

# O-P-Q-R Commands

## oam ais-rdi

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**Description** In ATM VC Configuration mode, configures surveillance parameters for alarm indication signal (AIS) and remote defect indication (RDI) F5 OAM fault management cells on an ATM PVC. The **oam ais-rdi** command is valid only for data PVCs; you cannot use this command for control (ILMI or signaling) PVCs. The **no** version restores the default behavior, which disables F5 OAM alarm surveillance and restores the default values for alarm down count and alarm clear timeout duration.

In ATM VC Class Configuration mode, configures alarm surveillance parameters for AIS and RDI F5 OAM cells as part of a VC class definition that you assign to an ATM data PVC. The **no** version restores the default behavior, which disables F5 OAM alarm surveillance and restores the default values for alarm down count and alarm clear timeout duration, in the VC class.



**NOTE:** To configure the alarm down count and alarm clear timeout F5 OAM surveillance parameters, you must use the **oam ais-rdi** command. There is no equivalent **atm pvc** command to configure these parameters.

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**Syntax** oam ais-rdi [ *alarmDownCount* [ *alarmClearTimeout* ] ]  
no oam ais-rdi

- *alarmDownCount*—Number of successive alarm cells, in the range 1–60, for the router to receive before reporting that a PVC is down; default value is 1
- *alarmClearTimeout*—Number of seconds, in the range 3–60, for the router to wait before reporting that a PVC is up after the PVC has stopped receiving alarm cells; default value is 3

**Mode** ATM VC Configuration, ATM VC Class Configuration

**Release Information** Command introduced in JUNOS Release 7.1.0.  
ATM VC Class Configuration mode added in JUNOS Release 7.3.0.

**oam cc**

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**Description** In ATM VC Configuration mode, enables F5 OAM continuity check (CC) verification on an ATM PVC. The **oam cc** command is valid only for data PVCs; you cannot use this command for control (ILMI or signaling) PVCs. The **no** version restores the default behavior, which disables F5 OAM CC verification and restores the default setting for cell termination, **end-to-end**.

In ATM VC Class Configuration mode, enables F5 OAM CC verification as part of a VC class definition that you assign to an ATM data PVC. The **no** version restores the default setting for cell termination, **end-to-end**, in the VC class.

**Syntax** oam cc [ segment | end-to-end ] { source | sink | both }  
no oam cc

- segment—Opens an F5 OAM CC segment cell flow
- end-to-end—Opens an F5 OAM CC end-to-end cell flow
- source—Enables this VC as the source point (cell generator)
- sink—Enables this VC as a sink point (cell receiver)
- both—Enables this VC as both a sink point and a source point

**Mode** ATM VC Configuration, ATM VC Class Configuration

**Release Information** Command introduced in JUNOS Release 7.1.0.  
ATM VC Class Configuration mode added in JUNOS Release 7.3.0.

## oam-pvc

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**Description** In ATM VC Configuration mode, enables generation of F5 OAM loopback cells on an ATM PVC and, optionally, enables F5 OAM VC integrity features that affect the operational state of the circuit. The **oam-pvc** command is valid only for data PVCs configured with **aal5snap**, **aal5autoconfig**, or **aal5mux ip** encapsulation; you cannot use this command for data PVCs with other encapsulation types or for control (ILMI or signaling) PVCs. The **no** version restores the default behavior, which disables F5 OAM VC integrity and restores the default value for loopback frequency.

In ATM VC Class Configuration mode, enables generation of F5 OAM loopback cells and, optionally, enables F5 OAM VC integrity features as part of a VC class definition that you assign to an ATM data PVC. The **no** version restores the default behavior, which disables F5 OAM VC integrity and restores the default loopback frequency, in the VC class.

**Syntax** oam-pvc [ *manage* ] [ *loopbackFrequency* ]

no oam-pvc [ *manage* ]

- *manage*—Enables F5 OAM VC integrity on the ATM PVC
- *loopbackFrequency*—Number of seconds, in the range 1–600, for the router to wait between the transmission of loopback cells during normal operation; default value is 10

**Mode** ATM VC Configuration, ATM VC Class Configuration

**Release Information** Command introduced in JUNOS Release 7.1.0.  
ATM VC Class Configuration mode added in JUNOS Release 7.3.0.

## oam retry

**Description** In ATM VC Configuration mode, configures parameters for F5 OAM VC integrity on an ATM PVC. The **oam retry** command is valid only for data PVCs; you cannot use this command for control (ILMI or signaling) PVCs. The **no** version restores the default values for all of these parameters.

In ATM VC Class Configuration mode, configures F5 OAM VC integrity parameters as part of a VC class definition that you assign to an ATM PVC. The **no** version restores the default values for all of these parameters in the VC class.



**NOTE:** To configure the up retry count, down retry count, and retry frequency F5 OAM VC integrity parameters, you must use the **oam retry** command. There is no equivalent **atm pvc** command to configure these parameters.

**Syntax** `oam retry [ upRetryCount [ downRetryCount retryFrequency ] ]`

`no oam retry`

- *upRetryCount*—Number of successive loopback cell responses, in the range 1–60, for the router to receive before reporting that a PVC is up; default value is 3
- *downRetryCount*—Number of successive loopback cell responses, in the range 1–60, for the router to miss before reporting that a PVC is down; default value is 5
- *retryFrequency*—Number of seconds, in the range 1–600, for the router to wait between the transmission of loopback cells when it is verifying the state of the PVC; default value is 1

**Mode** ATM VC Configuration, ATM VC Class Configuration

**Release Information** Command introduced in JUNOS Release 7.1.0.  
ATM VC Class Configuration mode added in JUNOS Release 7.3.0.

## operational-virtual-router

**Description** Specifies the virtual router parameter for a user entry in the local user database. The subscriber is assigned to the operational virtual router only if the default virtual router performs the authentication. The **no** version deletes the operational virtual router parameter from the user entry in the local user database.

**Syntax** `operational-virtual-router vrName`

`no operational-virtual-router`

- *vrName*—Name of virtual router

**Mode** Local User Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## operations-per-hop

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**Description** Configures the number of operations sent to a designated hop before the TTL value is increased. This option applies only to the pathEcho type. The **no** version restores the default value, 3.

**Syntax** operations-per-hop *operationsHopValue*  
no operations-per-hop

- *operationsHopValue*—Number of operations per hop; default value is 3

**Mode** RTR Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## organization

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**Description** Specifies the organization used in the Subject Name field of certificates. The **no** version removes the organization name.

**Syntax** [ no ] organization *organizationName*

- *organizationName*—Name used in certificate requests; up to 60 characters

**Mode** IPSec Identity Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## ospf auto-cost reference-bandwidth

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**Description** Controls how OSPF calculates default metrics for the interface. The **no** version assigns cost based only on the interface type.

**Syntax** [ no ] ospf auto-cost reference-bandwidth *refBw*

- *refBw*—Bandwidth in megabits per second, in the range 1–4294967; default value is 100

**Mode** Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## ospf enable

**Description** Enables OSPF on the router.



**NOTE:** The **no ospf enable** command has been replaced by the **ospf shutdown** command and may be removed completely in a future release.

**Syntax** ospf enable

**Mode** Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## ospf log-adjacency-changes

**Description** Configures the router to send a system log message when the state of an OSPFv2 neighbor changes. For OSPFv3 neighbors, use the **log-adjacency-changes** command. The **no** version turns off this feature.

**Syntax** [ no ] ospf log-adjacency-changes  
[ severity { *severityValue* | *severityNumber* } ] [ verbosity *verbosityLevel* ]

- *severity*—Minimum severity of the log messages displayed for the selected category; described either by a descriptive term—*severityValue*—or by a corresponding number—*severityNumber*—in the range 0–7; the lower the number, the higher the priority:
  - emergency *or* 0—System unusable
  - alert *or* 1—Immediate action needed
  - critical *or* 2—Critical condition exists
  - error *or* 3—Error condition
  - warning *or* 4—Warning condition
  - notice *or* 5—Normal but significant condition
  - info *or* 6—Informational message
  - debug *or* 7—Debug message
- *verbosityLevel*—Specifies the verbosity of the log category's messages; can be any of the following:
  - low—Terse
  - medium—Moderate detail
  - high—Verbose

**Mode** Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## ospf shutdown

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**Description** Administratively disables OSPF on the router. The **no** version reenables OSPF on the router.



**NOTE:** This command is replacing the **no ospf enable** command to disable OSPF on the router. The **no ospf enable** command may be removed completely in a future release.

**Syntax** [ no ] ospf shutdown

**Mode** Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## overload advertise-high-metric issu

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**Description** Configures IS-IS or OSPF to advertise the maximum link cost on each interface to its neighbors when a unified in-service software upgrade is started, causing neighbors to route around the upgrading router. The **no** version restores the default behavior, which is to advertise configured link costs.

**Syntax** [ no ] overload advertise-high-metric issu

**Mode** Router Configuration

**Release Information** Command introduced in JUNOS Release 9.0.0.

## overload shutdown

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**Description** Causes BGP to shut down when it runs out of resources. The **no** version restores the default behavior, which is to continue running.

**Syntax** [ no ] overload shutdown

**Mode** Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## override c2 byte

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**Description** Overrides the default value of the Path Signal Label (C2) byte for SONET and SDH interfaces. The **no** version restores the default setting.

**Syntax** [ no ] override c2 byte

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## override-user

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**Description** Specifies a single username and single password for all users from a domain. The **no** version removes the username and reverts to the original username.

**Syntax** `override-user [ name newName ] password newPassword`  
`no override-user`

- *newName*—Identifier that replaces the username
- *newPassword*—Password that replaces the user's password

**Mode** Domain Map Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## owner

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**Description** Configures the owner of the RTR operation. The **no** version restores the default value.

**Syntax** `owner ownerValue`  
`no owner`

- *ownerValue*—Specifies the owner's identifier: 0–255 ASCII characters; by default, no owner is configured

**Mode** RTR Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.



## padn

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**Description** Configures PADN parameters for a domain name. The **no** version deletes the PADN parameters from the domain name.

**Syntax** `padn ipAddress ipMask distance`  
`no padn ipAddress ipMask`

- *ipAddress*—Destination IP address
- *ipMask*—IP mask for the destination
- *distance*—Administrative distance metric for this route in the range 0–255

**Mode** Domain Map Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## parent-group

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**Description** In Global Configuration mode, creates an external parent group and accesses Parent Group Configuration mode. The **no** version removes the external parent group.

