
MPLS/RSVP Command Reference

Command Hierarchies

- [MPLS Commands on page 181](#)
- [MPLS Path Commands on page 187](#)
- [LSP Commands on page 184](#)
- [RSVP Commands on page 187](#)
- [Show Commands on page 190](#)
- [Tools Commands on page 192](#)
- [Clear Commands on page 193](#)
- [Debug Commands on page 194](#)

MPLS Commands

```

config
— router
  — [no] mpls
    — admin-group group-name group-value
    — no admin-group group-name
    — [no] admin-group-frr
    — auto-bandwidth-multipliers sample-multiplier number1 adjust-multiplier
      number2
    — no auto-bandwidth-multipliers
    — auto-lsp lsp-template template-name {policy peer-prefix-policy [peer-prefix-pol-
      icy...(upto 5 max)] | one-hop}
    — no auto-lsp lsp-template template-name
    — dynamic-bypass [enable | disable]
    — exponential-backoff-retry
    — [no] frr-object
    — hold-timer seconds
    — no hold-timer
    — ingress-statistics
      — [no] lsp lsp-name sender ip-address
        — accounting-policy policy-id
        — no accounting-policy
        — [no] collect-stats
        — [no] shutdown
    — [no] interface ip-int-name
      — [no] admin-group group-name [group-name...(up to 5 max)]
      — [no] label-map in-label
        — [no] pop
        — [no] shutdown
        — swap {out-label | implicit-null-label} nexthop ip-addr

```

- **no swap** {*out-label* | **implicit-null-label**}
- **[no] shutdown**
- **[no] srlg-group** *group-name* [*group-name...*(up to 5 max)]
- **te-metric** *metric*
- **no te-metric**
- **[no] ldp-over-rsvp** [**include** | **exclude**]
- **least-fill-min-thd** *percent*
- **no least-fill-min-thd**
- **least-fill-reoptim-thd** *percent*
- **no least-fill-reoptim-thd**
- **lsp-init-retry-timeout** *seconds*
- **no lsp-init-retry-timeout**
- **[no] logger-event-bundling**
- **max-bypass-associations** *integer*
- **no max-bypass-associations**
- **p2p-active-path-fast-retry** *seconds* [*1..10*] *seconds*
- **no p2p-active-path-fast-retry**
- **p2mp-s21-fast-retry** *seconds* [*1..10*] *seconds*
- **no p2mp-s21-fast-retry**
- **preemption-timer** *seconds*
- **no preemption-timer**
- **p2mp-resignal-timer** *minutes*
- **no p2mp-resignal-timer**
- **resignal-timer** *minutes*
- **no resignal-timer**
- **secondary-fast-retry-timer** *seconds*
- **no secondary-fast-retry-timer**
- **[no] shutdown**
- **[no] srlg-database**
 - **[no] router-id** *ip*
 - **[no] interface** *ip-addr* **srlg-group** *group-name* [*group-name...*(up to 5 max)]
 - **[no] shutdown**
- **[no] srlg-frr** [**strict**]
- **srlg-group** *group-name* {**value** *group-value*}
- **no srlg-group** *group-name*
- **[no] static-lsp** *lsp-name*
 - **push** {*label* | **implicit-null-label**} **nexthop** *ip-address*
 - **no push** {*out-label* | **implicit-null-label**}
 - **[no] shutdown**
 - **to***ip-address*
- **static-lsp-fast-retry** *seconds*
- **[no] static-lsp-fast-retry**
- **user-srlg-db** [**enable** | **disable**]

MPLS-TP Commands

```

config
  — router
    — [no] mpls
      — [no] mpls-tp
        — tp-tunnel-id-range start-id end-id
        — no tp-tunnel-id-range
        — [no] oam-template name
          — hold-time-down timer
          — no hold-time-down
          — hold-time-up timer
          — no hold-time-up
          — bfd-template name
          — no bfd-template
        — protection-template name
        — no protection-template
          — [no] revertive
          — wait-to-restore interval
          — no wait-to-restore
          — rapid-psc-timer interval
          — no rapid-psc-timer
          — slow-psc-timer interval
          — no slow-psc-timer
        — global-id global-id
        — no global-id
        — node-id node-id
        — no node-id
        — transit-path path-name
        — no transit-path
          — path-id {lsp-num lsp-num | working-path | protect-path [src-global-id src-global-id] src-node-id src-node-id src-tunnel-num src-tunnel-num [dest-global-id dest-global-id] dest-node-id dest-node-id [dest-tunnel-num dest-tunnel-num]}
          — no path-id
          — [no] forward-path
          — [no] reverse-path
          — in-label in-label out-label out-label out-link if-name [next-hop next-hop]
          — no in-label
          — [no] shutdown

