release Information Command introduced in JUNOS Release 9.0.0.

metric-style narrow

Description Configures the router to generate and accept only old-style IS-IS TLVs with narrow (six-bit) metric fields. If you issue this command, the value configured with the **isis metric** command can range only from 0–63. The **no** version restores the default value, which is to generate and accept only old-style TLVs with narrow (six-bit) metric fields.

Syntax `[no] metric-style narrow [transition] [level-1 | level-2 | level-1-2]`

- transition—Configures the router to additionally accept new-style TLVs with wider metric fields
- level-1—Configuration applies only to level 1 routing
- level-2—Configuration applies only to level 2 routing
- level-1-2—Configuration applies to both level 1 and level 2 routing

Mode Router Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

metric-style transition

Description Configures the router to generate and accept both old-style IS-IS TLVs with narrow (six-bit) metric fields and new-style IS-IS TLVs with wider metric fields. If you issue this command, the value configured with the **isis metric** command can range from 0–16777215. The **no** version restores the default value, which is to generate and accept only old-style TLVs with narrow (six-bit) metric fields.

Syntax [no] metric-style transition [level-1 | level-2 | level-1-2]

- level-1—Configuration applies only to level 1 routing
- level-2—Configuration applies only to level 2 routing
- level-1-2—Configuration applies to both level 1 and level 2 routing

Mode Router Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

metric-style wide

Description Configures the router to generate and accept only new-style IS-IS TLVs with wider metric fields. If you issue this command, the value configured with the **isis metric** command can range from 0–16777215. The **no** version restores the default value, which is to generate and accept only old-style TLVs with narrow (six-bit) metric fields.

Syntax [no] metric-style wide [transition] [level-1 | level-2 | level-1-2]

- transition—Configures the router to additionally accept old-style TLVs with narrow (six-bit) metric fields
- level-1—Configuration applies only to level 1 routing
- level-2—Configuration applies only to level 2 routing
- level-1-2—Configuration applies to both level 1 and level 2 routing

Mode Router Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

minimum-dynamic-rate-percent

Description Specifies the minimum value of the dynamic shaping rate as a percentage of the shared shaping rate for all simple shared shapers on the router. The **no** version removes the specified minimum dynamic rate from all simple shared shapers on the router.

Syntax minimum-dynamic-rate-percent *minimumDynamicRatePercent*
no minimum-dynamic-rate-percent

- *minimumDynamicRatePercent*—Minimum percentage value of the dynamic shared shaper in the range 0–100; default value is 0

Mode QoS Shared Shaper Control Configuration

Release Information Command introduced in JUNOS Release 8.0.0.

Related Topics

- Configuring Simple Shared Shaper Algorithm Variables

mirror

Description Enables packet mirroring based on the specified trigger and specifies the secure policy to attach to the subscriber's interface. The **no** version disables packet mirroring for the subscriber and removes the trigger configuration.

Syntax mirror *triggerType triggerValue* { ip | l2tp } secure-policy-list *policyName*
no mirror *triggerType triggerValue* { ip | l2tp }

- *triggerType*—One of the following RADIUS attributes
 - acct-session-id—Acct-Session-ID (RADIUS attribute 44)
 - calling-station-id—Calling-Station-ID (RADIUS attribute 31)
 - ip-address—Framed-IP-Address (RADIUS attribute 8)
 - nas-port-id—NAS-Port-ID (RADIUS attribute 87)
 - username—User-Name (RADIUS attribute 1)
- *triggerValue*—Value of the *triggerType* (the specified RADIUS attribute) that identifies the subscriber
- ip—Configures mirroring for an IP subscriber
- l2tp—Configures mirroring for an L2TP subscriber
- *policyName*—Secure policy to attach to the subscriber's interface

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.
nas-port-id keyword added in JUNOS Release 7.1.0.

Related Topics

- Configuring CLI-Based Mirroring

mirror analyzer-ip-address

Description Configures the mirror action for a classifier group in a secure IP or L2TP policy list. The **no** version deletes the mirror rule.

Syntax mirror analyzer-ip-address *analyzerIpAddress* analyzer-virtual-router *vrName*
 [analyzer-udp-port *udpPort* [mirror-identifier *mirrorId* [session-identifier *sessionId*]]]
 no mirror

- *analyzerIpAddress*—IP address of the analyzer
- *vrName*—Name of the virtual router where the analyzer interface is configured
- *udpPort*—UDP port of the analyzer; required for L2TP packet mirror rules
- *mirrorId*—Mirror identifier
- *sessionId*—Session identifier

Mode Classifier-Group Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

Related Topics

- Configuring CLI-Based Mirroring

mirror disable

Description Disables a packet mirroring session that was dynamically configured for a subscriber; uses the trigger information to identify the subscriber's session. There is no **no** version.

Syntax mirror disable *triggerType triggerValue*

- *triggerType*—One of the following RADIUS attributes that was used as the trigger to start the packet mirroring session
 - acct-session-id—Acct-Session-ID (RADIUS attribute 44)
 - calling-station-id—Calling-Station-ID (RADIUS attribute 31)
 - ip-address—Framed-IP-Address (RADIUS attribute 8)
 - nas-port-id—NAS-Port-ID (RADIUS attribute 87)
 - username—User-Name (RADIUS attribute 1)
- *triggerValue*—Value of the *triggerType* (the specified RADIUS attribute) that identifies the subscriber

Mode Privileged Exec

Release Information Command introduced before JUNOS Release 7.1.0.
nas-port-id added in JUNOS Release 7.1.0.

Related Topics

- Configuring CLI-Based Mirroring
- Configuring RADIUS-Based Mirroring

mirror-enable

Description Enables the use of the secure packet mirroring commands. The secure commands are then visible and can be used during the current CLI session. The **no** version disables the use of packet mirroring commands; the commands no longer appear in the CLI.

Syntax [no] mirror-enable

Mode Privileged Exec

Release Information Command introduced before JUNOS Release 7.1.0.

Related Topics

- Configuring CLI-Based Mirroring

mirror trap-enable

Description	Configures the packet mirroring application to generate secure packet mirroring traps. The no version disables the trap generation.
Syntax	[no] mirror trap-enable
Mode	Global Configuration
Release Information	Command introduced in JUNOS Release 7.2.0.
Related Topics	<ul style="list-style-type: none"> ■ Monitoring SNMP Secure Packet Mirroring Traps

mld disable

Description	Disables MLD on a virtual router. The no version reenables MLD on a virtual router.
Syntax	[no] mld disable
Mode	Router Configuration
Release Information	Command introduced before JUNOS Release 7.1.0.

mode

Description	Enables high availability mode (hitless SRP switchover) operation. The no version returns high availability mode operation to its default (file-system-synchronization).
Syntax	mode { file-system-synchronization high-availability } no mode <ul style="list-style-type: none"> ■ file-system-synchronization—Uses file synchronization to keep the configuration of the standby SRP coordinated with the configuration of the active SRP ■ high-availability—Uses mirroring to keep the configuration and state of the standby SRP coordinated with the configuration and state of the active SRP
Mode	Redundancy Configuration
Release Information	Command introduced before JUNOS Release 7.1.0.

monitor atm vc

Description Displays bit rate and packet rate statistics over a specified time interval for one or more ATM virtual circuits (VCs). There is no **no** version.

Syntax `monitor atm vc atm interfaceSpecifier vcd [atm interfaceSpecifier vcd]*`
`[load-interval seconds] [display-time-of-day]`

- *interfaceSpecifier*—ATM interface specifier; see *Interface Types and Specifiers* in *About This Guide*
- *vcd*—Virtual circuit descriptor that is an identifier for the VC in other commands; number in the range 1–2147483647
- *seconds*—Number of seconds in the range 5–30 that specifies the time interval at which the router calculates bit rates and packet rates for the specified VC; default value is 5 seconds
- *display-time-of-day*—Sets time at which the router calculates the bit rate and packet rate statistics for the current interval
- ***—Indicates that one or more parameters can be repeated multiple times in a list in the command line

Mode Privileged Exec, User Exec

Release Information Command introduced before JUNOS Release 7.1.0.

monitor atm vp

Description Displays bit rate and packet rate statistics over a specified time interval for one or more ATM virtual paths (VPs). There is no **no** version.