In Policy List Configuration mode, creates an internal parent group in the policy list and accesses Policy List Parent Group Configuration mode. The **no** version removes the parent group from the policy list.

**Syntax** In Global Configuration mode:  
`[ no ] parent-group parentGroupName`

In Policy List Configuration mode:  
`parent-group parentGroupName [ [ parent-group intParentGroupName ] | [ external parent-group extParentGroupName parameter parameterName ] ]`  
`no parent-group parentGroupName`

- *parentGroupName*—Name of the parent group
- *intParentGroupName*—Name of the next internal parent group to connect to in the hierarchy
- *extParentGroupName*—Name of the next external parent group to connect to in the hierarchy
- *parameterName*—Name of the parameter

**Mode** Global Configuration, Policy List Configuration

**Release Information** Command introduced in JUNOS Release 7.2.0.  
Global Configuration mode added in JUNOS Release 8.0.0.  
**external**, **parent-group**, and **parameter** keywords and *extParentGroupName* and *parameterName* variables added in JUNOS Release 8.0.0.

### Related Topics

- Creating a Classifier Group for a Policy List

## passive-interface

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**Description** Modifies the transmission of routing updates for IS-IS, OSPF, and RIP.

For IS-IS, configures an IS-IS interface only to advertise its IP address in the link-state PDUs; the interface does not send or receive IS-IS packets. Issue the complementary **interface** command to enable the interface to send and receive IS-IS packets. Optionally, you can set a route tag value for the IP addresses on an IS-IS passive interface before the route is propagated to other routers in an IS-IS domain. You can set a metric value for the passive interface; the default value is 0. The **no** version disables advertisement of the IP address, or unconfigures the tag, the metric, or both.

For OSPF, halts the transmission of routing updates on an OSPF interface. OSPF neither sends nor receives routing information through the specified interface, which appears as a stub network in the OSPF network. The **no** version reenables the transmission of routing updates.

For RIP, halts the transmission of multicast RIP messages. RIP messages are unicast to the interface (if it is the best path to a configured neighbor). The **no** version reenables the transmission of multicast messages on the interface.

**Syntax** IS-IS:

```
passive-interface interfaceType interfaceSpecifier [ tag tagValue ]
[ metric metricValue [ level-1 | level-2 ] ]
```

```
no passive-interface interfaceType interfaceSpecifier [ tag ] [ metric [ level-1 | level-2 ] ]
```