```

LSP Commands

```

config
  — router
    — [no] mpls
      — [no] lsp lsp-name [bypass-only | p2mp-lsp | mpls-tp src-tunnel-num]
        — [no] adaptive
        — [no] adspec
        — [no] auto-bandwidth
          — adjust-down percent [bw mbps]
          — no adjust-down
          — adjust-up percent [bw mbps]
          — no adjust-up
          — max-bandwidth mbps
          — no max-bandwidth
          — min-bandwidth mbps
          — no min-bandwidth
          — [no] monitor-bandwidth
          — multipliers sample-multiplier num1 adjust-multiplier num2
          — no multipliers
          — overflow-limit number threshold percent [bw mbps]
          — no overflow-limit
        — bgp-transport-tunnel include | exclude
        — class-type ct-number
        — no class-type
        — [no] cspf [use-te-metric]
        — dest-global-id dest-global-id
        — no dest-global-id
        — dest-tunnel-number dest-tunnel-number
        — no dest-tunnel-number
        — [no] egress-statistics
          — accounting-policy policy-id
          — no accounting-policy
          — [no] collect-stats
          — [no] shutdown
        — [no] exclude group-name [group-name...(up to 5 max)]
        — [no] exclude-node ip-address
        — fast-reroute frr-method
        — no fast-reroute
          — [no] propagate-admin-group
          — bandwidth rate-in-mbps
          — no bandwidth
          — hop-limit number
          — no hop-limit
          — [no] node-protect
        — from ip-address
        — hop-limit number
        — no hop-limit
        — igp-shortcut [lfa-protect | lfa-only] [relative-metric [offset]]
        — [no] igp-shortcut
        — [no] include group-name [group-name...(up to 5 max)]
        — ldp-over-rsvp [include | exclude]
        — [no] least-fill

```

- **[no] ldp-over-rsvp** [**include** | **exclude**]
- **main-ct-retry-limit** *number*
- **no main-ct-retry-limit**
- **[no] metric** *metric*
- **p2mp-id** *id*
- **[no] primary** *path-name*
 - **[no] adaptive**
 - **backup-class-type** *ct-number*
 - **no backup-class-type**
 - **bandwidth** *rate-in-mpbs*
 - **no bandwidth**
 - **class-type** *ct-number*
 - **no class-type**
 - **[no] exclude** *group-name* [*group-name...*(up to 5 max)]
 - **hop-limit** *number*
 - **no hop-limit**
 - **[no] include** *group-name* [*group-name...*(up to 5 max)]
 - **priority** *setup-priority hold-priority*
 - **no priority**
 - **[no] record**
 - **[no] record-label**
 - **[no] shutdown**
- **[no] primary-p2mp-instance** *instance-name*
 - **[no] adaptive**
 - **bandwidth** *rate-in-mps*
 - **no bandwidth**
 - **[no] exclude** *group-name* [*group-name...*(up to 5 max)]
 - **[no] hop-limit**
 - **hop-limit** *number*
 - **no hop-limit**
 - **[no] include** *group-name* [*group-name...*(up to 5 max)]
 - **[no] record**
 - **[no] record-label**
 - **[no] s2l-path** *path-name to ip-address*
 - **[no] shutdown**
 - **[no] shutdown**
- **[no] propagate-admin-group**
- **[no] protect-tp-path**
 - **bfd-enable** [**cc** | **cc_cv**]
 - **no bfd-enable**
 - **in-label** *in-label*
 - **no in-label**
 - **lsp-num** *lsp-num*
 - **no lsp-num**
 - **[no] mep**
 - **oam-template** *name*
 - **no oam-template**
 - **out-label** *out-label out-link if-name* [**next-hop** *ip-address*]
 - **no out-label**
 - **protection-template** *name*
 - **no protection-template**
 - **[no] shutdown**
- **retry-limit** *number*
- **no retry-limit**
- **retry-timer** *seconds*