Syntax `monitor atm vp atm interfaceSpecifier vpi [atm interfaceSpecifier vpi]*`
`[load-interval seconds] [display-time-of-day]`

- *interfaceSpecifier*—ATM interface specifier; see *Interface Types and Specifiers* in *About This Guide*
- *vpi*—Virtual path identifier of the PVC. The numeric range of the VPI depends on the line module capabilities and current configuration.
- *seconds*—Number of seconds in the range 5–300 that specifies the time interval at which the router calculates bit rates and packet rates for the specified VP; default value is 5 seconds
- *display-time-of-day*—Sets time at which the router calculates the bit rate and packet rate statistics for the current interval
- ***—Indicates that one or more parameters can be repeated multiple times in a list in the command line

Mode Privileged Exec, User Exec

Release Information Command introduced in JUNOS Release 7.1.0.

monitor vlan interface

- Description** Displays bit rate and packet rate statistics over a specified time interval for one or more VLAN subinterfaces. There is no **no** version.
- Syntax** `monitor vlan interface interfaceType interfaceSpecifier`
`[interfaceType interfaceSpecifier]* [load-interval seconds] [display-time-of-day]`
- *interfaceType*—One of the following interface types listed in *Interface Types and Specifiers* in *About This Guide*
 - atm
 - fastEthernet
 - gigabitEthernet
 - lag
 - tenGigabitEthernet
 - *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
 - *seconds*—Number of seconds in the range 5–30 that specifies the time interval at which the router calculates bit rates and packet rates for the specified VLAN; default value is 5 seconds
 - display-time-of-day—Sets time at which the router calculates the bit rate and packet rate statistics for the current interval
 - *—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

more

- Description** Displays the contents of a macro, script, or text file. The file can reside in NVS on the primary SRP module, in NVS on the redundant (standby) SRP module, or on a remote server that you access using FTP. There is no **no** version.
- Syntax** To display a file that resides in NVS on the primary SRP module:
more *fileName*
- *fileName*—Name of the file you want to display
- To display a file that resides in NVS on the redundant (standby) SRP module:
more **standby:***fileName*
- *fileName*—Name of the file you want to display
- To display a file that resides on a remote server:
more **serverName:***filePathName*
- *serverName*—Name of the remote server on which the file resides
 - *filePathName*—Complete path of the file on the remote server
- Mode** Privileged Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

motd-banner

- Description** Controls display of a message-of-the-day banner (configured with the **banner** command) on a particular line when a connection is initiated. The **no** version disables the motd banner on the line; the motd banner is also disabled by the **no exec-banner** command. The **default** version restores the default setting, in which the banner is enabled on all lines.
- Syntax** [no | default] motd-banner
- Mode** Line Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.

mount

Description Mounts the specified flash card. If the card was not safely unmounted previously, the command also performs disk and file system integrity checks before mounting the card and permitting user access. The **no** version prepares the card for safe unmounting by rejecting requests to open files and waiting for currently open files to close; only then is the user notified that the unmounted card can be safely ejected.

Syntax mount { disk0 | disk1 }
no mount { disk0 | disk1 } [force]

- disk0—Specifies flash card in slot 0 of the SRP module; although this option is displayed by the CLI, it is rejected when specified because disk0 is required for router operation
- disk1—Specifies flash card in slot 1 of the SRP module; supported only on the E120 router and the E320 router
- force—Forces the dismount even when files on the disk are open for modification

Mode Privileged Exec

Release Information Command introduced in JUNOS Release 8.0.0.

mpls

Description In Global Configuration mode, creates MPLS in the current virtual router. By default, MPLS does not exist in a VR. The **no mpls** version removes MPLS from the VR, and additionally removes all MPLS major interfaces, MPLS shim interfaces, MPLS load-balancing groups, MPLS minor interfaces, and MPLS forwarding tables from the VR.

In Interface Configuration mode, creates an MPLS major interface stacked on the current layer 2 interface, and automatically enables MPLS in the current VR if it has not already been enabled. If the MPLS major interface already exists, no action is taken and no message is generated. An error message is generated if you issue the command for a layer 2 interface that does not support MPLS major interfaces. You cannot enable MPLS on a loopback interface. The **no mpls** version removes the MPLS major interface.

In Subscriber Policy Configuration mode, modifies the subscriber policy for MPLS to define whether the subscriber (client) interfaces that belong to a bridge group or to a VPLS instance forward (permit) or filter (deny) MPLS packets. The **no** version restores the default value, permit MPLS packets.

In Subscriber Policy Configuration mode, you cannot change the default subscriber policy values for trunk (server) interfaces that belong to a bridge group or to a VPLS instance. You also cannot change the default subscriber policy values for a VPLS virtual core interface, which acts as a trunk interface. The VPLS virtual core interface represents all of the MPLS tunnels from the router to the remote VPLS edge (VE) devices.

Syntax To enable MPLS on a virtual router in Global Configuration mode, or to create an MPLS major interface in Interface Configuration mode:

[no] mpls

To modify the subscriber policy for MPLS packets in Subscriber Policy Configuration mode:

mpls { permit | deny }

no mpls

- permit—Specifies that the subscriber interface associated with the bridge group or VPLS instance forwards MPLS packets
- deny—Specifies that the subscriber interface associated with the bridge group or VPLS instance filters MPLS packets

Mode Global Configuration, Interface Configuration, Subscriber Policy Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

Related Topics

- Configuring MPLS LSPs

mpls atm vci range

Description Specifies the range for virtual circuit identifiers that can be used in MPLS labels for an MPLS major interface on an ATM AAL5 interface using the interface label space. Creates the MPLS major interface if it does not yet exist. An error message is generated if you issue the command for any other layer 2 interface, as they do not support the interface label space. The **no** version deletes the range.

Syntax mpls atm vci range *minVCI maxVCI*
no mpls atm vci range

- *minVCI*—Lowest virtual circuit identifier acceptable for a label, a value from 33–65535
- *maxVCI*—Highest virtual circuit identifier acceptable for a label, a value from 33–65535

Mode Interface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls atm vpi range

Description Specifies the range for virtual path identifiers that can be used in MPLS labels for an MPLS major interface on an ATM AAL5 interface using the interface label space. Creates the MPLS major interface if it does not yet exist. An error message is generated if you issue the command for any other layer 2 interface, as they do not support the interface label space. The **no** version deletes the range.

Syntax mpls atm vpi range *minVPI maxVPI*
no mpls atm vpi range

- *minVPI*—Lowest virtual path identifier acceptable for a label, a value in the range 0–255
- *maxVPI*—Highest virtual path identifier acceptable for a label, a value in the range 0–255

Mode Interface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls backup-path

Description Assigns the specified bypass tunnel to the interface that you want to protect. The **no** version removes the assignment.

Syntax [no] mpls [traffic-eng] backup-path *bypassTunnelName*

- traffic-eng—Specifies optional keyword for compatibility with non-E-series implementations
- *bypassTunnelName*—Name of the bypass tunnel

Mode Interface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls bandwidth

Description Specifies the total bandwidth reservable for MPLS on the interface. The **no** version restores the default value, 0.

Syntax { ip rsvp | mpls } bandwidth *bandwidth*
no { ip rsvp | mpls } bandwidth

- ip rsvp—Specifies keyword for compatibility with non-E-series implementations of MPLS
- mpls—Specifies JUNOS MPLS implementation
- *bandwidth*—Reservable bandwidth in kilobits per second, a value in the range 1–10000000

Mode Interface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls classifier-list

Description Creates or modifies an MPLS classifier control list. The **no** version deletes the MPLS classifier control list.

Syntax `mpls classifier-list classifierName`
`[traffic-class className] [color { green | yellow | red }]`
`[user-packet-class userPacketClassValue] [exp-bits expValue [exp-mask maskValue]`
`no mpls classifier-list classifierName [classifierNumber]`

- *classifierName*—Name of a classifier list entry
- *className*—Name of a traffic class; the router supports up to eight traffic classes
- *green*—Matches packet color to green, indicating a low drop preference
- *yellow*—Matches packet color to yellow, indicating a medium drop preference
- *red*—Matches packet color to red, indicating a high drop preference
- *userPacketClassValue*—Value of the user packet class in the range 0–15
- *expValue*—Value of the EXP bits in the range 0–7
- *maskValue*—Mask applied to the EXP bits in the range 1–7
- *classifierNumber*—Index of the classifier control list entry to be deleted; an integer in the range 1–10000

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

Related Topics

- Creating or Modifying Classifier Control Lists for MPLS Policy Lists

mpls copy-upc-to-exp

Description Sets the initial value of the EXP bits in pushed or swapped labels to the user packet class value associated with the packets. This command does not modify EXP bits in labels already in the received MPLS packet. The **no** version restores the default condition, where the EXP bits are set to zero (for non-MPLS/IP traffic) or to the IP precedence value from the TOS field of the IP packet header (for IP traffic).

Syntax `[no] mpls copy-upc-to-exp`

Mode Global Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls create-dynamic-interfaces

Description Specifies whether dynamic IP interfaces are automatically created on top of all MPLS major interfaces, and if so, which profile is used to create them. By default, one IPv4 dynamic interface without a profile is created and used for both VPN and non-VPN traffic. If IPv6 is enabled on the virtual router, then by default, one IPv6 dynamic interface without a profile is created and used for both VPN and non-VPN traffic. The **no** version restores the default behavior.

Syntax `mpls create-dynamic-interfaces`
`{ ip ipv6 } on-major-interfaces [for-vpn-traffic] [profile profileName]`
`no mpls create-dynamic-interfaces`
`{ ip ipv6 } on-major-interfaces [for-vpn-traffic]`

- `ip`—Specifies that the created dynamic interfaces are IPv4
- `ipv6`—Specifies that the created dynamic interfaces are IPv6
- `for-vpn-traffic`—Specifies that the created dynamic interface is used for BGP/MPLS VPN traffic; VPN traffic uses the same IP interface as non-VPN traffic if separate IP interfaces are not created for the VPN traffic
- `profileName`—Name of a profile that sets the values that configure the IP interface; if you do not specify a profile, the interface attributes are set to their default values

Mode Global Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls diff-serv phb-id traffic-class

Description Maps the specified PHB ID to the internal traffic class and color combination. If color is specified, the PHB ID can be used only for E-LSPs. If color is *not* specified, the PHB ID can be used only for L-LSPs. The **no** version removes the mapping.