OSPF and RIP:

```
[ no ] passive-interface 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*
- *tagValue*—Number, in the range 1–4294967295, that identifies the route tag assigned to the IS-IS passive interface
- *metricValue*—Metric used when advertising the passive interface; in the range 1–16777215; default value is 0

**Mode** Address Family Configuration (RIP), Router Configuration (IS-IS, OSPF, RIP)

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**metric** keyword and *metricValue* variable for IS-IS added in JUNOS Release 9.0.0.

## password

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**Description** Configures a password to be used at login on the console, a line or a range of lines. For L2TP, specifies the password for an AAA domain map or tunnel group tunnel. For IP service profiles, specifies the password for the profile. For the local authentication server feature, adds a password to a user entry in the local user database. The **no** version removes the password.



**NOTE:** To use an encrypted password, you must follow the procedure in *Creating Encrypted Passwords in JUNOS System Basics Configuration Guide, Chapter 9, Passwords and Security* to obtain the encrypted password. You cannot create your own encrypted password; you must use a router-generated password or secret.

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**Syntax** Login password:  
`password [ encryptionType ] passwordValue`  
`no password`

- *encryptionType*—One of the following types:
  - 0—Unencrypted (the default)
  - 5—Secret
  - 7—Encrypted
- *passwordValue*—Character string that specifies the line password. The first character cannot be a number. The string can contain any alphanumeric characters, including spaces, up to 50 characters. The password checking is case sensitive.

L2TP tunnel password:  
`password tunnelPassword`  
`no password`

- *tunnelPassword*—Password of up to 32 characters

IP service profile password:  
`password servicePassword`  
`no password`

- *servicePassword*—Password of up to 32 characters

Local user database password:  
`password [ encryptionType ] passwordValue`  
`no password`

- *encryptionType*—One of the following types:
  - 0—Unencrypted password (the default)
  - 8—Two-way encrypted password

- *passwordValue*—Character string that specifies the password. The string can contain any alphanumeric character, including spaces, up to 64 characters. Passwords are case sensitive.

**Mode** Domain Map Tunnel Configuration (for a tunnel password), IP Service Profile Configuration (for a service profile password), Line Configuration (for a login password), Local User Configuration (for a local user database password), Tunnel Group Tunnel Configuration (for a tunnel group tunnel password)

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path

**Description** Configures paths over channelized SONET and SDH interfaces. The **no** version deletes a path.



**NOTE:** Although the path speed appears to be optional in the software, you must specify a value.

**Syntax** `path pathChannel [ pathSpeed [ pathHierarchy ] ]`

`no path pathChannel`

- *pathChannel*—Number, in the range 1–2147483648, that identifies the STS-1 or STM-0 line
- *pathSpeed*—Speed of the path
  - oc1, oc3, or oc12 for SONET—Only oc1 is available for cOC3/STM1 interfaces
  - stm0, stm1, or stm4 for SDH—Only stm0 or stm1 is available for cOC3/STM1 interfaces
- *pathHierarchy*—Identifier that defines the structure of the path
  - If you specify a path speed that matches the speed of the module (for example, a path speed of stm1 for a cOC3/STM1 interface), do not specify an identifier.
  - If you specify a speed of oc1 or stm0 for a cOC3/STM1 interface, the identifier is a number, in the range 1–3, that represents either the STS-1 within the STS-3 or the STM-0 within the STM-1.
  - If you specify a speed of stm1 for a cOC12/STM4 interface, the identifier is a number, in the range 1–4, that represents the STM-1 within the STM-4.
  - If you specify a speed of oc1 or stm0 for a cOC12/STM4 interface, the identifier is of the form X/Y. X is a number, in the range 1–4, that represents either the STS-3 within the STS-12 or the STM-1 within the STM-4; Y is a number, in the range 1–3, that represents either the STS-1 within the STS-3 or the STM-0 within the STM-1.

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path description

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**Description** Assigns a text description or an alias to a path on a channelized or unchannelized SONET/SDH interface. The **no** version removes the description or alias.

**Syntax** For unchannelized SONET/SDH interfaces:  
[ no ] path description *name*

For channelized SONET/SDH interfaces:  
[ no ] path *pathChannel* description *name*

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *name*—Text string or alias of up to 80 characters

**Mode** Controller Configuration

**Release Information** Command introduced in JUNOS Release 7.2.0.

## path ds1|e1

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**Description** Creates and configures SONET and SDH tributaries. The **no** version deletes a tributary.

**Syntax** path *pathChannel* { ds1 | e1 } *tributaryIdentifier* [ *tributaryType* ]  
[ no ] path *pathChannel* { ds1 | e1 } *tributaryIdentifier* [ *tributaryType* ]

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *tributaryIdentifier*—Specifier for the tributary in the format *pathChannel* { ds1 | e1 } *pathPayload*/*tributaryGroup*/*tributaryNumber*
  - *pathPayload*—Payload number for the path; value is 1 for SONET and in the range 1–3 for SDH
  - *tributaryGroup*—Number, in the range 1–7, that identifies the group within the path
  - *tributaryNumber*—Number of the tributary within the tributary group; the value is in the range 1–4 if the tributary type is vt15 or tu11 and in the range 1–3 if the tributary type is tu12
- *tributaryType*—Virtual tributary type
  - vt15—Default for SONET DS1 tributaries
  - tu11—Default for SDH DS1 tributaries
  - tu12—Default for SDH E1 tributaries

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds1|e1 bert

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- Description** Enables bit error rate tests using the specified pattern at the DS1/E1 over SONET/SDH VT layer on channelized SONET and SDH interfaces. The **no** version stops the test that is running.
- Syntax** `path pathChannel { ds1 | e1 } tributaryIdentifier bert  
pattern pattern interval time [ unframed ]`  
`no path pathChannel { ds1 | e1 } tributaryIdentifier bert`
- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
  - *tributaryIdentifier*—Identifier for the tributary. See description for the **path ds1|e1** command.
  - *pattern*—One of the following test patterns:
    - 2<sup>11</sup>—Pseudorandom test pattern, 2,047 bits long
    - 2<sup>15</sup>—Pseudorandom test pattern, 32,767 bits long
    - 2<sup>20</sup>-O153—Pseudorandom test pattern, 1,048,575 bits long
  - *time*—Duration of the test, in the range 1–1440 minutes
  - *unframed*—Test bit pattern occupies all bits on the link, overwriting the framing bits. If you do not specify this keyword, the test bit pattern occupies only T1/E1 payload bits.
- Mode** Controller Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds1|e1 channel-group description

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- Description** Assigns a text description or an alias to a DS1 (T1) or an E1 channel group for channelized SONET and SDH interfaces. Use the **show controllers sonet** command to display the text description. The **no** version removes the description or alias.
- Syntax** `path pathChannel { ds1 | e1 } tributaryIdentifier  
channel-group channelGroupNumber description name`  
`no path pathChannel { ds1 | e1 } tributaryIdentifier  
channel-group channelGroupNumber description`
- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
  - *tributaryIdentifier*—Identifier for the tributary; see the **path ds1|e1** command description for details
  - *channelGroupNumber*—Either a fractional T1 interface in the range 1–24 or a fractional E1 interface in the range 1–31
  - *name*—Text string or alias of up to 80 characters for the DS1 or E1 channel group for channelized SONET and SDH interfaces
- Mode** Controller Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds1|e1 channel-group shutdown

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**Description** Disables a DS1 or an E1 channel group on channelized SONET and SDH interfaces. DS1 and E1 channel groups are enabled by default. The **no** version restarts a disabled interface.

**Syntax** [ no ] path *pathChannel* { ds1 | e1 } *tributaryIdentifier*  
channel-group *channelGroupNumber* shutdown

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *tributaryIdentifier*—Identifier for the tributary. See description for the **path ds1|e1** command.
- *channelGroupNumber*—Either a fractional T1 interface in the range 1–24 or a fractional E1 interface in the range 1–31

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds1|e1 channel-group snmp trap link-status

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**Description** Enables SNMP link status processing on a DS1 or an E1 channel group of channelized SONET and SDH interfaces. The **no** version disables SNMP link status processing on a DS1 or an E1 channel group.

**Syntax** [ no ] path *pathChannel* { ds1 | e1 } *tributaryIdentifier*  
channel-group *channelGroupNumber* snmp trap link-status

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *tributaryIdentifier*—Identifier for the tributary. See description for the **path ds1|e1** command.
- *channelGroupNumber*—Either a fractional T1 interface in the range 1–24 or a fractional E1 interface in the range 1–31

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds1|e1 channel-group timeslots

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**Description** Configures DS1 or E1 line parameters on channelized SONET and SDH interfaces. To configure a line, you specify a DS1 or an E1 channel group number and assign a range of timeslots. To configure a whole DS1 or E1 line, assign all the timeslots to the channel group. You can specify a line speed that applies to all DS0 timeslots assigned to a channel group. The **no** version removes the timeslots from the channel group.

**Syntax** path *pathChannel* { ds1 | e1 } *tributaryIdentifier*  
channel-group *channelGroupNumber* timeslots *range* [ speed { 56 | 64 } ]  
no path *pathChannel* { ds1 | e1 } *tributaryIdentifier* channel-group *channelGroupNumber*

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *tributaryIdentifier*—Identifier for the tributary. See description for the **path ds1|e1** command.
- *channelGroupNumber*—Either a fractional T1 interface in the range 1–24 or a fractional E1 interface in the range 1–31
- *range*—Timeslot assigned to the T1 or E1 channel in the range 1–31. A dash represents a range of timeslots, and a comma separates timeslots. For example, 1-10, 15-18 assigns timeslots 1–10 and 15 –18.
- *speed*—Specifies the data rate for the T1 or E1 channel, either 56 Kbps or 64 Kbps; default value is 64 Kbps

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.



## path ds1|e1 clock source

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- Description** Configures the transmit clock source for DS1 or E1 channels over channelized SONET and SDH interfaces. The **no** version restores the default value.
- Syntax** path *pathChannel* { ds1 | e1 } *tributaryIdentifier* clock source  
{ line | internal { module | chassis } }
- no path *pathChannel* { ds1 | e1 } *tributaryIdentifier* clock source
- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
  - *tributaryIdentifier*—Identifier for the tributary. See description for the **path ds1|e1** command.
  - line—Interface transmits data from a clock recovered from the line’s receive data stream.
  - internal—Interface transmits data using its internal clock. You must specify one of the following for internal clocking:
    - module—Internal clock is from the line module itself
    - chassis—Internal clock is from the configured system clock
- Mode** Controller Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds1|e1 description

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- Description** Assigns a text description or an alias to a DS1 or an E1 signal. This command applies to a DS1/E1 over SONET/SDH VT layer on channelized SONET and SDH interfaces. Use the **show controllers sonet** command to display the text description. The **no** version removes the description or alias.
- Syntax** path *pathChannel* { ds1 | e1 } *tributaryIdentifier* [ *tributaryType* ] description *name*  
no path *pathChannel* { ds1 | e1 } *tributaryIdentifier* [ *tributaryType* ] description
- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
  - *tributaryIdentifier*—Identifier for the tributary; see the **path ds1|e1** command description for details