- **no retry-timer**
- **rsvp-resv-style** [se | ff]
- [no] **secondary** *path-name*
 - [no] **adaptive**
 - **bandwidth** *rate-in-mbps*
 - **no bandwidth**
 - **class-type** *ct-number*
 - **no class-type**
 - [no] **exclude** *group-name* [*group-name...*(up to 5 max)]
 - **hop-limit** *number*
 - **no hop-limit**
 - [no] **include** *group-name* [*group-name...*(up to 5 max)]
 - [no] **path-preference** *preference-number*
 - **priority** *setup-priority hold-priority*
 - **no priority**
 - [no] **record**
 - [no] **record-label**
 - [no] **shutdown**
 - [no] **srlg**
 - [no] **standby**
- [no] **shutdown**
- **to** [*ip-address* | **node-id** [*a.b.c.d.* | 1...4,294,967,295]]
- **vprn-auto-bind** [include | exclude]
- [no] **working-tp-path**
 - **bfd-enable** [cc | cc_cv]
 - **no bfd-enable**
 - **in-label** *in-label*
 - **no in-label**
 - **lsp-num** *lsp-num*
 - **no lsp-num**
 - [no] **mep**
 - **oam-template** *name*
 - **no oam-template**
 - **out-label** *out-label* **out-link** *if-name* [**next-hop** *ip-address*]
 - **no out-label**
 - [no] **shutdown**
- **lsp-template** *template-name* [p2mp | one-hop-p2p | mesh-p2p]
- **no lsp-template** *template-name*
 - [no] **adspec**
 - [no] **auto-bandwidth**
 - **adjust-down** percent [*bw mbps*]
 - **no adjust-down**
 - **adjust-up** percent [*bw mbps*]
 - **no adjust-up**
 - **fc** *fc-name* **sampling-weight** *sampling-weight*
 - **no fc**
 - **max-bandwidth** *mbps*
 - **no max-bandwidth**
 - **min-bandwidth** *mbps*
 - **no min-bandwidth**
 - [no] **monitor-bandwidth**
 - **multipliers** **sample-multiplier** *num1* **adjust-multiplier** *num2*
 - **no multipliers**
 - **overflow-limit** *number* **threshold** percent [*bw mbps*]
 - **no overflow-limit**

- [no] **bandwidth** *rate-in-mbps*
- [no] **cspf** [**use-te-metric**]
- [no] **default-path** *path-name*
- [no] **egress-statistics**
 - **accounting-policy** *policy-id*
 - **no accounting-policy**
 - [no] **collect-stats**
- [no] **exclude-node** *ip-address*
- **fast-reroute** *frr-method*
- **no fast-reroute**
 - [no] **propagate-admin-group**
 - **bandwidth** *rate-in-mbps*
 - **no bandwidth**
 - **hop-limit** *number*
 - **no hop-limit**
 - [no] **node-protect**
- **from** *ip-address*
- **hop-limit** *number*
- **no hop-limit**
- **igp-shortcut** [**lfa-protect** | **lfa-only**] [**relative-metric** [*offset*]]
- [no] **igp-shortcut**
- [no] **include** *group-name* [*group-name...*(up to 5 max)]
- **ldp-over-rsvp** [**include** | **exclude**]
- [no] **least-fill**
- [no] **metric** *metric*
- [no] **propagate-admin-group**
- [no] **record**
- [no] **record-label**
- **retry-limit** *number*
- **no retry-limit**
- **retry-timer** *seconds*
- **no retry-timer**
- **rsvp-resv-style** [**se** | **ff**]
- **vprn-auto-bind** [**include** | **exclude**]

MPLS Path Commands

- ```

config
 — router
 — [no] mpls
 — [no] path path-name
 — hop hop-index ip-address {strict | loose}
 — no hop hop-index
 — [no] shutdown
 — [no] static-lsp lsp-name
 — push label nexthop ip-address
 — no push out-label
 — to ip-addr
 — [no] shutdown