Syntax `mpls diff-serv phb-id { private privateId | standard standardId }`
`traffic-class className [color { green | yellow | red }]`
`no mpls diff-serv phb-id { private privateId | standard standardId }`

- `privateId`—Number in the range 0–4032 designating the private PHB identifier
- `standardId`—Number in the range 0–63 designating the standard PHB identifier using the DSCP bits
- `className`—Name of a traffic class; the router supports up to eight traffic classes
- `green`—Sets packet color to green, indicating a low drop preference
- `yellow`—Sets packet color to yellow, indicating a medium drop preference
- `red`—Sets packet color to red, indicating a high drop preference

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls disable

Description Administratively disables the MPLS major interface. MPLS major interfaces are administratively enabled by default. The **no** version restores the default condition, and creates an MPLS major interface if it does not already exist.

Syntax [no] mpls disable

Mode Interface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls explicit-path

Description Defines an explicit path by name or ID number and also enables or disables the explicit path. The **no** version deletes the explicit path.

Syntax { ip | mpls } explicit-path { name *name* | identifier *number* } [enable | disable]
no { ip | mpls } explicit-path { name *name* | identifier *number* }

- ip—Specifies alternative keyword for compatibility with non-E-series implementations
- mpls—Specifies JUNOS MPLS implementation
- *name*—Name for the explicit path; string of up to 20 characters
- *number*—Number identifying the explicit path in the range 1–65535
- enable—Reenables the explicit path that was previously disabled on the virtual router; to prevent a partially configured explicit path from being used, do not enable it until you have finished configuring or modifying the path
- disable—Disables the explicit path that was previously enabled on the virtual router

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls ip propagate-ttl

Description Controls the value for the TTL field in the MPLS header when a label is assigned to an IP packet. Enabled by default, this command sets the TTL to the TTL value from the IP packet header. The **no** version sets the value to 255 to hide the network structure from all traffic, preventing the **traceroute** command from discovering and displaying LSP hops. The **default** version reverts to the global default, causing the TTL field to be copied from the IP packet header and enabling the **traceroute** command to show all the hops in the network.

Syntax [no | default] mpls ip propagate-ttl [forwarded | local]

- forwarded—Hides the network structure from traceroute only for forwarded packets
- local—Hides the network structure from traceroute only for local packets

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls l2transport load-balancing-group

Description Specifies a Martini layer 2 transport circuit, associates it with a load-balancing group, and accesses L2 Transport Load-Balancing-Circuit Configuration mode. The **no** version removes a circuit from the load-balancing group and all subinterfaces that the circuit was configured on.

Syntax mpls l2transport load-balancing-group *groupNumber*
[mpls-relay *remoteIpAddress* | route interface tunnel *lspName*]
[vc-id] *vcId* [group-id *groupId*]
[control-word | no-control-word] [sequencing | no-sequencing]
[relay-format { ethernet | ppp | vlan }]

no mpls l2transport load-balancing-group *groupNumber*
{ mpls-relay *remoteIpAddress* | route interface tunnel *lspName* } [vc-id] *vcId*

- *groupNumber*—Integer in the range 1–127



NOTE: For definitions of all other options, see the **mpls-relay** command or the **route interface** command. Using the **mpls-relay** keywords has the same effect as using the mpls-relay command. Using the **route interface** keywords has the same effect as using the route interface commands.

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.
control-word, **no-control-word**, **sequencing**, and **no-sequencing** keywords added in JUNOS Release 7.1.0.

Related Topics

- Configuring CE-Side Load Balancing for Martini Layer 2 Transport

mpls ldp

Description Enables LDP and topology-driven LSP, as does any LDP-related command, using an implicit default profile. You cannot enable LDP and topology-driven LSPs on a loopback interface. The **no** version disables LDP globally or on the interface.

Syntax [no] mpls ldp

Mode Global Configuration, Interface Configuration, Subinterface Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

Related Topics

- Configuring MPLS LSPs

mpls ldp advertise-labels

Description Controls the distribution of incoming labels advertised by LDP. The **no** version halts advertisement of all incoming labels or the specified labels.

Syntax mpls ldp advertise-labels { host-only | for *routeAccessList* [to *neighborAccessList*] | interface *interfaceType* *interfaceSpecifier* }
 no mpls ldp advertise-labels { policy-list | host-only | for *routeAccessList* [to *neighborAccessList*] | interface *interfaceType* *interfaceSpecifier* }

- *host-only*—Advertises only labels for host routes (routes with a 32-bit mask)
- *routeAccessList*—Name of access list identifying routes for which label advertisement is permitted or denied
- *neighborAccessList*—Name of access list identifying neighbors to which the LSR advertises labels
- *interfaceType*—Interface type; see *Interface Types and Specifiers* in *About This Guide*
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *policy-list*—Deletes all lists configured with the **for** *routeAccessList* option

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls ldp autoconfig

- Description** In Interface Configuration mode, creates LDP on the current interface. The **no** version removes LDP from the interface.
- In Router Configuration mode, creates LDP on all interfaces in the IS-IS or OSPF router, on interfaces in the specified level (IS-IS), or on interfaces in the specified area (OSPF). The **no** version removes the LDP configuration for all qualifying interfaces.
- Syntax** From Interface Configuration mode and Subinterface Configuration mode:
[no] mpls ldp { isis | ospf } autoconfig
- From Router Configuration mode for IS-IS:
mpls ldp autoconfig [level-1 | level-2 | level-1-2]
no mpls ldp autoconfig
- From Router Configuration mode for OSPF:
mpls ldp autoconfig [*areaid* | *areaidint*]
no mpls ldp autoconfig
- level-1—Enables LDP on all IS-IS level 1 interfaces
 - level-1-2—Enables LDP on all IS-IS level 1-2 interfaces
 - level-2—Enables LDP on all IS-IS level-2-only interfaces
 - *areaid*—OSPF area ID in IP address format
 - *areaidint*—OSPF area ID as a decimal value in the range 0–4294967295
- Mode** Interface Configuration, Router Configuration, Subinterface Configuration
- Release Information** Command introduced in JUNOS Release 8.1.0.

mpls ldp deaggregate

- Description** Configures LDP to bind each prefix to a separate label on the current virtual router. The **no** version enables LDP to aggregate multiple prefixes to be bound to the same label.
- Syntax** [no] mpls ldp deaggregate
- Mode** Global Configuration
- Release Information** Command introduced in JUNOS Release 8.1.0.

mpls ldp disable

Description Disables LDP on the interface. The **no** version reenables LDP on the interface.

Syntax [no] mpls ldp disable

Mode Interface Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls ldp discovery transport-address

Description Specifies an arbitrary IP address to be used as the transport address of the local peer advertised in LDP discovery hello messages. By default, the router ID is advertised as the transport address. The **no** version restores the default condition.

Syntax mpls ldp discovery transport-address *ipAddress*
 no mpls ldp discovery transport-address

- *ipAddress*—IP address advertised as the transport address

Mode Router Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls ldp egress-label

Description Configures LDP to advertise the explicit null label (label 0) or a non-null label for the egress routes. The **no** version restores the default, where the egress router advertises the implicit null label.

Syntax mpls ldp egress-label { explicit-null | non-null }
 no mpls ldp egress-label

Mode Global Configuration

Release Information Command introduced in JUNOS Release 8.1.0.

mpls ldp graceful-restart

Description Enables LDP graceful restart to preserve MPLS forwarding state across a restart, and helper mode, or only helper mode. LDP graceful restart and helper mode are both disabled by default. The **no** version disables both LDP graceful restart and helper mode.

Syntax mpls ldp graceful-restart [helper]
no mpls ldp graceful-restart

- helper—Configures only helper mode to preserve label-FEC mappings from a neighbor in the event the neighbor gracefully restarts

Mode Global Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls ldp graceful-restart reconnect-time

Description Specifies the length of time you want neighbors to wait for the gracefully restarting router to resume sending LDP messages to neighbors after the restart. The **no** version restores the default value, 120 seconds.

Syntax mpls ldp graceful-restart reconnect-time [seconds]
no mpls ldp graceful-restart reconnect-time

- seconds—Number of seconds in the range 60–300

Mode Global Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls ldp graceful-restart recovery-time

Description Specifies the length of time the router retains its MPLS forwarding state across a restart. The **no** version restores the default value, 120 seconds.

Syntax mpls ldp graceful-restart recovery-time [seconds]
no mpls ldp graceful-restart recovery-time

- seconds—Number of seconds in the range 120–600

Mode Global Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls ldp graceful-restart timers max-recovery

Description Specifies the maximum length of time that the router waits for its neighbor to complete a graceful LDP restart after the LDP session is reestablished. The **no** version restores the default value, 120 seconds.

Syntax mpls ldp graceful-restart timers max-recovery *seconds*
 no mpls ldp graceful-restart timers max-recovery

- *seconds*—Number of seconds in the range 15–600

Mode Global Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls ldp graceful-restart timers neighbor-liveness

Description Specifies the maximum length of time that the router waits for its neighbor to reestablish an LDP session. The **no** version restores the default value, 120 seconds.