  - *tributaryType*—Virtual tributary type
    - vt15—Default for SONET DS1 tributaries
    - tu11—Default for SDH DS1 tributaries
    - tu12—Default for SDH E1 tributaries
  - *name*—Text string or alias of up to 80 characters for the T1/E1 over SONET/SDH VT layer on channelized SONET and SDH interfaces
- Mode** Controller Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds1|e1 framing

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**Description** Configures the framing format for a DS1 or an E1 signal when DS1/E1 is configured over channelized SONET and SDH interfaces. The **no** version restores the default value.

**Syntax** path *pathChannel* { ds1 | e1 } *tributaryIdentifier* framing *framingType*  
 no path *pathChannel* { ds1 | e1 } *tributaryIdentifier* framing

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *tributaryIdentifier*—Identifier for the tributary. See description for the **path ds1|e1** command.
- *framingType*—One of the following types:
  - **crc4**—Cyclic redundancy check (default for E1); not available for T1
  - **no-crc4**—No cyclic redundancy check; not available for T1
  - **esf**—Extended superframe (T1 default); not available for E1
  - **sf**—Superframe; not available for E1

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds1|e1 loopback

---

**Description** Configures a loopback at the DS1/E1 over SONET/SDH VT layer on channelized SONET and SDH interfaces. The **no** version turns off the loopback.

**Syntax** `path pathChannel { ds1 | e1 } tributaryIdentifier loopback`  
`{ local | network { line | payload } }`  
`no path pathChannel { ds1 | e1 } tributaryIdentifier loopback`  
`path pathChannel ds1 tributaryIdentifier loopback remote`  
`{ line fdl { ansi | bellcore } | payload [ fdl ] [ ansi ] }`  
`no path pathChannel { ds1 | e1 } tributaryIdentifier loopback remote`

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *tributaryIdentifier*—Identifier for the tributary. See description for the **path ds1|e1** command.
- *local*—Loops the router output data back toward the router at the T1/E1 framer; on supported line modules also sends an alarm indication signal (AIS) out toward the network.
- *network { line | payload }*—Specify the **line** keyword to loop the data back toward the network before the T1/E1 framer and automatically set a local loopback at the HDLC controllers. Specify the **payload** keyword to loop the payload data back toward the network at the T1/E1 framer and automatically set a local loopback at the HDLC controllers.
- *remote line fdl ansi* (T1 line only)—Sends a repeating 16-bit ESF data link code word (00001110 11111111) to the remote end requesting that it enter into a network line loopback. Specify the **ansi** keyword to enable the remote line FDL ANSI bit loopback on the T1 channel, according to the ANSI T1.403 specification.
- *remote line fdl bellcore* (T1 line only)—Sends a repeating 16-bit ESF data link code word (00010010 11111111) to the remote end requesting that it enter into a network line loopback. Specify the **bellcore** keyword to enable the remote line FDL Bellcore bit loopback on the T1 channel, according to the Bellcore TR-TSY-000312 specification.
- *remote payload [ fdl ] [ ansi ]* (T1 line only)—Sends a repeating 16-bit ESF data link code word (00010100 11111111) to the remote end requesting that it enter into a network payload loopback. Enables the remote payload FDL ANSI bit loopback on the T1 channel. You can optionally specify **fdl** and **ansi**, but it is not necessary.



**NOTE:** You cannot send an inband pattern to the remote end requesting that it enter into a network line loopback.

---

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds1|e1 shutdown

---

**Description** Disables DS1 or E1 over channelized SONET and SDH interfaces. DS1 and E1 interfaces are enabled by default. The **no** version restarts a disabled interface.

**Syntax** [ no ] path *pathChannel* { ds1 | e1 } *tributaryIdentifier* shutdown

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *tributaryIdentifier*—Identifier for the tributary. See description for the **path ds1|e1** command.

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds1|e1 snmp trap link-status

---

**Description** Enables SNMP link status processing for DS1 or E1 over channelized SONET and SDH interfaces. The **no** version disables SNMP link status processing.

**Syntax** [ no ] path *pathChannel* { ds1 | e1 } *tributaryIdentifier* snmp trap link-status

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *tributaryIdentifier*—Identifier for the tributary. See description for the **path ds1|e1** command.

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds1 fdl

---

- Description** Specifies the FDL standard for a DS1 signal when DS1 is configured over a channelized SONET or SDH interface. The **no** version restores the default, none.
- Syntax** path *pathChannel* ds1 *tributaryIdentifier* fdl { ansi | att | all | none }  
no path *pathChannel* ds1 *tributaryIdentifier* fdl [ ansi | att | all ]
- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
  - *tributaryIdentifier*—Identifier for the tributary. See description for the **path ds1|e1** command.
  - ansi—Specifies ANSI T1.403 Standard for extended superframe FDL exchange support
  - att—Specifies AT&T Technical Reference 54016 for extended superframe FDL exchange support
  - all—Specifies both the AT&T and ANSI mode for extended superframe FDL exchange support
  - none—Removes the current FDL mode settings
- Mode** Controller Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds1 fdl carrier

---

- Description** Specifies that a DS1 signal is used in the carrier environment. This command applies to a DS1 over channelized SONET or SDH interface. The **no** version restores the default situation, in which an interface does not operate in the carrier environment.
- Syntax** [ no ] path *pathChannel* ds1 *tributaryIdentifier* fdl carrier
- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
  - *tributaryIdentifier*—Identifier for the tributary. See description for the **path ds1|e1** command.
- Mode** Controller Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds1 fdl string

---

**Description** Defines an FDL message for a DS1 signal, as defined in the ANSI T1.403 specification. This command applies to a DS1 over channelized SONET or SDH interface. Currently, FDL strings can only be configured locally. The **no** version restores the default value to the specified FDL message or to all FDL messages.

**Syntax** path *pathChannel* ds1 *tributaryIdentifier* fdl string { eic *eicValue* | fic *ficValue* | lic *licValue* | unit *unitValue* | pfi *pfiValue* | port *portValue* | generator *generatorValue* }  
 no path *pathChannel* ds1 *tributaryIdentifier* fdl string { eic | fic | lic | unit | pfi | port | generator }

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *tributaryIdentifier*—Identifier for the tributary. See description for the **path ds1|e1** command.
- *eicValue*—Equipment identification code; 1–10 characters; default value is the null value
- *ficValue*—Frame identification code; 1–10 characters; default value is the null value
- *licValue*—Line identification code; 1–10 characters; default value is the null value
- *unitValue*—Unit identification code; 1–6 characters; default value is the null value.
- *pfiValue*—Facility identification code to send in the FDL path message; 1–38 characters; default value is the null value
- *portValue*—Equipment port number to send in the FDL idle signal message; 1–38 characters; default value is the null value
- *generatorValue*—Generator number to send in the FDL 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.

## path ds1 fdl transmit

---

- Description** Configures the router to send the specified FDL message on a DS1 signal. This command applies to a DS1 over channelized SONET or SDH interface. The **no** version stops the router from sending the specified FDL message or all FDL messages.
- Syntax** [ no ] path *pathChannel* ds1 *tributaryIdentifier* fdl transmit  
{ path-id | idle-signal | test-signal }  
no path *pathChannel* ds1 *tributaryIdentifier* fdl transmit
- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
  - *tributaryIdentifier*—Identifier for the tributary. See description for the **path ds1|e1** command.
  - 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.

## path ds1 remote-loopback

---

**Description** Enables acceptance of remote loopback requests at the DS1/E1 over SONET/SDH VT layer on channelized SONET and SDH interfaces. The **no** version restores the factory default value, which is to reject remote loopback requests.

**Syntax** [ no ] path *pathChannel* ds1 *tributaryIdentifier* remote-loopback

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *tributaryIdentifier*—Identifier for the tributary. See description for the **path ds1|e1** command.

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3

---

<b>Description</b>	Creates and configures a DS3 signal. This command applies to a DS3 over channelized SONET interface. If you do not specify whether or not the path should be channelized, the router creates a channelized path by default. The <b>no</b> version deletes a path.
<b>Syntax</b>	<pre>path pathChannel ds3 ds3Channel { [ channelized ]   unchannelized }</pre> <pre>no path pathChannel ds3 ds3Channel</pre> <ul style="list-style-type: none"> <li>■ <i>pathChannel</i>—Number, in the range 1–2147483648, that identifies the path</li> <li>■ <i>ds3Channel</i>—Number, in the range 1–3, that identifies the path</li> </ul>
<b>Mode</b>	Controller Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## path ds3 bert

---

<b>Description</b>	Enables bit error rate tests using the specified pattern for a DS3 signal. This command applies to a DS3 over channelized SONET interface. The <b>no</b> version stops the test that is running.
<b>Syntax</b>	<pre>path pathChannel ds3 ds3Channel bert pattern pattern interval time</pre> <pre>no path pathChannel ds3 ds3Channel bert</pre> <ul style="list-style-type: none"> <li>■ <i>pathChannel</i>—Number, in the range 1–2147483648, that identifies the path</li> <li>■ <i>ds3Channel</i>—Number, in the range 1–3, that identifies the DS3 channel</li> <li>■ <i>pattern</i>—One of the following test patterns: <ul style="list-style-type: none"> <li>■ 0s—Repetitive test pattern of all zeros, 00000...</li> <li>■ 1s—Repetitive test pattern of all ones, 11111...</li> <li>■ 2^9—Pseudorandom test pattern, 511 bits long</li> <li>■ 2^11—Pseudorandom test pattern, 2047 bits long</li> <li>■ 2^15—Pseudorandom test pattern, 32,767 bits long</li> <li>■ 2^20—Pseudorandom test pattern, 1,048,575 bits long</li> <li>■ 2^20-QRSS—Pseudorandom QRSS test pattern, 1,048,575 bits long</li> <li>■ 2^23—Pseudorandom test pattern, 8,388,607 bits long</li> <li>■ alt-0-1—Repetitive alternating test pattern of zeros and ones, 01010101...</li> </ul> </li> <li>■ <i>time</i>—Duration of the test, in the range 1–1440 minutes</li> </ul>
<b>Mode</b>	Controller Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.



## path ds3 clock source

---

- Description** Configures the transmit clock source for a DS3 signal. This command applies to a DS3 over channelized SONET interface. The **no** version restores the default value.
- Syntax** path *pathChannel* ds3 *ds3Channel* clock source { line | internal { module | chassis } }  
no path *pathChannel* ds3 *ds3Channel* clock source
- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
  - *ds3Channel*—Number, in the range 1–3, that identifies the path
  - line—Interface transmits data from a clock recovered from the line’s receive data stream
  - internal—Interface transmits data using its internal clock. You must specify one of the following for internal clocking:
    - module—Internal clock is from the line module itself
    - chassis—Internal clock is from the configured system clock
- Mode** Controller Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 description

---

- Description** Assigns a text description or an alias to a DS3 signal. This command applies to a DS3 over channelized SONET/SDH interface. Use the **show controllers sonet** command to display the text description. The **no** version removes the description or alias.
- Syntax** path *pathChannel* ds3 *ds3Channel* description *name*  
no path *pathChannel* ds3 *ds3Channel* description
- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
  - *ds3Channel*—Number, in the range 1–3, that identifies the path
  - *name*—Text string or alias of up to 80 characters for the T3 over channelized SONET/SDH interface
- Mode** Controller Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 equipment loopback

---