```

## RSVP Commands

- ```

config
  — router

```

- **[no] rsvp**
 - **diffserv-te** **[mam | rdm]**
 - **no diffserv-te**
 - **class-type-bw** **ct0** *%-link-bandwidth* **ct1** *%-link-bandwidth* **ct2** *%-link-bandwidth* **ct3** *%-link-bandwidth* **ct4** *%-link-bandwidth* **ct5** *%-link-bandwidth* **ct6** *%-link-bandwidth* **ct7** *%-link-bandwidth*
 - **no class-type-bw**
 - **fc** *fc-name* **class-type** *ct-number*
 - **no fc** *fc-name*
 - **te-class** *te-class-number* **class-type** *ct-number* **priority** *priority*
 - **no te-class** *te-class-number*
 - **gr-helper-time** **max-recovery** *recovery-interval* [*1..1800*] *seconds* **max-restart** *restart-interval* [*1..300*] *seconds*
 - **no gr-helper-time**
 - **[no] graceful-shutdown**
 - **[no] implicit-null-label**
 - **[no] interface** *ip-int-name*
 - **authentication-key** [*authentication-key | hash-key*] [**hash** | **hash2**]
 - **no authentication-key**
 - **[no] bfd-enable**
 - **[no] graceful-shutdown**
 - **class-type-bw** **ct0** *%-link-bandwidth* **ct1** *%-link-bandwidth* **ct2** *%-link-bandwidth* **ct3** *%-link-bandwidth* **ct4** *%-link-bandwidth* **ct5** *%-link-bandwidth* **ct6** *%-link-bandwidth* **ct7** *%-link-bandwidth*
 - **no class-type-bw**
 - **gr-helper** [**enable** | **disable**]
 - **[no] graceful-shutdown**
 - **hello-interval** *milli-seconds*
 - **no hello-interval**
 - **implicit-null-label** [**enable** | **disable**]
 - **no implicit-null-label**
 - **[no] refresh-reduction**
 - **[no] reliable-delivery**
 - **[no] shutdown**
 - **subscription** *percentage*
 - **no subscription**
 - **te-up-threshold** *threshold-level* [*threshold-level,..(up to 16 max)*]
 - **no te-up-threshold**
 - **te-down-threshold** *threshold-level* [*threshold-level,..(up to 16 max)*]
 - **no te-down-threshold**
 - **keep-multiplier** *number*
 - **no keep-multiplier**
 - **[no] msg-pacing**
 - **max-burst** *number*
 - **no max-burst**
 - **period** *milli-seconds*
 - **no period**
 - **node-id-in-rro** **<include|exclude>**
 - **p2p-merge-point-abort-timer** [*1..65535*] *seconds*
 - **no p2p-merge-point-abort-timer**
 - **p2mp-merge-point-abort-timer** [*1..65535*] *seconds*
 - **no p2mp-merge-point-abort-timer**
 - **preemption-timer** *seconds*
 - **no preemption-timer**
 - **rapid-retransmit-time** *hundred-milliseconds*

- **no rapid-retransmit-time**
- **rapid-retry-limit** *number*
- **no rapid-retry-limit**
- **refresh-reduction-over-bypass** [enable | disable]
- **refresh-time** *seconds*
- **no refresh-time**
- [no] **graceful-shutdown**
- [no] **shutdown**
- [no] **te-threshold-update**
 - [no] **on-cac-failure**
 - **update-timer** *seconds*
 - **no update-timer**
- **te-up-threshold** *threshold-level* [*threshold-level...*(up to 16 max)]
- **no te-up-threshold**
- **te-down-threshold** *threshold-level* [*threshold-level...*(up to 16 max)]
- **no te-down-threshold**

Show Commands

```

show
  — router
    — mpls
      — admin-group group-name
      — bypass-tunnel [to ip-address] [protected-lsp name] [dynamic | manual] p2mp]
        [detail]
      — interface [ip-int-name|ip-address] [label-map label]
      — interface [ip-int-name|ip-address] statistics
      — label start-label [end-label | in-use | owner]
      — label-range
      — lsp [lsp-name] [status {up|down}] [from ip-address | to ip-address] [detail]
      — lsp {transit | terminate} [status {up|down}] [from ip-address | to ip-address | lsp-
name name] [detail]
      — lsp count
      — lsp lsp-name activepath
      — lsp [lsp-name] path [path-name] [status {up | down}] [detail]
      — lsp [lsp-name] path [path-name] mbb
      — lsp-egress-stats
      — lsp-egress-stats lsp-name
      — lsp-ingress-stats ip-address lsp lsp-name
      — lsp-template [lsp-template-name] [detail]
      — mpls-tp
        — oam-template
        — protection-template
        — status
        — transit-path [path-name] [detail]
      — p2mp-info [type {originate|transit|terminate}] [s2l-endpoint ip-address]
      — p2mp-lsp [lsp-name] [detail]
      — p2mp-lsp [lsp-name] p2mp-instance [p2mp-instance-name] [mbb]
      — p2mp-lsp [lsp-name] p2mp-instance [p2mp-instance-name] s2l [s2l-name [to s2l-
to-address]][status {up | down}] [detail]
      — p2mp-lsp [lsp-name] p2mp-instance [p2mp-instance-name] s2l [s2l-name [to s2l-
to-address]] mbb
      — srlg-database [router-id ip-address] [interface ip-address]
      — srlg-group [group-name]
      — static-lsp [lsp-name]
      — static-lsp {transit | terminate}
      — static-lsp count
      — statistics-summary
      — status
      — tp-lsp [lsp-name] [status {up | down}] [from ip-address | to ip-address] [detail]
      — tp-lsp [lsp-name] path [protecting | working] [detail]
      — tp-lsp [lsp-name] protection

show
  — router
    — rsvp
      — interface [interface [ip-int-name]] statistics [detail]
      — neighbor [ip-address] [detail]
      — session [session-type] [from ip-address | to ip-address] lsp-name name] [status
{up|down}] [detail]