Syntax mpls ldp graceful-restart timers neighbor-liveness *seconds*
 no mpls ldp graceful-restart timers neighbor-liveness

- *seconds*—Number of seconds in the range 5–300

Mode Global Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls ldp igp sync holddown

Description Configures the LDP-IGP synchronization holddown timer. The **no** version restores the default condition, where the IGP waits for LDP to be operational on the interface indefinitely.

Syntax mpls ldp igp sync holddown *holdDownValue*
 no mpls ldp igp sync holddown

- *holdDownValue*—Number of milliseconds in the range 1–65535

Mode Global Configuration

Release Information Command introduced in JUNOS Release 8.1.0.

mpls ldp independent-control

Description Specifies independent control as the method used by LDP for label distribution. The **no** version restores the default method, ordered control.

Syntax [no] mpls ldp independent-control

Mode Global Configuration

Release Information Command introduced in JUNOS Release 8.1.0.

mpls ldp ip-forwarding

Description Specifies LSPs to be put into the IP routing table for forwarding plain IP traffic. The **no** version removes the listed LSPs or all LSPs from the IP routing table.

Syntax [no] mpls ldp ip-forwarding [{ access-list | prefix-list } *listName*] [host-only]

- access-list—Specifies that *listName* is an access list
- prefix-list—Specifies that *listName* is a prefix list
- *listName*—Name of access list or prefix list that specifies LSPs over which IP interfaces are created
- host-only—Specifies that IP interfaces are created only over LSPs to host addresses

Mode Global Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls ldp link-hello disable

Description Suppresses the transmission of LDP link hello messages. The **no** version restores the default condition, transmitting link hello messages.

Syntax [no] mpls ldp link-hello disable

Mode Interface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls ldp neighbor password

Description Configures the password used to compute MD5 checksums for authenticating the specified LDP neighbor when the peer attempts to establish a TCP connection. The **no** version deletes the password for the peer.

Syntax `mpls ldp neighbor ipAddress password passwordString`
`[no] mpls ldp neighbor ipAddress password`

- *ipAddress*—IP address of remote peer
- *passwordString*—Password; alphanumeric string in the range 1–40 characters

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls ldp profile

Description In Global Configuration mode, creates or modifies a configuration profile for the LDP. Places the CLI in LDP Profile Configuration mode. If you do not specify a profile name, the factory default profile is assumed. The **no** version deletes the specified profile.

In Interface Configuration mode, creates or enables LDP on the interface with the factory default profile or the specified profile. The **no** version reverts to the default profile on the interface.

Syntax In Global Configuration mode:
`mpls ldp [interface] profile [profileName]`
`no mpls ldp interface profile profileName`

In Interface Configuration mode:
`mpls ldp profile profileName`
`no mpls ldp profile`

- *interface*—Keyword required for the **no** version in Global Configuration mode
- *profileName*—Name of a profile to be created or modified (Global Configuration mode), applied to an interface (Interface Configuration mode), or deleted (both modes); the profile sets the values for the protocol parameters; until you modify the profile settings, the values match those of the implicit default profile

Mode Global Configuration, Interface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls ldp redistribute

Description Enables redistribution of routes from the specified IGP to LDP. The **no** version halts redistribution.

Syntax mpls ldp redistribute *protocol* [route-map *mapName*]
no mpls ldp redistribute *protocol* [route-map *mapName*]

- *protocol*—Protocol from which routes are redistributed to LDP: BGP, connected, IS-IS, OSPF, RIP, or static
- *mapName*—Name of the route map used to redistribute more specific routing information from an IGP to LDP

Mode Global Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls ldp session holdtime

Description Configures the LDP session hold time, the period that an LSR maintains a session without receipt of a message from an LDP peer. The **no** version restores the default value, 180.

Syntax mpls ldp session holdtime *holdTime*
no mpls ldp session holdtime

- *holdTime*—Number of seconds in the range 15–65535

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls ldp session keepalive interval

Description Sets the transmission interval at which LDP sends session keepalive messages. The **no** version restores the default interval, 20 seconds.

Syntax mpls ldp session keepalive interval *seconds*
no mpls ldp session keepalive interval

- *seconds*—Number of seconds, in the range 1–65535

Mode Global Configuration

Release Information Command introduced in JUNOS Release 8.1.0.

mpls ldp session retries

Description Specifies the number of attempts that will be made to set up an LDP session. The **no** version restores the default value, 0, meaning that the attempts will be made until successful.

Syntax mpls ldp session retries *retryNum*
 no mpls ldp session retries

- *retryNum*—Number of attempts in the range 0–65535

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls ldp session retry-time

Description Specifies the interval in seconds between attempts to set up an LDP session. The **no** version restores the default value, 30 seconds.

Syntax mpls ldp session retry-time *retryTime*
 no mpls ldp session retry-time

- *retryTime*—Interval in the range 0–60

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls ldp strict-security

Description Configures strict LDP authentication mode, which enables sessions to be formed only by peers with configured passwords. The **no** version enables sessions to be formed by peers without configured passwords.

Syntax [no] mpls ldp strict-security

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls ldp sync

- Description** In Interface Configuration mode, synchronizes LDP with the IGP on the current interface. The **no** version removes the configuration for the interface.
- In Router Configuration mode, synchronizes LDP with the IGP on all of the protocol's interfaces, on all interfaces in the specified level (IS-IS), or on all interfaces in the specified area (OSPF). The **no** version removes the configuration for all qualifying interfaces.
- Syntax** From Interface Configuration mode and Subinterface Configuration mode:
[no] mpls ldp { isis | ospf } sync
- From Router Configuration mode for IS-IS:
mpls ldp sync [level-1 | level-2 | level-1-2]
no mpls ldp sync
- level-1—Enables synchronization with LDP on all IS-IS level 1 interfaces
 - level-1-2—Enables synchronization with LDP on all IS-IS level 1-2 interfaces
 - level-2—Enables synchronization with LDP on all IS-IS level-2-only interfaces
- From Router Configuration mode for OSPF:
mpls ldp sync [*areald* | *arealdInt*]
no mpls ldp sync
- *areald*—OSPF area ID in IP address format
 - *arealdInt*—OSPF area ID as a decimal value in the range 1–4294967295
- Mode** Interface Configuration, Router Configuration, Subinterface Configuration
- Release Information** Command introduced in JUNOS Release 8.1.0.

mpls ldp targeted-hello holdtime

- Description** Configures the LDP targeted-hello hold time. The **no** version restores the default value, 45 seconds.
- Syntax** mpls ldp targeted-hello holdtime *seconds*
no mpls ldp targeted-hello holdtime
- *seconds*—Number of seconds, in the range 1–65535
- Mode** Global Configuration
- Release Information** Command introduced in JUNOS Release 8.1.0.

mpls ldp targeted-hello interval

Description Configures the LDP targeted-hello interval. The **no** version restores the default value, 15 seconds.

Syntax mpls ldp targeted-hello interval *seconds*
 no mpls ldp targeted-hello interval

- *seconds*—Number of seconds, in the range 1–65535

Mode Global Configuration

Release Information Command introduced in JUNOS Release 8.1.0.

mpls ldp targeted-hello receive list

Description Configures the list of peer addresses from which MPLS accepts targeted hello messages. The **no** version removes the list of peer addresses.

Syntax [no] mpls ldp targeted-hello receive list
 { access-list *accessListName* | *ipAddress* [*ipAddress*]* }

- *accessListName*—String of up to 32 alphanumeric characters that identifies an access list
- *ipAddress*—IP address of a peer
- *—Indicates that one or more parameters can be repeated multiple times in a list in the command line

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls ldp targeted-hello send list

Description Configures the list of peer addresses to which MPLS sends targeted hello messages. The **no** version removes the list of peer addresses.

Syntax [no] mpls ldp targeted-hello send list
 { access-list *accessListName* | *ipAddress* [*ipAddress*]* }

- *accessListName*—String of up to 32 alphanumeric characters that identifies an access list
- *ipAddress*—IP address of a peer
- *—Indicates that one or more parameters can be repeated multiple times in a list in the command line

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls ldp vpls neighbor

Description Configures the remote VPLS edge (VE) device address of a neighbor in the VPLS domain in which the VPLS instance participates. The specified VPLS instance must use LDP as the signaling protocol. If either or both LDP or MPLS are not configured on the current virtual router, issuing this command creates the LDP and MPLS configurations automatically. The **no** version deletes the neighbor from the VPLS domain.

The **mpls ldp vpls neighbor** command is not valid for a VPLS instance that uses BGP as the signaling protocol. To configure a VPLS instance with BGP signaling, use the **bridge vpls rd**, **bridge vpls route-target**, **bridge vpls site-name site-id**, and **bridge vpls site-range** commands.

Syntax [no] mpls ldp vpls *vplsName* neighbor *ipAddress*

- *vplsName*—Name of a VPLS instance created with the **bridge vpls transport-virtual-router** command
- *ipAddress*—IP address of a neighbor in the VPLS domain

Mode Global Configuration

Release Information Command introduced in JUNOS Release 8.2.0.

mpls ldp vpls vpls-id

Description Configures the VPLS identifier of a VPLS instance that uses LDP as the signaling protocol. The **no** version deletes the VPLS identifier from the VPLS instance.