**Description** Enables or disables the router's ability to be placed in loopback by a remote device connected at the DS3 layer for a DS3 signal. This command applies to a DS3 over channelized SONET interface. The **no** version restores the default behavior, which disables the router's ability to be placed in loopback by a remote device. Using the **no** version has the same effect as issuing the command with the **network** keyword.

**Syntax** `path pathChannel ds3 ds3Channel equipment { customer | network } loopback`  
`no path pathChannel ds3 ds3Channel equipment`

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the path
- *customer*—Enables the router to start loopback testing when it receives an appropriate signal from the remote interface
- *network*—Disables the router's ability to start loopback testing when it receives an appropriate signal from the remote interface; this is the default behavior

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 framing

---

**Description** Configures the framing format for a DS3 signal. This command applies to a DS3 over channelized SONET interface. The **no** version restores the default value.

**Syntax** `path pathChannel ds3 ds3Channel framing framingType`  
`no path pathChannel ds3 ds3Channel framing`

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the path
- *framingType*—Choose one of the following:
  - *c-bit*—Default; specifies C-bit parity framing
  - *m23*—Specifies M23 multiplexer framing

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 loopback

---

**Description** Configures a loopback at the DS3 layer for a DS3 signal. This command applies to a DS3 over channelized SONET interface. The **no** version turns off the loopback.

**Syntax** path *pathChannel* ds3 *ds3Channel* loopback { local | network { line | payload } }  
no path *pathChannel* ds3 *ds3Channel* loopback  
[ no ] path *pathChannel* ds3 *ds3Channel* loopback remote

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the path
- local—Loops the data back toward the router; on supported line modules also sends an alarm indication signal (AIS) out toward the network.
- network { line | payload }—Specify the **line** keyword to loop the data toward the network before the data reaches the framer. Specify the **payload** keyword to loop the data toward the network after the framer has processed the data.
- remote—Sends a far end alarm code in the C-bit framing, as defined in ANSI T1.404, to notify the remote end to activate or (when you use the **no** version) deactivate the line loopback

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 mdl carrier

---

**Description** Specifies that a DS3 signal is used in the carrier environment. This command applies to a DS3 over channelized SONET interface. The **no** version restores the default situation, in which an interface does not operate in the carrier environment.

**Syntax** [ no ] path *pathChannel* ds3 *ds3Channel* mdl carrier

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the path

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 mdl string

---

- Description** Allows you to configure an MDL message on a DS3 signal as defined in the ANSI T1.107a-1990 specification. This command applies to a DS3 over channelized SONET interface. The **no** version restores the default value to the specified MDL message or to all MDL messages.
- Syntax** path *pathChannel* ds3 *ds3Channel* mdl string { eic *eicValue* | fic *ficValue* | generator *genValue* | lic *licValue* | pfi *pfiCode* | port *portValue* | unit *unitValue* }  
 no path *pathChannel* ds3 *ds3Channel* mdl string { eic | fic | generator | lic | pfi | port | unit }
- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
  - *ds3Channel*—Number, in the range 1–3, that identifies the path
  - *eicValue*—Equipment identification code; 1–10 characters; default value is the null value
  - *ficValue*—Frame identification code; 1–10 characters; default value is the null value
  - *genValue*—Generator number to send in the MDL test signal message; 1–38 characters; default value is the null value
  - *licValue*—Line identification code; 1–11 characters; default value is the null value
  - *pfiCode*—Facility identification code to send in the MDL path message; 1–38 characters; default value is the null value
  - *portValue*—Equipment port number to send in the MDL idle signal message; 1–38 characters; default value is the null value
  - *unitValue*—Unit identification code; 1–6 characters; default value is the null value
- Mode** Controller Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 mdl transmit

---

**Description** Enables you to transmit an MDL message on a DS3 signal. This command applies to a DS3 over channelized SONET interface. The **no** version disables transmission of the specified message or all messages.

**Syntax** [ no ] path *pathChannel* ds3 *ds3Channel* mdl transmit  
{ path-id | idle-signal | test-signal }

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the path
- 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.

## path ds3 shutdown

---

**Description** Disables a DS3 signal. This command applies to a DS3 over channelized SONET interface. DS3 interfaces are enabled by default. The **no** version restarts a disabled interface.

**Syntax** [ no ] path *pathChannel* ds3 *ds3Channel* shutdown

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the path

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 snmp trap link-status

---

**Description** Enables SNMP link status processing for a DS3 signal. This command applies to a DS3 over channelized SONET interface. The **no** version disables SNMP link status processing on an interface.

**Syntax** [ no ] path *pathChannel* ds3 *ds3Channel* snmp trap link-status

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the path

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 t1

---

- Description** Creates and configures a T1 channel on a DS3 signal. This command applies to a T1 channel on a DS3 over channelized SONET interface. The **no** version deletes a path.
- Syntax** [ no ] path *pathChannel* ds3 *ds3Channel* t1 *t1Channel*
- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
  - *ds3Channel*—Number, in the range 1–3, that identifies the DS3 channel
  - *t1Channel*—One or more individual T1 channels, ranges of T1 channels, or combination of individual channels and ranges, in the range 1–28 (no spaces); for example, 3,7-15,19-13,27
- Mode** Controller Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 t1 bert

---

- Description** Enables bit error rate tests using the specified pattern for a T1 channel on a DS3 signal. This command applies to a T1 channel on a DS3 over channelized SONET interface. The **no** version stops the test that is running.
- Syntax** path *pathChannel* ds3 *ds3Channel* t1 *t1Channel* bert  
pattern *pattern* interval *time* [ unframed ]  
no path *pathChannel* ds3 *ds3Channel* t1 *t1Channel* bert
- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
  - *ds3Channel*—Number, in the range 1–3, that identifies the DS3 channel
  - *t1Channel*—One or more individual T1 channels, ranges of T1 channels, or combination of individual channels and ranges, in the range 1–28 (no spaces); for example, 3,7-15,19-13,27
  - *pattern*—One of the following test patterns:
    - 2<sup>11</sup>—Pseudorandom test pattern, 2047 bits long
    - 2<sup>15</sup>—Pseudorandom test pattern, 32,767 bits long
    - 2<sup>20</sup>-O153—Pseudorandom test pattern, 1,048,575 bits long
  - *time*—Duration of the test in the range 1–1440 minutes
  - unframed—Test bit pattern occupies all bits on the link, overwriting the framing bits. If you do not specify this keyword, the test bit pattern occupies only T1/E1 payload bits.
- Mode** Controller Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 t1 clock source

---

**Description** Configures the transmit clock source for a T1 channel on a DS3 signal. This command applies to a T1 channel on a DS3 over channelized SONET interface. The **no** version restores the default value, line.

**Syntax** `path pathChannel ds3 ds3Channel t1 t1Channel clock source`  
`{ line | internal { module | chassis } }`  
`no path pathChannel ds3 ds3Channel t1 t1Channel clock source`

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the DS3 channel
- *t1Channel*—One or more individual T1 channels, ranges of T1 channels, or combination of individual channels and ranges, in the range 1–28 (no spaces); for example, 3,7-15,19-13,27
- *line*—Interface transmits data from a clock recovered from the line's receive data stream
- *internal*—Interface transmits data using its internal clock. You must specify one of the following for internal clocking:
  - *module*—Internal clock is from the line module itself
  - *chassis*—Internal clock is from the configured system clock

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 t1 description

---

**Description** Assigns a text description or an alias to a T1 channel group or subchannel on a DS3 signal. This command applies to a T1 channel group or subchannel on a DS3 over channelized SONET/SDH interface. Use the **show controllers sonet** command to display the text description. The **no** version removes the description or alias.

**Syntax** `path pathChannel ds3 ds3Channel t1 t1Channel [ /subchannel ] description name`  
`no path pathChannel ds3 ds3Channel t1 t1Channel [ /subchannel ] description name`

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the DS3 channel
- *t1Channel*—One or more individual T1 channels, ranges of T1 channels, or combination of individual channels and ranges, in the range 1–28 (no spaces); for example, 3,7-15,19-13,27
- *subchannel*—Fractional T1 interface in the range 1–24
- *name*—Text string or alias of up to 80 characters for the T1 channel group or subchannel on a T3 over channelized SONET/SDH interface

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 t1 fdl

---

**Description** Specifies the facilities data link (FDL) standard for a T1 channel on a DS3 signal. This command applies to a T1 channel on a DS3 over channelized SONET interface. The **no** version restores the default, none.

**Syntax** `path pathChannel ds3 ds3Channel t1 t1Channel fdl { ansi | att | all | none }`  
`no path pathChannel ds3 ds3Channel t1 t1Channel fdl [ ansi | att | all ]`

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the DS3 channel
- *t1Channel*—One or more individual T1 channels, ranges of T1 channels, or combination of individual channels and ranges, in the range 1–28 (no spaces); for example, 3,7-15,19-13,27
- *ansi*—Specifies ANSI T1.403 Standard for extended superframe FDL exchange support
- *att*—Specifies AT&T Technical Reference 54016 for extended superframe FDL exchange support
- *all*—Specifies both the AT&T and ANSI mode for extended superframe FDL exchange support
- *none*—Removes the current FDL mode settings

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 t1 fdl carrier

---

**Description** Specifies that a T1 channel on a DS3 signal is used in the carrier environment. This command applies to a T1 channel on a DS3 over channelized SONET interface. The **no** version restores the default situation, in which an interface does not operate in the carrier environment.

**Syntax** `[ no ] path pathChannel ds3 ds3Channel t1 t1Channel fdl carrier`

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the DS3 channel
- *t1Channel*—One or more individual T1 channels, ranges of T1 channels, or combination of individual channels and ranges, in the range 1–28 (no spaces); for example, 3,7-15,19-13,27

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.



## path ds3 t1 fdl string

---

**Description** Defines an FDL message for a T1 channel on a DS3 signal, as defined in the ANSI T1.403 specification. This command applies to a T1 channel on a DS3 over channelized SONET interface. Currently, FDL strings can only be configured locally. The **no** version restores the default value to the specified FDL message or to all FDL messages.

**Syntax** `path pathChannel ds3 ds3Channel t1 t1Channel fdl string { eic eicValue | fic ficValue | lic licValue | unit unitValue | pfi pfiValue | port portValue | generator generatorValue }`  
`no path pathChannel ds3 ds3Channel t1 t1Channel fdl string { eic | fic | lic | unit | pfi | port | generator }`

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the DS3 channel
- *t1Channel*—One or more individual T1 channels, ranges of T1 channels, or combination of individual channels and ranges, in the range 1–28 (no spaces); for example, 3,7-15,19-13,27
- *eicValue*—Equipment identification code; 1–10 characters; default value is the null value
- *ficValue*—Frame identification code; 1–10 characters; default value is the null value
- *licValue*—Line identification code; 1–10 characters; default value is the null value
- *unitValue*—Unit identification code; 1–6 characters; default value is the null value
- *pfiValue*—Facility identification code to send in the FDL path message; 1–38 characters; default value is the null value