```

- **statistics**
- **status**

Tools Commands

- tools
 - dump
 - router
 - mpls
 - bypass-tunnel
 - **ftn**
 - **ilm**
 - **lspinfo**
 - **memory-usage**
 - **te-lspinfo** [endpoint *ip-address*] [sender *ip-address*] [**lspid** *lsp-id*] [**detail**] [**p2p** | *p2p-tid tunnel-id*]
 - **te-lspinfo** [endpoint *ip-address*] [sender *ip-address*] [**lspid** *lsp-id*] [**detail**] [**p2p** | *p2p-tid tunnel-id*] { [**phops**] [**nhops**] [**s2l** *ip-address*] }
 - rsvp
 - **psb**
 - **rsb**
- perform
 - router
 - mpls
 - **cspf** to *ip-address*
 - **force-switch-path** [**lsp** *lsp-name*] [**path** *path-name*]
 - [**no**] **force-switch-path** [**lsp** *lsp-name*]
 - **plr** to *ip-addr* [**from** *ip-addr*] [**bandwidth** *bandwidth*] [**include-bitmap** *bitmap*] [**exclude-bitmap** *bitmap*] [**hop-limit** *limit*] [**exclude-address** *excl-addr* [*excl-addr...*(up to 8 max)]] [**use-te-metric**] [**strict-srlg**] [**srlg-group** *grp-id...*(up to 8 max)] [**exclude-node** *excl-node-id* [*excl-node-id...*(up to 8 max)]] [**skip-interface** *interface-name*] [**ds-class-type** *class-type*] [**cspf-reqtype** *req-type*] [**least-fill-min-thd** *thd*] [**setup-priority** *val*] [**hold-priority** *val*]
 - **resignal** {**lsp** *lsp-name* **path** *path-name* | **delay** *minutes*}
 - **resignal** {**p2mp-lsp** *p2mp-lsp-name* **p2mp-instance** *p2mp-instance-name* | **p2mp-delay** *p2mp-minutes*}
 - **switch-path** [**lsp** *lsp-name*] [**path** *path-name*]
 - **trap-suppress** *number-of-traps* *time-interval*
 - **update-path** {**lsp** *lsp-name* **path** *current-path-name* **new-path** *new-path-name*}

Router Commands

- config
 - router
 - [**no**] **igmp**
 - [**no**] **tunnel-interface** **rsvp-p2mp** *lsp-name* [sender *ip-address*]
 - [**no**] **tunnel-interface** **rsvp-p2mp** *lsp-name* [sender *ip-address*]

Clear Commands

```
clear
  — router
    — mpls
      — interface [ip-int-name] [statistics]
      — lsp lsp-name
      — lsp-egress-stats
      — lsp-egress-stats lsp-name
      — lsp-ingress-stats
      — lsp-ingress-stats ip-address lsp lsp-name
    — rsvp
      — interface
      — statistics
```

Debug Commands

```

debug
  — router
    — mpls [lsp lsp-name] [sender source-address] [endpoint endpoint-address] [tunnel-id tunnel-id] [lsp-id lsp-id] [interface ip-int-name]
    — no mpls
      — [no] event
        — all [detail]
        — no all
        — frr [detail]
        — no frr
        — iom [detail]
        — no iom
        — lsp-setup [detail]
        — no lsp-setup
        — mbb [detail]
        — no mbb
        — misc [detail]
        — no misc
        — xc [detail]
        — no xc
      — rsvp [lsp lsp-name] [sender source-address] [endpoint endpoint-address] [tunnel-id tunnel-id] [lsp-id lsp-id] [interface ip-int-name]
      — no rsvp
        — [no] event
          — all [detail]
          — no all
          — misc [detail]
          — no misc
          — nbr [detail]
          — no nbr
          — path [detail]
          — no path
          — resv [detail]
          — no resv
          — te-threshold-update
          — no te-threshold-update
        — [no] packet
          — all [detail]
          — no all
          — hello [detail]
          — no hello
          — path [detail]
          — no path
          — patherr [detail]
          — no patherr
          — pathtear [detail]
          — no pathtear
          — resv [detail]
          — no resv
          — resvrr [detail]
          — no resvrr
          — resvtear [detail]
          — no resvtear

```