The **mpls ldp vpls vpls-id** command is not valid for a VPLS instance that uses BGP as the signaling protocol. To configure a VPLS instance with BGP signaling, use the **bridge vpls rd**, **bridge vpls route-target**, **bridge vpls site-name site-id**, and **bridge vpls site-range** commands.

Syntax mpls ldp vpls *vplsName* vpls-id *vplsId*
no mpls ldp vpls *vplsName* vpls-id

- *vplsName*—Name of a VPLS instance created with the **bridge vpls transport-virtual-router** command
- *vplsId*—VPLS identifier for the VPLS instance, in the range 1–4294967295

Mode Global Configuration

Release Information Command introduced in JUNOS Release 8.2.0.

mpls lsp no-route retries

Description Specifies the number of attempts that will be made to set up an LSP for CR-LDP and RSVP-TE after a failure due to no available route. The **no** version restores the default value, 0, which means the attempts will be made until successful.

Syntax mpls lsp no-route retries *retryNum*
 no mpls lsp no-route retries

- *retryNum*—Number of retry attempts in the range 0–65535

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls lsp no-route retry-time

Description Specifies the interval in seconds between attempts to set up an LSP for CR-LDP and RSVP-TE after a failure due to no available route. The **no** version restores the default value, 5 seconds.

Syntax mpls lsp no-route retry-time *retryTime*
 no mpls lsp no-route retry-time

- *retryTime*—Interval in the range 1–60

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls lsp retries

Description Specifies the number of attempts that will be made to set up an LSP for CR-LDP and RSVP-TE after a failure other than one due to no available route. The **no** version restores the default value, 0, which means the attempts will be made until successful.

Syntax mpls lsp retries *retryNum*
 no mpls lsp retries

- *retryNum*—Number of retry attempts in the range 0–65535

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls lsp retry-time

Description Specifies the interval in seconds between attempts to set up an LSP for CR-LDP and RSVP-TE after a failure other than one due to no available route. The **no** version restores the default value, 5 seconds.

Syntax mpls lsp retry-time *retryTime*
no mpls lsp retry-time

- *retryTime*—Interval in the range 1–60

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls match exp-bits

Description Sets the traffic class and color for incoming MPLS packets whose EXP bits in the MPLS shim header match the specified EXP bits value. The **no** version reverts to the default behavior for traffic matching the specified EXP bits value, setting neither traffic class nor color.

Syntax mpls match exp-bits *bitValue* set traffic-class *className* color { green | yellow | red }
no mpls match exp-bits *bitValue*

- *bitValue*—Value in the range 0–7 that matches the corresponding binary value (000–111) for the three EXP bits
- *className*—Name of a traffic class; the router supports up to eight traffic classes
- green—Sets packet color to green, indicating a low drop preference
- yellow—Sets packet color to yellow, indicating a medium drop preference
- red—Sets packet color to red, indicating a high drop preference

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls match traffic-class

Description Sets the EXP bits in the MPLS shim header of outgoing MPLS packets that match the specified combination of traffic class and color. The **no** version reverts to the default behavior for traffic matching the specified traffic class and color combination. The default behavior sets the EXP bits to 000 for traffic entering an LSP and has no effect on the EXP bits for transit traffic.

Syntax `mpls match traffic-class className color { green | yellow | red } set exp-bits bitValue`
`no mpls match traffic-class className color { green | yellow | red }`

- *className*—Name of a traffic class; the router supports up to eight traffic classes
- green—Sets packet color to green, indicating a low drop preference
- yellow—Sets packet color to yellow, indicating a medium drop preference
- red—Sets packet color to red, indicating a high drop preference
- *bitValue*—Value in the range 0–7 that sets the corresponding binary value (000–111) for the three EXP bits

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls policy

Description Assigns a policy list to the ingress or egress of an MPLS layer 2 transport interface. If you enter this command when the policy list does not exist, the router will create a policy list with a filter rule as the default. Attaching this policy list to an interface filters all packets on that interface. You must specify the **input** or **output** keyword to assign the policy list to the ingress or egress of the interface. The **no** version removes the association between a policy list and an interface.

Syntax `mpls policy { input | output } policyName`
`[statistics { enabled [baseline { enabled | disabled }] [preserve | merge] | disabled [merge] } | merge]`
`no mpls policy { input | output } [policyName]`

- **input**—Applies policy to data arriving at this interface
- **output**—Applies policy to data leaving this interface
- ***policyName***—Name of the policy; a maximum of 40 characters
- **statistics**—Enables or disables collection of policy routing statistics
 - **enabled**—Enables collection of policy routing statistics
 - **baseline enabled**—Enables baselining of policy routing statistics
 - **baseline disabled**—Disables baselining of policy routing statistics
 - **preserve**—Preserves existing statistics for any classifier-list that is the same for both the new and old policy attachments when you attach a new policy to an interface
 - **disabled**—Disables collection of policy routing statistics
- **merge**—Enables merging of multiple policies to form a single policy

Mode Interface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.
merge keyword added in JUNOS Release 7.2.0.

Related Topics

- Configuring HDLC Layer 2 Services
- Setting a Statistics Baseline

mpls policy-list

Description Creates the specified policy list and accesses Policy List Configuration mode. If you enter the **mpls policy-list** command and the policy list does not exist, the router creates a policy list with no rules, the default. When a policy list does not have rules, the router inserts a default filter rule. Attaching this policy list to an interface filters all packets on that interface. The **no** version deletes the policy list.

Syntax [no] mpls policy-list *policyName*

- *policyName*—Name of a policy list; string of up to 40 alphanumeric characters

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

Related Topics

- Creating Policy Lists for MPLS

mpls policy-parameter hierarchical

Description Specifies a parameter value for MPLS interfaces. The **no** version removes the policy parameter and its contents.

Syntax mpls policy-parameter hierarchical *parameterName* { *nodeValue* | atm | atm-vc | atm-vp
vpValue | ethernet | fr-vc | forwarding | svlan *svlanValue* | vlan }

no policy-parameter *parameterName*

- *parameterName*—Name of policy parameter
- *nodeValue*—Aggregation node number in the range 1–65535
- *vpValue*—ATM VPI number in the range 0–255
- *svlanValue*—SVLAN ID number in the range 0–4095

Mode Interface Configuration

Release Information Command introduced in JUNOS Release 8.0.0.

Related Topics

- Creating a Classifier Group for a Policy List

mpls policy-parameter reference-rate

Description Creates an MPLS policy parameter for a reference rate; creates a global parameter if it does not exist. The **no** version removes the policy parameter and its contents; if used with the **increase** keyword, decreases the value.

Syntax mpls policy-parameter reference-rate *parameterName* [increase] *value*
no mpls policy-parameter reference-rate *parameterName* [increase *value*]

- *parameterName*—Name of policy parameter up to 40 characters
- increase—Increments the existing reference rate value
- *value*—Value of the reference rate parameter, in the range 0–4292967295

Mode Interface Configuration

Release Information Command introduced in JUNOS Release 8.1.0.

Related Topics

- Creating a Classifier Group for a Policy List

mpls policy-statistics

Description Enables policy statistics to be collected for the specified tunnel or LSP. Statistics collection is disabled by default. There is no **no** version.

Syntax mpls { enable | disable } policy-statistics *tunnelName*

- enable—Enables the collection of policy statistics
- disable—Disables the collection of policy statistics; this is the default setting
- *tunnelName*—Name of a tunnel or LSP; string of up to 20 alphanumeric characters

Mode Privileged Exec, User Exec

Release Information Command introduced before JUNOS Release 7.1.0.

mpls preserve-vpn-exp

Description Prevents the value of the EXP bits for a VPN label from being modified by either a per-LSP policy for the outer labels or per-VR traffic class/color rules. In the default condition, per-LSP policies or per-VR rules modify all labels in a given label stack to have the same value for the EXP bits. The **no** version restores the default condition.

Syntax [no] mpls preserve-vpn-exp

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls-relay

Description Routes layer 2 traffic to the specified router by creating an MPLS shim interface on the layer 2 interface. The router can use any MPLS LSP to the remote destination address that you specify. You must issue this command in the virtual router where the remote address can be reached; that is, in the virtual router providing core connections. The **no** version removes the shim interface. See also the **route interface** command.

Syntax `mpls-relay remoteAddress [vc-id] vcidValue [group-id groupIdValue]`
`[control-word | no-control-word] [sequencing | no-sequencing]`
`[relay-format { ethernet | ppp | vlan }]`
no mpls-relay

- *remoteIpAddress*—IP address of the router on the remote end of the layer 2 circuit
- *vcidValue*—Integer in the range 1–4294967295 that identifies the virtual connection; the two ends across the MPLS core must match inside each VC type



NOTE: The VLAN ID, DLCI, or ATM VPI/VCI are not related to the VC ID and can be different on each end of the connection.