- *portValue*—Equipment port number to send in the FDL idle signal message; 1–38 characters; default value is the null value
- *generatorValue*—Generator number to send in the FDL 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.

## path ds3 t1 fdl transmit

---

**Description** Configures the router to send the specified type of FDL message for a T1 channel on a DS3 signal. This command applies to a T1 channel on a DS3 over channelized SONET interface. The **no** version stops the router from sending the specified type of FDL message or all FDL messages.

**Syntax** [ no ] path *pathChannel* ds3 *ds3Channel* t1 *t1Channel* fdl transmit  
{ path-id | idle-signal | test-signal }

no path *pathChannel* ds3 *ds3Channel* t1 *t1Channel* fdl transmit

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the DS3 channel
- *t1Channel*—One or more individual T1 channels, ranges of T1 channels, or combination of individual channels and ranges, in the range 1–28 (no spaces); for example, 3,7-15,19-13,27
- 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.

## path ds3 t1 framing

---

**Description** Configures the framing format for a T1 channel on a DS3 signal. This command applies to a T1 channel on a DS3 over channelized SONET interface. The **no** version restores the default value.

**Syntax** path *pathChannel* ds3 *ds3Channel* t1 *t1Channel* framing *framingType*

no path *pathChannel* ds3 *ds3Channel* t1 *t1Channel* framing

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the DS3 channel
- *t1Channel*—One or more individual T1 channels, ranges of T1 channels, or combination of individual channels and ranges, in the range 1–28 (no spaces); for example, 3,7-15,19-13,27
- *framingType*—One of the following types:
  - esf—Default; specifies extended superframe
  - sf—Specifies superframe

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 t1 loopback

---

**Description** Configures a loopback for a T1 channel on a DS3 signal. This command applies to a T1 channel on a DS3 over channelized SONET interface. The **no** version turns off the loopback.

**Syntax** `path pathChannel ds3 ds3Channel t1 t1Channel loopback`  
`{ local | network { line | payload } }`  
`no path pathChannel ds3 ds3Channel t1 t1Channel loopback`  
`path pathChannel ds3 ds3Channel t1 t1Channel loopback remote`  
`{ line fdl { ansi | bellcore } | payload [ fdl ] [ ansi ] }`  
`no path pathChannel ds3 ds3Channel t1 t1Channel loopback remote`

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the DS3 channel
- *t1Channel*—One or more individual T1 channels, ranges of T1 channels, or combination of individual channels and ranges, in the range 1–28 (no spaces); for example, 3,7-15,19-13,27
- **local**—Loops the router output data back toward the router at the T1 framer; on supported line modules also sends an alarm indication signal (AIS) out toward the network.
- **network { line | payload }**—Specify the **line** keyword to loop the data back toward the network before the T1 framer and automatically set a local loopback at the HDLC controllers. Specify the **payload** keyword to loop the payload data back toward the network at the T1 framer and automatically set a local loopback at the HDLC controllers.
- **remote line fdl ansi**—Sends a repeating 16-bit ESF data link code word (00001110 11111111) to the remote end requesting that it enter into a network line loopback. Specify the **ansi** keyword to enable the remote line FDL ANSI bit loopback on the T1 channel, according to the ANSI T1.403 specification.
- **remote line fdl bellcore**—Sends a repeating 16-bit ESF data link code word (00010010 11111111) to the remote end requesting that it enter into a network line loopback. Specify the **bellcore** keyword to enable the remote line FDL Bellcore bit loopback on the T1 channel, according to the Bellcore TR-TSY-000312 specification.
- **remote payload [ fdl ] [ ansi ]**—Sends a repeating 16-bit ESF data link code word (00010100 11111111) to the remote end requesting that it enter into a network payload loopback. Enables the remote payload FDL ANSI bit loopback on the T1 channel. You can optionally specify **fdl** and **ansi**, but it is not necessary.

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 t1 remote-loopback

---

**Description** Enables acceptance of remote loopback requests by a T1 channel on a DS3 signal. This command applies to a T1 channel on a DS3 over channelized SONET interface. The **no** version restores the default value, which is to reject remote loopback requests.

**Syntax** [ no ] path *pathChannel* ds3 *ds3Channel* t1 *t1Channel* remote-loopback

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the DS3 channel
- *t1Channel*—One or more individual T1 channels, ranges of T1 channels, or combination of individual channels and ranges, in the range 1–28 (no spaces); for example, 3,7-15,19-13,27

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 t1 shutdown

---

**Description** Disables a T1 channel or subchannel on a DS3 signal. This command applies to a T1 channel or subchannel on a DS3 over channelized SONET interface. T1 channels are enabled by default. The **no** version restarts a disabled interface.

**Syntax** [ no ] path *pathChannel* ds3 *ds3Channel* t1 *t1Channel*[/*subchannel*] shutdown

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the DS3 channel
- *t1Channel*—One or more individual T1 channels, ranges of T1 channels, or combination of individual channels and ranges, in the range 1–28 (no spaces); for example, 3,7-15,19-13,27
- *subchannel*—Fractional T1 interface in the range 1–24

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 t1 snmp trap link-status

---

**Description** Enables SNMP link status processing for a T1 channel group or subchannel on a DS3 signal. This command applies to a T1 channel or subchannel on a DS3 over channelized SONET interface. The **no** version disables SNMP link status processing for a T1 channel.

**Syntax** [ no ] path *pathChannel* ds3 *ds3Channel* t1 *t1Channel* [ /*subchannel* ] snmp trap link-status

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the DS3 channel
- *t1Channel*—One or more individual T1 channels, ranges of T1 channels, or combination of individual channels and ranges, in the range 1–28 (no spaces); for example, 3,7-15,19-13,27
- *subchannel*—Fractional T1 interface, in the range 1–24

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path ds3 t1 timeslots

---

**Description** Assigns a range of DS0 timeslots to a subchannel as a single data stream for a T1 channel on a DS3 signal. This command applies to a T1 channel on a DS3 over channelized SONET interface. You can optionally specify a line speed that applies to all DS0 timeslots assigned to a subchannel. The **no** version deletes the fractional T1 circuit.

**Syntax** path *pathChannel* ds3 *ds3Channel* t1 *t1Channel*/subchannel timeslots *range* [ speed { 56 | 64 } ]

no path *pathChannel* ds3 *ds3Channel* t1 *t1Channel*/subchannel

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the DS3 channel
- *t1Channel*—Number, in the range 1–28, that identifies the T1 channel
- *subchannel*—Fractional T1 interface, in the range 1–24
- *range*—Timeslots assigned to the T1 channel in the range 1–24; a dash represents a range of timeslots, and a comma separates timeslots. For example, 1-10, 15-18 assigns timeslots 1–10 and 15–18.
- *speed*—Specifies the data rate for the T1 channel, either 56 Kbps or 64 Kbps; default value is 64 Kbps

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path e1 unframed

---

**Description** Creates and configures an unframed E1 signal on a channelized SONET or SDH interface. The **no** version deletes an unframed E1 interface from the path.

**Syntax** [ no ] path *pathChannel* e1 *tributaryIdentifier* unframed

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *tributaryIdentifier*—Identifier for the tributary. See description for the **path ds1|e1** command.

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path overhead c2

---

**Description** Overrides the default value of the path signal label (C2) byte for SONET and SDH interfaces. The **no** version restores the default setting, which depends on the types of interface layers configured above the SONET/SDH interface.

**Syntax** For channelized OCx/STMx interfaces:  
[ no ] path *pathChannel* overhead c2 *byteValue*

For unchannelized OCx/STMx interfaces:  
[ no ] path overhead c2 *byteValue*

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path on a channelized interface
- *byteValue*—Value for C2 byte; integer, in the range 0–255

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path overhead j1

---

**Description** Specifies trace messages to check for connectivity between the router and the SONET/SDH device at the other end of the line. The **no** version restores the default situation, in which all characters of the trace message are zeros.

**Syntax** For channelized OCx/STMx interfaces:  
[ no ] path *pathChannel* overhead j1 { msg | exp-msg } [ *message* ]  
For unchannelized OCx/STMx interfaces:  
[ no ] path overhead j1 { msg | exp-msg } [ *message* ]

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path on a channelized interface
- msg—Specifies that the message is one that the router sends
- exp-msg—Specifies that the message is one that the router expects to receive
- *message*—Text of the message; the maximum is 15 characters for SDH mode and 62 characters for SONET mode

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path shutdown

---

**Description** Disables a path on channelized and unchannelized SONET/SDH interfaces. On channelized interfaces, you must specify the path channel number. By default, paths are enabled. The **no** version restarts the path.

**Syntax** For channelized OCx/STMx interfaces:  
[ no ] path *pathChannel* shutdown  
For unchannelized OCx/STMx interfaces:  
[ no ] path shutdown

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path on a channelized interface

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path snmp trap link-status

---

**Description** Enables SNMP link-status processing for the path layer of SONET and SDH interfaces. The **no** version disables SNMP link-status processing.

**Syntax** For channelized OCx/STMx interfaces:  
 [ no ] path *pathChannel* snmp trap link-status

For unchannelized OCx/STMx interfaces:  
 [ no ] path snmp trap link-status

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path on a channelized interface

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## path trigger alarm prdi

---

**Description** Specifies that the router uses remote defect indications (RDIs) at the path layer to determine the operational state of a path. The **no** version restores the default setting, in which loss of pointer and alarm indication signal (AIS) defects at the path layer determine the operational state of a path.

**Syntax** For channelized OCx/STMx interfaces:  
 [ no ] path *pathChannel* trigger alarm prdi

For unchannelized OCx/STMx interfaces:  
 [ no ] path trigger alarm prdi

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path on a channelized interface

**Mode** Controller Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.



## path trigger delay

---

<b>Description</b>	Specifies the time duration that the router uses to determine when a SONET/SDH defect at the path layer becomes an alarm. The <b>no</b> version restores the default setting, 2500 milliseconds.
<b>Syntax</b>	For channelized OCx/STMx interfaces: <code>path <i>pathChannel</i> trigger delay msec <i>delayTime</i></code> <code>no path <i>pathChannel</i> trigger delay</code>  For unchannelized OCx/STMx interfaces: <code>path trigger delay msec <i>delayTime</i></code> <code>no path trigger delay</code> <ul style="list-style-type: none"><li>■ <i>pathChannel</i>—Number, in the range 1–2147483648, that identifies the path on a channelized interface</li><li>■ <i>delayTime</i>—Time, in the range 0–2500 milliseconds</li></ul>
<b>Mode</b>	Controller Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## peak-burst

---

<b>Description</b>	Sets the peak burst for a rate-limit profile. The <b>no</b> version restores the default value, 100 ms; if 100ms is less than 8K, then 8K (8192).
<b>Syntax</b>	<code>peak-burst <i>size</i> { millisecond <i>milliseconds</i> }</code> <code>no peak-burst</code> <ul style="list-style-type: none"><li>■ <i>size</i>—Size in bytes in the range 1–4294967295</li><li>■ <i>milliseconds</i>—Milliseconds in the range 1–10000</li></ul>
<b>Mode</b>	Rate Limit Profile Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0. <i>milliseconds</i> variable added in JUNOS Release 8.1.0.
<b>Related Topics</b>	<ul style="list-style-type: none"><li>■ Creating a Two-Rate Rate-Limit Profile</li></ul>

## peak-rate

---

**Description** Sets the peak rate for a rate-limit profile. The **no** version restores the default value, 0.

**Syntax** `peak-rate { rate | parameterName percentage percentValue }`  
`no peak-rate`