- *groupIdValue*—Integer in the range 0–4294967295 that identifies a group of virtual connections; not currently used
- *control-word*—Indicates that the local preference is to use the control word for the layer 2 packets encapsulated in MPLS packets sent to the remote PE router. The default preference is determined by the interface stack on which the MPLS interface is stacked.
- *no-control-word*—Indicates that the local preference is to not use the control word for the layer 2 packets encapsulated in MPLS packets sent to the remote PE router. The default preference is determined by the interface stack on which the MPLS interface is stacked.
- *sequencing*—Specifies that the local preference is to include nonzero sequence numbers with the control word; enabling the remote PE to detect out-of-order packets; has no effect if no control word is sent in the packets. The router always accepts zero sequence numbers and checks the order of nonzero sequence numbers of MPLS packets received from the remote PE; any out of order packets are dropped, regardless of whether sequencing is configured.
- *no-sequencing*—Specifies that the sequencing number in the control word is set to zero, instructing the remote PE router to not attempt to detect out-of-order packets; has no effect if no control word is sent in the packets.
- *relay-format ethernet*—Specifies that the router uses Ethernet signaling and encapsulation, which causes the VLAN interface to appear as an Ethernet interface to the other side of the connection; enables a VLAN interface on one side of an MPLS tunnel to communicate with an Ethernet or a bridged Ethernet interface on the other side of an MPLS tunnel. The VLAN tag is not included in the MPLS encapsulation. This option is not available on serial or POS interfaces for HDLC layer 2 circuits. It is available only on VLAN interfaces

- relay-format ppp—Specifies that the router uses VC-type PPP signaling and PPP encapsulation instead of VC-type HDLC signaling and HDLC encapsulation. The router uses VC-type HDLC signaling and HDLC encapsulation by default. This option is available only on serial and POS interfaces for HDLC layer 2 circuits.
- relay-format vlan—Specifies that the router uses VLAN signaling and encapsulation. This option is not available on serial or POS interfaces for HDLC layer 2 circuits. It is available for VLAN interfaces.

Mode Interface Configuration, Subinterface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.
control-word, **no-control-word**, **no-sequencing**, and **vlan** keywords added in JUNOS Release 7.1.0.

Related Topics

- Configuring an MPLS Pseudowire with VCC Cell Relay Encapsulation
- Configuring Ethernet/VLAN Layer 2 Services
- Configuring Frame Relay Layer 2 Services
- Configuring HDLC Layer 2 Services
- Configuring Local ATM Cross-Connects with AAL5 Encapsulation
- Configuring Local Cross-Connects Between Ethernet/VLAN Interfaces
- Configuring S-VLAN Tunnels for Layer 2 Services

mpls-relay disable

Description Administratively disables the MPLS shim interface. The MPLS shim interface must exist before this command can be issued. MPLS shim interfaces are administratively enabled by default. The **no** version restores the default condition.

Syntax [no] mpls-relay disable

Mode Interface Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls reoptimize

Description Performs an immediate check for better paths for all existing LSPs. There is no **no** version.

Syntax mpls [traffic-eng] reoptimize [*interfaceType interfaceSpecifier*]

- traffic-eng—Specifies optional keyword for compatibility with non-E-series implementations
- *interfaceType*—Interface type; see *Interface Types and Specifiers* in *About This Guide*
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*

Mode Privileged Exec, User Exec

Release Information Command introduced before JUNOS Release 7.1.0.

mpls reoptimize timers frequency

Description Specifies the frequency at which existing LSPs are checked for better paths. The **no** version restores the default value, 3600 seconds.

Syntax mpls [traffic-eng] reoptimize timers frequency *seconds*
no mpls [traffic-eng] reoptimize timers frequency

- traffic-eng—Specifies optional keyword for compatibility with non-E-series implementations
- *seconds*—Number of seconds in the range 0–604800; a value of zero means that no reoptimization is performed

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls rsvp

Description Enables RSVP-TE, as does any RSVP-TE-related command. The **no** version disables LDP.

Syntax [no] mpls rsvp

Mode Global Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls rsvp authentication

Description Enables MD5 authentication for RSVP on the interface. Enable authentication after configuring the authentication key. The **no** version disables authentication.

Syntax [no] { ip | mpls } rsvp authentication

- ip—Specifies alternative keyword for compatibility with non-E-series implementations
- mpls—Specifies JUNOS MPLS implementation

Mode Interface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls rsvp authentication key

Description Assigns a key to the interface for MD5 authentication between RSVP peers. Assign the key before you enable authentication on the interface. The **no** version deletes the MD5 key.



NOTE: Keys of up to 40 characters are supported for non-Juniper Networks implementations. However, a key with more than 16 characters will cause an authenticated link between E-series and M- or T-series routers to be inoperable.

Syntax { ip | mpls } rsvp authentication [key *authkey*]

no { ip | mpls } rsvp authentication [key [*authkey*]]

- ip—Specifies alternative keyword for compatibility with non-E-series implementations
- mpls—Specifies JUNOS MPLS implementation
- *authkey*—Key used to create MD5 digest for messages sent from this interface and to authenticate messages received on this interface; alphanumeric string in the range 1–40 characters

Mode Interface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls rsvp bfd-liveness-detection

Description	Enables BFD (bidirectional forwarding detection) on an interface running RSVP-TE and defines BFD values to be negotiated between RSVP-TE neighbors for detection of IP data path failures. The no version disables BFD on the RSVP-TE interface.
Syntax	<pre>{ ip mpls } rsvp bfd-liveness-detection [minimum-interval <i>minInterval</i> [minimum-receive-interval <i>minRecInterval</i>] [minimum-transmit-interval <i>minTransInterval</i>]] [multiplier <i>multValue</i>]</pre> <pre>no { ip mpls } rsvp bfd-liveness-detection</pre> <ul style="list-style-type: none"> ■ <i>ip</i>—Specifies alternative keyword for compatibility with non-E-series implementations ■ <i>mpls</i>—Specifies JUNOS MPLS implementation ■ <i>minInterval</i>—Minimum proposed transmit interval and required receive interval for BFD control packets; number in the range 100–65535 milliseconds; default value is 300 milliseconds ■ <i>minRecInterval</i>—Minimum interval at which the local peer must receive BFD control packets sent by the remote peer; number in the range 100–65535 milliseconds; default value is 300 milliseconds ■ <i>minTransInterval</i>—Minimum proposed interval between BFD control packets sent by the local peer; number in the range 100–65535 milliseconds; default value is 300 milliseconds ■ <i>multValue</i>—Detection multiplier value that the remote peer router multiplies by the local peer's negotiated transmit interval to determine the remote peer's BFD liveness detection interval; equal to the number of BFD packets that can be missed before the BFD session is declared down; number in the range 1–255; default value is 3
Mode	Interface Configuration
Release Information	Command introduced in JUNOS Release 8.1.0.

mpls rsvp disable

Description	Administratively disables RSVP-TE on the interface. The no version reenables RSVP-TE on the interface.
Syntax	<pre>[no] mpls rsvp disable</pre>
Mode	Interface Configuration
Release Information	Command introduced in JUNOS Release 7.1.0.

mpls rsvp egress-label

Description Specifies that the egress router advertises the explicit null label or a non-null (real) label by means of RSVP-TE. The **no** version restores the default condition, where the egress router advertises the implicit null label for all tunnels (except those requiring PHB) that terminate on the router.

Syntax mpls { rsvp | traffic-eng } egress-label { non-null | explicit-null }
no mpls { rsvp | traffic-eng } egress-label

- rsvp—Specifies JUNOS implementation
- traffic-eng—Specifies keyword for compatibility with non-E-series implementations
- non-null—Advertises a real label, signaling that the egress router pops the last label and performs the IP lookup; this behavior was the default before this release
- explicit-null—Advertises the explicit null label, signaling that the egress router pops the last label and performs the IP lookup

Mode Global Configuration

Release Information Command introduced in JUNOS Release 7.3.0.

mpls rsvp message-bundling

Description Enables RSVP-TE to send bundle messages, each of which includes multiple standard RSVP-TE messages, to reduce the overall message-processing overhead. The **no** version disables RSVP-TE message bundling.

Syntax [no] mpls rsvp message-bundling

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls rsvp profile

Description In Global Configuration mode, creates or modifies a configuration profile for RSVP-TE. Places the CLI in RSVP Profile Configuration mode. If you do not specify a profile name, the factory default profile is assumed. The **no** version deletes the specified profile.

In Interface Configuration mode, creates or enables RSVP-TE on the interface with the factory default profile or the specified profile, or disables RSVP-TE on the interface. The **no** version reverts to the default profile on the interface.

Syntax In Global Configuration mode:
 mpls rsvp [interface] profile [*profileName*]
 no mpls rsvp interface profile *profileName*

In Interface Configuration mode:
 mpls rsvp profile *profileName*
 no mpls rsvp profile

- *interface*—Keyword required for the **no** version in Global Configuration mode
- *profileName*—Name of a profile to be created or modified (Global Configuration mode), applied to an interface (Interface Configuration mode), or deleted (both modes); the profile sets the values for the protocol parameters; until you modify the profile settings, the values match those of the implicit default profile

Mode Global Configuration, Interface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls rsvp refresh-reduction

Description Enables RSVP-TE summary refresh and reliability features, including the message ID object, the message ack object, and summary refresh messages. The **no** version disables summary refresh and reliability.

Syntax [no] mpls rsvp refresh-reduction

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls rsvp signalling hello

Description In Global Configuration mode, turns on or configures RSVP-TE hello support for all RSVP-TE interfaces on the current virtual router. The **no** version turns off hello support on the current VR. The **default** version restores the default configuration, in which RSVP hello support is not enabled.