- *rate*—Rate in bits per second in the range 0–4294967295
- *parameterName*—Name of policy parameter up to 40 characters
- *percentValue*—Percentage in the range 0–100

**Mode** Rate Limit Profile Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*parameterName* and *percentValue* variables added in JUNOS Release 8.1.0.

### Related Topics

- Creating a Two-Rate Rate-Limit Profile

## peer ip identity

---

**Description** Overrides the peer identity (phase 2 identity) used for IPSec security association negotiations. For IPSec negotiations to succeed, the local and peer identities at one end of the tunnel must match the peer and local identities at the other end (respectively). The **no** version restores the default value, the internal IP address allocated for the subscriber.

**Syntax** `peer ip identity`  
`{ address ipAddress | range ipRangeLow ipRangeHigh | subnet netAddress netMask }`

- *ipAddress*—IP address used as the peer identity for IPSec security association negotiations
- *ipRangeLow*—Low end of a range used as the peer identity for IPSec security association negotiations
- *ipRangeHigh*—High end of a range used as the peer identity for IPSec security association negotiations
- *netAddress*—IP network address used as the peer identity for IPSec security association negotiations
- *netMask*—IP network mask used as the peer identity for IPSec security association negotiations

**Mode** IPSec Tunnel Profile Configuration

**Release Information** Command introduced in JUNOS Release 7.3.0.

## pfs group

---

<b>Description</b>	Configures perfect forward secrecy for connections created with this IPSec transport or tunnel profile by assigning a Diffie-Hellman prime modulus group. The <b>no</b> version removes PFS from the profile.
<b>Syntax</b>	<pre>pfs group { 1   2   5 } no pfs group</pre> <ul style="list-style-type: none"><li>■ 1—768-bit Diffie-Hellman prime modulus group</li><li>■ 2—1024-bit Diffie-Hellman prime modulus group</li><li>■ 5—1536-bit Diffie-Hellman prime modulus group</li></ul>
<b>Mode</b>	IPSec Transport Profile Configuration, IPSec Tunnel Profile Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0. IPSec Tunnel Profile mode added in JUNOS Release 7.3.0.

## pim disable

---

<b>Description</b>	Disables PIM on a virtual router. The <b>no</b> version reenables PIM on a virtual router.
<b>Syntax</b>	<pre>[ no ] pim disable</pre>
<b>Mode</b>	Router Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## ping

---

<b>Description</b>	Sends an ICMP echo request packet to the IP or IPv6 address that you specify. There is no <b>no</b> version.
<b>Syntax</b>	<pre>ping [ vrf vrfName ] [ ip ] destination [ packetCount ] [ timeout timeOutVal ] [ transmit-delay delayVal ] [ ttl ttlValue ] [ data-size dataSize ] [ data-pattern { ones   zeros   random   hex-data hexData } ] [ source { interface interfaceType interfaceSpecifier   address sourceAddr } ] [ sweep-sizes sweepMin sweepMax [ sweep-interval sweepInt ] ] [ extended [ tos tosVal ] [ set-dont-fragment-bit ] [ set-router-alert ] [ { loose-source-route   strict-source-route } [ srtAddrs ]* ] [ record-route numRoutes ] [ timestamp numTimestamps ] [ interface interfaceType interfaceSpecifier ] ]  ping ipv6 [ vrf vrfName ] destination [ packetCount ] [ timeout timeOutVal ] [ transmit-delay delayVal ] [ hop-limit hopLimit ] [ data-size dataSize ] [ data-pattern { ones   zeros   random   hex-data hexData } ] [ source { interface interfaceType interfaceSpecifier   address sourceAddr } ] [ sweep-sizes sweepMin sweepMax [ sweep-interval sweepInt ] ] [ extended [ dscp trafficClass ] [ flow-label flowLabel ] ]</pre>

- *vrfName*—Name of the VRF context
- *ip*—Specifies optional keyword for compatibility with non-E-series implementations
- *ipv6*—Specifies the destination address as IPv6 format
- *destination*—IP address, IPv6 address, or domain name of the host to ping
- *packetCount*—Number of packets to send to the destination IP address, in the range 0–4294967295; default value is 5; 0 means ping forever
- *timeOutVal*—Number of seconds, in the range 1–20, to wait for an ICMP echo reply packet before the connection attempt times out
- *delayVal*—Number of milliseconds, in the range 1–50, between transmission of each ICMP request; default value is 10 ms
- *hopLimit*—Specifies a hop limit, in the range 1–255; default value is 255
- *ttlValue*—Specifies a hop count by setting the time-to-live field in the IP header in the range 1–255; default value is 32
- *dataSize*—Number of bytes comprising the IP packet and reflected in the IP header, in the range 0–64000; default value is 100 bytes
- *data-pattern*—Type of bits contained in the packet. You can set the bits to all ones, all zeros, a random mixture of ones and zeros, or a specific hexadecimal data pattern that can range from 0x0 – 0xFFFFFFFF. The default data pattern is all zeros.
- *source interface*—Specifies an interface as the source of the packets
  - *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*
- *source address*—Specifies an IP address as the source of the packets
  - *sourceAddr*—IP address or domain name used as the source address
- *sweep-sizes*—Configures payload sizes, enabling you to vary the sizes of the echo packets being sent. This capability is useful for determining the minimum sizes of the MTUs configured on the nodes along the path to the destination address. This reduces packet fragmentation which contributes to performance problems. The default is not to sweep (all packets are the same size).
  - *sweepMin*—Minimum payload size in the range 0–64000
  - *sweepMax*—Maximum payload size in the range 0–64000
  - *sweepInt*—Number of bytes to add to the size of the packet; the change in the size of subsequent ping packets while sweeping across a range of sizes. For example, you can configure the sweep interval to sweep across the range of packets from 100 bytes to 1000 bytes in increments of *sweepInt*. By default, send 100, 101, 102, 103...1000. If *sweepInt* is 5, send 100, 105, 110, 115...1000). When “sweeping,” the default interval is 1.

- **extended**—Enables you to configure extended header attributes
  - *tosVal*—Specifies the value set in the ToS byte in the range 0–255 to support QoS offerings
  - **set-dont-fragment-bit**—Sets the don't-fragment bit in the IP header to prevent IP from fragmenting the packet if it is too long for the MTU of a link; if the nonfragmented packet cannot be delivered, it is discarded
  - **set-router-alert**—Sets the router alert bit in the IP header to indicate that all routers should examine this packet more closely to determine whether further processing is necessary
  - **loose-source-route**—Specifies a set of hops through which the packet must traverse; the hops do not have to be adjacent
  - **strict-source-route**—Specifies every hop through which the packet must traverse and generates an ICMP error if the exact path cannot be followed
  - *srtAddrs*—IP addresses or domain name of the intermediate hops on the way to the destination to be used in the loose-source or strict-source route
  - **\***—Indicates that one or more parameters can be repeated multiple times in a list in the command line
  - *numRoutes*—Specifies how many routes are to be recorded as the packet travels, in the range 1–9
  - *numTstamps*—Specifies how many timestamps from routers are to be recorded as the packet travels, in the range 1–9
  - *interfaceType*—Interface type of a destination address on the router that is configured for external loopback; see *Interface Types and Specifiers* in *About This Guide*
  - *interfaceSpecifier*—Particular interface of a destination address on the router that is configured for external loopback; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
  - *trafficClass*—Specifies the traffic class value to match in the Traffic Class field of each IPv6 packet header, in the range 1 to 255
  - *flowLabel*—Specifies the flow label value to match in the Flow Label field of each IPv6 packet header, in the range 1 to 1048576

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**vrf** keyword and *vrfName* variable added to IPv6 version in JUNOS Release 7.2.0.

## ping atm interface atm

---

**Description** Sets up the ATM interface or circuit to send loopback cells. There is no **no** version.

**Syntax** ping atm interface atm *interfaceSpecifier* *vpi* *vci*  
 [ end-loopback | seg-loopback [ *destination* ] ] [ count *cellCount* ] [ timeout *#OfSeconds* ]

- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *vpi*—Virtual path identifier
- *vci*—Virtual circuit identifier; by default F5 end-to-end loopback OAM cells are used for the ping operation
  - To send F4 segment loopback cells, set the VCI to 3.
  - To send F5 end-to-end loopback cells, set the VCI to 4.
- end-loopback—Sends the ping to the connection endpoint
- seg-loopback—Sends the ping to the first segment endpoint
- *destination*—Value of the location ID included the loopback cell. The location ID is a 16-octet field, and the destination portion is 4 octets. You can set the destination to a specific location ID or to 0s (zeros) or 1s (ones). If the destination is set to:
  - 0s—Loopback location ID in the loopback cell is initialized to all 0s, and each segment endpoint in the network responds to the ping
  - 1s—Loopback location ID in the loopback cell is initialized to all 1s, and only the connection endpoint responds to the ping

The default value is 0xFFFFFFFF, which causes the loopback location ID in the loopback cell to be initialized to all 1s.

- *cellCount*—Number of OAM echo cells to send to the destination, in the range 1–32; default value is 5
- timeout—Amount of time to wait for a response to the sent OAM cell. If no response is received when this time expires, the router sends the next cell. This process is repeated for the number of cells specified in the *cellCount* parameter.
- *#OfSeconds*—Number of seconds in the timeout period, in the range 1–5; default value is 5

**Mode** Privileged Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.

## ping mpls ip

---

**Description** Sends an MPLS echo request packet to the specified IP or IPv6 address. There is no **no** version.

**Syntax** ping mpls ip [ vrf *vrfName* ] { *targetIpAddress targetIpv4Mask* | *targetIpv6Prefix* }  
[ destination *startIpAddress endIpAddress increment* ]  
[ source address *sourceAddr* ] [ [ repeat ] *packetCount* ]  
[ ttl *ttlValue* ] [ timeout *timeOutVal* ]  
[ data-size *dataSize* | sweep-sizes *sweepMin sweepMax sweepInt* ]  
[ pad { ones | zeros | random | hex-data *hexData* } ]  
[ reply mode { ipv4-udp | ipv4-udp-with-router-alert } ]  
[ reply pad-tlv ] [ reply dscp *trafficClass* ]  
[ interval *txdelayVal* ] [ exp-bits *bitValue* ] [ detail ]

- *vrfName*—Name of the VRF context
- *targetIpAddress*—IP address of the ping target
- *targetIpv4Mask*—Network mask for target IP address
- *targetIpv6Prefix*—IPv6 address of the ping target
- *startIpAddress*—First IP address within the 127.0.0.0/8 destination range
- *endIpAddress*—Last IP address within the 127.0.0.0/8 destination range
- *increment*—Number in the range 0–255 that specifies the increment between addresses in the destination address range
- *sourceAddr*—IP address used as the packet source address
- repeat—Specifies that multiple ping packets are sent
- *packetCount*—Number of packets to send to the destination address, in the range 0–4294967295; default value is 5; 0 means ping forever
- *ttlValue*—Hop count specified by setting the time-to-live field in the header, in the range 1–255; default value is 32
- *timeOutVal*—Number of seconds, in the range 1–32 to wait for an MPLS echo reply packet before the connection attempt times out
- *dataSize*—Number of bytes comprising the MPLS packet, including the header, in the range 0–64000; default value is 100 bytes

- **sweep-sizes**—Configures payload sizes, enabling you to vary the sizes of the echo packets being sent. This capability is useful for determining the minimum sizes of the MTUs configured on the nodes along the path to the destination address. This reduces packet fragmentation which contributes to performance problems. The default is not to sweep; all packets are the same size.
  - *sweepMin*—Minimum payload size in the range 0–64000
  - *sweepMax*—Maximum payload size in the range 0–64000
  - *sweepInt*—Number of bytes to add to the size of the packet; the change in the size of subsequent ping packets while sweeping across a range of sizes. For example, you can configure the sweep interval to sweep across the range of packets from 0 bytes to 10,000 bytes in increments of *sweepInt*. By default, send 100, 101, 102, 103...1000. If *sweepInt* is 5, send 100, 105, 110, 115...1000). When “sweeping,” the default interval is 1.