In Interface Configuration mode and Subinterface Configuration mode, turns on or configures RSVP-TE hello support on the current interface, and overrides the global configuration. The **no** version turns off hello support on the current interface. The **default** version restores the default configuration, in which RSVP hello support is not enabled.

Syntax { ip | mpls } rsvp signalling hello
[refresh { interval *helloInterval* | misses *helloMisses* }]
{ no | default } { ip | mpls } rsvp signalling hello

- ip—Specifies alternative keyword for compatibility with non-E-series implementations
- *helloInterval*—Number of milliseconds specifying the interval at which hellos are sent, in the range 1000–60000; default value is 10000
- *helloMisses*—Number of RSVP-TE hello messages from a peer that can be missed before that hello adjacency peer is considered to be down, in the range 4–10; default value is 4

Mode Global Configuration, Interface Configuration, Subinterface Configuration

Release Information Command introduced in JUNOS Release 7.3.0.

mpls rsvp signalling hello graceful-restart

Description Enables RSVP-TE graceful restart as a restarting node or helper node on the current virtual router. The **no** version disables graceful restart on the current VR.

Syntax { ip | mpls } rsvp signalling hello graceful-restart [mode help-neighbor]
no { ip | mpls } rsvp signalling hello graceful-restart

- ip—Specifies alternative keyword for compatibility with non-E-series implementations
- mode help-neighbor—Specifies the current VR acts only as a graceful restart helper node for neighbors that support RSVP-TE graceful restart

Mode Global Configuration

Release Information Command introduced in JUNOS Release 8.0.0.

mpls rsvp signalling hello graceful-restart recovery-time

Description Configures the recovery time for RSVP-TE graceful restart for all interfaces that have RSVP-TE enabled. The **no** version restores the default value.

Syntax { ip | mpls } rsvp signalling hello graceful-restart recovery-time *recoveryTime*
 no { ip | mpls } rsvp signalling hello graceful-restart recovery-time

- *ip*—Specifies alternative keyword for compatibility with non-E-series implementations
- *recoveryTime*—Time in milliseconds within which you want the neighboring routers to resynchronize RSVP-TE state and MPLS forwarding state after a graceful restart, in the range 60000–480000; default value is 120000

Mode Global Configuration

Release Information Command introduced in JUNOS Release 8.0.0.

mpls rsvp signalling hello graceful-restart restart-time

Description Configures the restart time for RSVP-TE graceful restart for all interfaces that have RSVP-TE enabled. The **no** version restores the default value.

Syntax { ip | mpls } rsvp signalling hello graceful-restart restart-time *restartTime*
 no { ip | mpls } rsvp signalling hello graceful-restart restart-time

- *ip*—Specifies alternative keyword for compatibility with non-E-series implementations
- *restartTime*—Total time in milliseconds for the sender to gracefully restart RSVP-TE and to re-establish hello communication with RSVP-TE neighbors; in the range 60000–3600000; default value is 60000

Mode Global Configuration

Release Information Command introduced in JUNOS Release 8.0.0.

mpls rsvp signalling node-hello

Description Turns on or configures RSVP-TE hellos to include node IDs as source and destination addresses in the hello packets for all RSVP-TE interfaces on the current virtual router. RSVP-TE hellos based on node ID enable the JUNOS software to interoperate its RSVP-TE graceful restart capability with routers that cannot support RSVP-TE graceful restart with link-based hellos.

The **no** version turns off node-hello support on the current VR. The **default** version restores the default configuration, in which RSVP node hello support is not enabled.



NOTE: Node hellos are required only for interoperability with some non-E-series implementations. Node hellos are not required for communications between routers running JUNOS software or for interoperability with routers running JUNOS software.

Syntax { ip | mpls } rsvp signalling node-hello
[refresh { interval *helloInterval* | misses *helloMisses* }]
{ no | default } { ip | mpls } rsvp signalling node-hello

- ip—Specifies alternative keyword for compatibility with non-E-series implementations
- *helloInterval*—Number of milliseconds specifying the interval at which node hellos are sent, in the range 1000–60000; default value is 10000
- *helloMisses*—Number of RSVP-TE node hello messages from a peer that can be missed before that hello adjacency peer is considered to be down, in the range 4–10; default value is 4

Mode Global Configuration

Release Information Command introduced in JUNOS Release 9.0.0.

mpls signaling-interface

Description Specifies a particular layer 2 interface as the signaling interface for an MPLS major interface that is stacked on an ATM AAL5 interface. MPLS uses the IPv4 or IPv6 interface stacked on the specified interface for signaling. The **no** version restores the default behavior, wherein MPLS nondeterministically selects a layer 2 interface as the signaling interface.

Syntax `mpls signaling-interface interfaceType interfaceSpecifier`
`no mpls signaling-interface`

- *interfaceType*—Interface type; see *Interface Types and Specifiers* in *About This Guide*
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*

Mode Interface Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls spf-use-any-best-path

Description Enables the SPF calculations to consider both the best IGP (IS-IS or OSPF) paths and the MPLS tunnel to reach the tunnel endpoint. The **no** version restores the default value, which is to always use the MPLS tunnel to reach the tunnel endpoint—the IGP best paths are not considered.

Syntax `[no] mpls spf-use-any-best-path`

Mode Router Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls statistics label

Description Enables statistics collection for MPLS in labels. By default, statistics are enabled for in labels depending on the protocol that added the in label to the MPLS forwarding table. Statistics are not stored in NVS. The **no** version disables statistics collection.

Syntax [no] mpls statistics label { interface *interfaceName* atm *vpi vci* | *labelValue* }

- *interfaceName*—Name of interface for label in interface label space on an ATM AAL5 interface; up to 15 alphanumeric characters
- *vpi*—Virtual path identifier for a label, a value in the range 0–255
- *vci*—Virtual circuit identifier for a label, a value in the range 33–65535
- *labelValue*—Integer identifying a label in the platform label space, a value in the range 16–1048575

Mode Global Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls statistics next-hop

Description Enables statistics collection for MPLS next hops. By default, statistics are enabled for next hops depending on the protocol that created the MPLS next hop. Statistics are not stored in NVS. The **no** version disables statistics collection.

Syntax [no] mpls statistics next-hop *nextHopIndex*

- *nextHopIndex*—Integer uniquely identifying a next hop; in the range 1–1048575

Mode Global Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls statistics policy

Description Enables statistics collection for policies attached to an MPLS tunnel. Statistics are not stored in NVS. The **no** version disables statistics collection.

Syntax [no] mpls statistics policy *tunnelName*

- *tunnelName*—Name of the MPLS tunnel

Mode Global Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls topology-driven-lsp

Description Enables topology-driven LSP creation on the virtual router. In the context of the VRF virtual router, enables carrier-of-carriers support on the provider carrier's PE router. The **no** version disables topology-driven LSPs on the virtual router.

Syntax [no] mpls topology-driven-lsp

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls topology-driven-lsp ip-interfaces

Description Specifies LSPs to be put into the IP routing table for forwarding plain IP traffic. The **no** version removes the LSPs from the table.



NOTE: This command is deprecated and may be removed completely in a future release. The function provided by this command has been replaced by the **ldp ip-forwarding** command.

Syntax [no] mpls topology-driven-lsp ip-interfaces [egress | ingress]
 [{ access-list | prefix-list } *listName*] [host-only]
 no mpls topology-driven-lsp ip-interfaces [egress | ingress] [host-only] [policy-list]

- egress—Has no effect
- ingress—Has no effect
- access-list—Specifies that *listName* is an access list
- prefix-list—Specifies that *listName* is a prefix list
- *listName*—Name of access list or prefix list that specifies LSPs over which IP interfaces are created
- host-only— Specifies that only LSPs to host addresses are added to the IP routing table
- policy-list—Removes previously applied access lists or prefix lists

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls traffic-class

Description Specifies traffic class for which LSP-level queues are created. The **no** version deletes the traffic class.

Syntax [no] mpls traffic-class *className* [scheduler-profile *profileName*]

- *className*—Name of a traffic class; the router supports up to eight traffic classes
- *profileName*—Name of a scheduler profile to associate with the traffic class

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls traffic-eng

Description Enables flooding of MPLS traffic-engineering link information into the specified IS-IS level. Flooding is disabled by default. The **no** version disables flooding.

Syntax mpls traffic-eng level-1 | level-2
no mpls traffic-eng level-1 | level-2

- level-1—Floods IS-IS level 1
- level-2—Floods IS-IS level 2

Mode Router Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls traffic-eng administrative-weight

Description Specifies the administrative weight for the interface. The **no** version restores the default value, which matches the IGP-determined weight (cost).

Syntax mpls traffic-eng administrative-weight *weight*
no mpls traffic-eng administrative-weight

- *weight*—Administrative weight, a value in the range 0–4294967295

Mode Interface Configuration, Subinterface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls traffic-eng area

Description Enables flooding of MPLS traffic-engineering link information into the specified OSPF area. Flooding is disabled by default. The **no** version disables flooding.

Syntax [no] mpls traffic-eng area { *areald* | *arealdInt* }

- *areald*—OSPF area ID in IP address format
- *arealdInt*—OSPF area ID as a decimal value in the range 0–4294967295

Mode Router Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls traffic-eng attribute-flags

Description Specifies attributes for the interface for traffic engineering. The attributes are compared with tunnel affinity bits to determine links eligibility for the tunnel. The **no** version restores the default value, 0x0.

Syntax mpls traffic-eng attribute-flags *bitmask*
no mpls traffic-eng attribute-flags

- *bitmask*—Mask that sets the attributes, a value in the range 0x0–0xFFFFFFFF

Mode Interface Configuration, Subinterface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls traffic-eng egress-label

Description Specifies that the egress router advertises the explicit null label or a non-null label by means of RSVP-TE. See the **mpls rsdp egress-label** command for a complete description and syntax.

mpls traffic-eng flood thresholds

Description Specifies thresholds for the flooding of the current reservable bandwidth throughout the network. You can configure a set of thresholds for increases or decreases in bandwidth. Flooding is triggered when the reservable bandwidth increases past any up threshold or decreases past any down threshold. The **no** version restores the following default values:

- For increases in bandwidth (up changes)—15, 30, 45, 60, 75, 80, 85, 90, 95, 97, 98, 99, 100
- For decreases in bandwidth (down changes)—100, 99, 98, 97, 96, 95, 90, 85, 80, 75, 60, 45, 30, 15

Syntax mpls traffic-eng flood thresholds { up | down } *percentage* [*percentage*]*
no mpls traffic-eng flood thresholds { up | down }

- up—Specifies that an increase in bandwidth past the threshold triggers flooding
- down—Specifies that a decrease in bandwidth past the threshold triggers flooding
- *percentage*—Percentage of reservable bandwidth, a value from 1 to 100 percent for increasing bandwidth and from 0 to 99 percent for decreasing bandwidth
- *—Indicates that the percentage can be repeated multiple times in a list in the command line

Mode Interface Configuration, Subinterface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls traffic-eng link-management timers periodic-flooding

Description Specifies the interval at which bandwidth values are flooded to the entire network. Configuring a value of 0 turns off flooding. The **no** version restores the default value, 180.

Syntax mpls traffic-eng link-management timers periodic-flooding *frequency*
no mpls traffic-eng link-management timers periodic-flooding

- *frequency*—Interval in seconds, a value in the range 0–3600

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls traffic-eng multicast-intact

Description Enables a multicast network and MPLS traffic engineering (TE) network to interoperate on a router running OSPF. The **no** version disables interoperability between multicast protocols and MPLS-TE.

Syntax [no] mpls traffic-eng multicast-intact

Mode Router Configuration

Release Information Command introduced in JUNOS Release 7.1.0.

mpls traffic-eng router-id

Description Specifies a stable interface to be used as a router ID for MPLS traffic engineering with IS-IS or OSPF, typically a loopback interface. The interface acts as the destination node for tunnels originating at other nodes. The **no** version removes the interface as a router ID.

Syntax [no] mpls traffic-eng router-id *interfaceType interfaceSpecifier*

- *interfaceType*—Interface type; see *Interface Types and Specifiers* in *About This Guide*
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*

Mode Router Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls tunnel-model

Description Specifies whether MPLS employs the pipe or uniform tunnel model for differentiated services. The **no** version restores the default, the pipe model.

Syntax mpls tunnel-model { pipe | uniform }
no mpls tunnel-model

- pipe-model—Specifies that the pipe model is followed
- uniform-model—Specifies that the uniform model is followed

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mpls tunnels profile

Description Creates or disables a tunnel profile for MPLS. The **no mpls tunnels profile** version deletes the tunnel profile. The **no mpls tunnels profile disable** version reenables tunnels previously disabled.

Syntax [no] mpls tunnels profile *profileName* [disable]

- *profileName*—Name of a tunnel configuration profile used for MPLS tunnels
- **disable**—Disables all tunnels associated with the profile

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mroute port admission-bandwidth-limit

Description Configures a limit on the admission bandwidth of outgoing interfaces (OIFs) containing IPv4 or IPv6 mroutes, across different virtual routers, on a port. The **no** version removes any OIF admission bandwidth limits.

Syntax mroute port *portNumber* admission-bandwidth-limit *limitValue*
[priority-bandwidth-limit *priorityBandwidthValue*] [hysteresis *hysteresisValue*]
no mroute port *portNumber* admission-bandwidth-limit

- *portNumber*—Port number in the form *slot/port*.
- *limitValue*—Limit on the admission bandwidth (in bits per second) of outgoing interfaces containing IPv4 or IPv6 mroutes, across different virtual routers, on a port. The default is no limit.
- *priorityBandwidthValue*— Minimum value of admitted priority bandwidth in bps. The default is no limit.
- *hysteresisValue*—Minimum priority bandwidth limit before the system evaluates mroutes and admits any blocked OIFs; in the range 0-100 percent.

Mode Global Configuration

Release Information Command introduced in JUNOS Release 7.1.0.
hysteresis and **priority-bandwidth limit** keywords and *hysteresisValue* and *priorityBandwidthValue* variables added in JUNOS Release 8.2.0.

mroute port limit

Description Configures a limit on the number of outgoing interfaces (OIFs) containing IPv4 or IPv6 mroutes, across different virtual routers, on a port. The **no** version removes any OIF port limits.

Syntax mroute port *portNumber* limit *limitValue*
 no mroute port *portNumber* limit

- *portNumber*—Port number in the form *slot/port*.
- *limitValue*—Limit on the number of outgoing interfaces containing IPv4 or IPv6 mroutes, across different virtual routers, on a port. The default is no limit.

Mode Global Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mru

Description Sets the maximum allowable size in bytes of the maximum receive unit for interfaces on cOCx/STMx, COCX-F3, CT3, and POS modules. The **no** version restores the default value, which varies according to module type.

Syntax mru *mruSize*
 no mru

- *mruSize*—Maximum allowable size of the MRU; default and range varies with module type:
 - Interfaces on cOCx/STMx, CT3, and COCX-F3 modules—Number in the range 4–9996; default value is 1600
 - Interfaces on POS modules—Number in the range 1–9996; default value is 4470

Mode Interface Configuration

Release Information Command introduced before JUNOS Release 7.1.0.

mtrace

Description	Discovers the routes that multicast packets follow when travelling to their destinations. There is no no version.
Syntax	<pre>mtrace sourceAddress [destinationAddress [groupAddress [responseAddress]]] [maxHops] [detailed]</pre> <ul style="list-style-type: none">■ <i>sourceAddress</i>—DNS name or unicast IP address of the multicast-capable device at the beginning of the path.■ <i>destinationAddress</i>—DNS name or unicast address of the device at the end of the path. The default destination is the router from which you type the command.■ <i>groupAddress</i>—DNS name or multicast address of the group for which you want to trace routes. The default address is 224.2.0.1 (the group used for MBONE Audio).■ <i>responseAddress</i>—IP address that receives the results of the trace■ <i>maxHops</i>—Maximum number of hops allowed for the trace; default value is 64.■ <i>detailed</i>—Provides a detailed description of the trace, rather than a summary
Mode	Privileged Exec, User Exec
Release Information	Command introduced before JUNOS Release 7.1.0.

mtu

Description	Sets the maximum allowable size in bytes of the maximum transmission unit for interfaces on COC _x /STM _x , CT3, COC _X -F3, Ethernet, or POS modules. The no version restores the default value, which varies according to module type. This command is not available for the Ethernet interface on the SRP module.
Syntax	<pre>mtu mtuSize no mtu</pre> <ul style="list-style-type: none">■ <i>mtuSize</i>—Maximum allowable size of the MTU; default and range varies with interface type:<ul style="list-style-type: none">■ Interfaces on COC_x/STM_x, CT3, and COC_X-F3 modules—Number in the range 4–9996; default value is 1600■ Interfaces on Ethernet modules—Number in the range 64–9188, except on the FE-2 and FE-8 I/O modules, where the range is 64–9042; you cannot configure MTU on Ethernet interfaces on the SRP module; default value is 1518■ Interfaces on POS modules—Number in the range 1–9996; default value is 4470
Mode	Interface Configuration
Release Information	Command introduced before JUNOS Release 7.1.0.

multicast

- Description** Modifies the subscriber policy for the multicast protocol to define whether the subscriber (client) interfaces that belong to a bridge group or to a VPLS instance forward (permit) or filter (deny) multicast packets. The **no** version restores the default value, permit multicast packets.
- You cannot change the default subscriber policy values for trunk (server) interfaces that belong to a bridge group or to a VPLS instance. You also cannot change the default subscriber policy values for a VPLS virtual core interface, which acts as a trunk interface. The VPLS virtual core interface represents all of the MPLS tunnels from the router to the remote VPLS edge (VE) devices.
- Syntax** `multicast { permit | deny }`
`no multicast`
- `permit`—Specifies that the subscriber interface associated with the bridge group or VPLS instance forwards multicast packets
 - `deny`—Specifies that the subscriber interface associated with the bridge group or VPLS instance filters multicast packets
- Mode** Subscriber Policy Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.

multicast group port limit

- Description** Limits the number of IGMP or MLD groups that a port can accept. The **no** version restores the default situation, in which there is no limit to the number of IGMP or MLD groups the port can accept.
- Syntax** `multicast group port interfaceSpecifier limit groupLimit`
`no multicast group port interfaceSpecifier limit`
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
 - *groupLimit*—Maximum number of IGMP or MLD groups that an interface can accept in the range 0–64,000
- Mode** Global Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.