- **pad**—Specifies the type of bits contained in the pad TLV. You can set the bits to all ones, all zeros, a random mixture of ones and zeros, or a specific hexadecimal data pattern, in the range from 0x0–0xFFFFFFFF. The default data pattern is all zeros.
- **reply mode**—Specifies the reply mode for the echo request packet
  - *ipv4-udp*—Specifies that the echo request packet is an IPv4 UDP packet
  - *ipv4-udp-with-router-alert*—Specifies that the echo request packet is an IPv4 UDP packet with the router alert bit set in the header so all routers examine this packet more closely to determine whether further processing is necessary
- **reply pad-tlv**—Requests sender of an echo reply to send a pad TLV
- **trafficClass**—Number in the range 0–255 that represents the value of the traffic class that the sender of an echo reply is requested to set
- **txDelayVal**—Number of milliseconds in the range 1–50 between transmission of each echo request; default value is 10 ms
- **bitValue**—Value of the EXP bits in the range 0–7 included in the MPLS echo request packet
- **detail**—Displays detailed information about MPLS echo request sent and echo replies received

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced in JUNOS Release 8.0.0.



## ping mpls l2transport

---

**Description** Sends an MPLS echo request packet to the specified layer 2 cross-connect virtual (Martini) circuit. There is no **no** version.

**Syntax** ping mpls l2transport [ vrf *vrfName* ]  
{ *interfaceType* *interfaceSpecifier* }  
[ *destination* *startIpAddress* *endIpAddress* *increment* ]  
[ *source* *address* *sourceAddr* ] [ [ *repeat* ] *packetCount* ]  
[ *ttl* *ttlValue* ] [ *timeout* *timeOutVal* ]  
[ *data-size* *dataSize* | *sweep-sizes* *sweepMin* *sweepMax* *sweepInt* ]  
[ *pad* { *ones* | *zeros* | *random* | *hex-data* *hexData* } ]  
[ *reply* *mode* { *ipv4-udp* | *ipv4-udp-with-router-alert* } ]  
[ *reply* *pad-tlv* ] [ *reply* *dscp* *trafficClass* ]  
[ *interval* *txdelayVal* ] [ *exp-bits* *bitValue* ] [ *bottom-label-ttl* *bottomLabelTtl* ] [ *detail* ]

- *vrfName*—Name of the VRF context
- *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*
- *startIpAddress*—First IP address within the 127.0.0.0/8 destination range
- *endIpAddress*—Last IP address within the 127.0.0.0/8 destination range
- *increment*—Number in the range 0–255 that specifies the increment between addresses in the destination address range
- *sourceAddr*—IP address used as the packet source address
- *repeat*—Specifies that multiple ping packets are sent
- *packetCount*—Number of packets to send to the destination address, in the range 0–4294967295; default value is 5; 0 means ping forever
- *ttlValue*—Hop count specified by setting the time-to-live field in the header, in the range 1–255; default value is 32
- *timeOutVal*—Number of seconds in the range 1–32 to wait for an MPLS echo reply packet before the connection attempt times out
- *dataSize*—Number of bytes comprising the MPLS packet, including the header, in the range 0–64000; default value is 100 bytes

- **sweep-sizes**—Configures payload sizes, enabling you to vary the sizes of the echo packets being sent. This capability is useful for determining the minimum sizes of the MTUs configured on the nodes along the path to the destination address. This reduces packet fragmentation which contributes to performance problems. The default is not to sweep; all packets are the same size.
  - *sweepMin*—Minimum payload size in the range 0–64000
  - *sweepMax*—Maximum payload size in the range 0–64000
  - *sweepInt*—Number of bytes to add to the size of the packet; the change in the size of subsequent ping packets while sweeping across a range of sizes. For example, you can configure the sweep interval to sweep across the range of packets from 0 bytes to 10,000 bytes in increments of *sweepInt*. By default, send 100, 101, 102, 103...1000. If *sweepInt* is 5, send 100, 105, 110, 115...1000). When “sweeping,” the default interval is 1.
- **pad**—Specifies the type of bits contained in the pad TLV. You can set the bits to all ones, all zeros, a random mixture of ones and zeros, or a specific hexadecimal data pattern, in the range from 0x0–0xFFFFFFFF. The default data pattern is all zeros.
- **reply mode**—Specifies the reply mode for the echo request packet
  - **ipv4-udp**—Specifies that the echo request packet is an IPv4 UDP packet
  - **ipv4-udp-with-router-alert**—Specifies that the echo request packet is an IPv4 UDP packet with the router alert bit set in the header so all routers examine this packet more closely to determine whether further processing is necessary
- **reply pad-tlv**—Requests sender of an echo reply to send a pad TLV
- **trafficClass**—Number in the range 0–255 that represents the value of the traffic class that the sender of an echo reply is requested to set
- **txDelayVal**—Number of milliseconds in the range 1–50 between transmission of each echo request; default value is 10 ms
- **bitValue**—Value of the EXP bits in the range 0–7 included in the MPLS echo request packet
- **bottomLabelTtl**—Time-to-live value of the bottom label in the stack
- **detail**—Displays detailed information about MPLS echo request sent and echo replies received

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced in JUNOS Release 8.0.0.

## ping mpls l3vpn

---

**Description** Sends an MPLS echo request packet to the specified L3VPN IP or IPv6 prefix. There is no **no** version.

**Syntax** ping mpls l3vpn [ vrf *vrfName* ]  
{ *targetAddress targetMask* | *targetIpv6Prefix* }  
[ *destination startIpAddress endIpAddress increment* ]  
[ *source address sourceAddr* ] [ [ *repeat* ] *packetCount* ]  
[ *ttl ttlValue* ] [ *timeout timeOutVal* ]  
[ *data-size dataSize* | *sweep-sizes sweepMin sweepMax sweepInt* ]  
[ *pad* { *ones* | *zeros* | *random* | *hex-data hexData* } ]  
[ *reply mode* { *ipv4-udp* | *ipv4-udp-with-router-alert* } ]  
[ *reply pad-tlv* ] [ *reply dscp trafficClass* ]  
[ *interval txdelayVal* ] [ *exp-bits bitValue* ] [ *bottom-label-ttl bottomLabelTtl* ] [ *detail* ]

- *vrfName*—Name of the VRF context
- *targetAddress*—IP address of the target VPN network
- *targetMask*—Netmask for the target address
- *targetIpv6Prefix*—IPv6 prefix for the target VPN network
- *startIpAddress*—First IP address within the 127.0.0.0/8 destination range
- *endIpAddress*—Last IP address within the 127.0.0.0/8 destination range
- *increment*—Number in the range 0–255 that specifies the increment between addresses in the destination address range
- *sourceAddr*—IP address used as the packet source address
- *repeat*—Specifies that multiple ping packets are sent
- *packetCount*—Number of packets to send to the destination address, in the range 0–4294967295; default value is 5; 0 means ping forever
- *ttlValue*—Hop count specified by setting the time-to-live field in the header, in the range 1–255; default value is 32
- *timeOutVal*—Number of seconds in the range 1–32 to wait for an MPLS echo reply packet before the connection attempt times out
- *dataSize*—Number of bytes comprising the MPLS packet, including the header, in the range 0–64000; default value is 100 bytes

- **sweep-sizes**—Configures payload sizes, enabling you to vary the sizes of the echo packets being sent. This capability is useful for determining the minimum sizes of the MTUs configured on the nodes along the path to the destination address. This reduces packet fragmentation which contributes to performance problems. The default is not to sweep; all packets are the same size.
  - *sweepMin*—Minimum payload size in the range 0–64000
  - *sweepMax*—Maximum payload size in the range 0–64000
  - *sweepInt*—Number of bytes to add to the size of the packet; the change in the size of subsequent ping packets while sweeping across a range of sizes. For example, you can configure the sweep interval to sweep across the range of packets from 0 bytes to 10,000 bytes in increments of *sweepInt*. By default, send 100, 101, 102, 103...1000. If *sweepInt* is 5, send 100, 105, 110, 115...1000). When “sweeping,” the default interval is 1.
- **pad**—Specifies the type of bits contained in the pad TLV. You can set the bits to all ones, all zeros, a random mixture of ones and zeros, or a specific hexadecimal data pattern, in the range from 0x0–0xFFFFFFFF. The default data pattern is all zeros.
- **reply mode**—Specifies the reply mode for the echo request packet
  - *ipv4-udp*—Specifies that the echo request packet is an IPv4 UDP packet
  - *ipv4-udp-with-router-alert*—Specifies that the echo request packet is an IPv4 UDP packet with the router alert bit set in the header so all routers examine this packet more closely to determine whether further processing is necessary
- **reply pad-tlv**—Requests sender of an echo reply to send a pad TLV
- **trafficClass**—Number in the range 0–255 that represents the value of the traffic class that the sender of an echo reply is requested to set
- **txDelayVal**—Number of milliseconds in the range 1–50 between transmission of each echo request; default value is 10 ms
- **bitValue**—Value of the EXP bits in the range 0–7 included in the MPLS echo request packet
- **bottomLabelTtl**—Time-to-live value of the bottom label in the stack
- **detail**—Displays detailed information about MPLS echo request sent and echo replies received

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced in JUNOS Release 8.0.0.

## ping mpls rsvp tunnel

---

**Description** Sends an MPLS echo request packet to the specified RSVP-TE tunnel. There is no **no** version.

**Syntax** ping mpls { traffic-eng | rsvp } [ vrf *vrfName* ] tunnel *tunnelName*  
[ destination *startIpAddress* *endIpAddress* *increment* ]  
[ source address *sourceAddr* ] [ [ repeat ] *packetCount* ]  
[ ttl *ttlValue* ] [ timeout *timeOutVal* ]  
[ data-size *dataSize* | sweep-sizes *sweepMin* *sweepMax* *sweepInterval* *sweepInt* ]  
[ pad { ones | zeros | random | hex-data *hexData* } ]  
[ reply mode { ipv4-udp | ipv4-udp-with-router-alert } ]  
[ reply pad-tlv ] [ reply dscp *trafficClass* ]  
[ interval *txdelayVal* ] [ exp-bits *bitValue* ] [ detail ]

- *traffic-eng*—Specifies optional keyword for compatibility with non-E-series implementations
- *vrfName*—Name of the VRF context
- *tunnelName*—Name of the RSVP-TE tunnel
- *startIpAddress*—First IP address within the 127.0.0.0/8 destination range
- *endIpAddress*—Last IP address within the 127.0.0.0/8 destination range
- *increment*—Number in the range 0–255 that specifies the increment between addresses in the destination address range
- *sourceAddr*—IP address used as the packet source address
- *repeat*—Specifies that multiple ping packets are sent
- *packetCount*—Number of packets to send to the destination address, in the range 0–4294967295; default value is 5; 0 means ping forever
- *ttlValue*—Hop count specified by setting the time-to-live field in the header in the range 1–255; default value is 32
- *timeOutVal*—Number of seconds in the range 1–32 to wait for an MPLS echo reply packet before the connection attempt times out
- *dataSize*—Number of bytes comprising the MPLS packet, including the header, in the range 0–64000; default value is 100 bytes

- **sweep-sizes**—Configures payload sizes, enabling you to vary the sizes of the echo packets being sent. This capability is useful for determining the minimum sizes of the MTUs configured on the nodes along the path to the destination address. This reduces packet fragmentation which contributes to performance problems. The default is not to sweep; all packets are the same size.
  - *sweepMin*—Minimum payload size in the range 0–64000
  - *sweepMax*—Maximum payload size in the range 0–64000
  - *sweepInt*—Number of bytes to add to the size of the packet; the change in the size of subsequent ping packets while sweeping across a range of sizes. For example, you can configure the sweep interval to sweep across the range of packets from 0 bytes to 10,000 bytes in increments of *sweepInt*. By default, send 100, 101, 102, 103...1000. If *sweepInt* is 5, send 100, 105, 110, 115...1000). When “sweeping,” the default interval is 1.
- **pad**—Specifies the type of bits contained in the pad TLV. You can set the bits to all ones, all zeros, a random mixture of ones and zeros, or a specific hexadecimal data pattern, in the range from 0x0–0xFFFFFFFF. The default data pattern is all zeros.
- **reply mode**—Specifies the reply mode for the echo request packet
  - *ipv4-udp*—Specifies that the echo request packet is an IPv4 UDP packet
  - *ipv4-udp-with-router-alert*—Specifies that the echo request packet is an IPv4 UDP packet with the router alert bit set in the header so all routers examine this packet more closely to determine whether further processing is necessary
- **reply pad-tlv**—Requests sender of an echo reply to send a pad TLV
- **trafficClass**—Number in the range 0–255 that represents the value of the traffic class that the sender of an echo reply is requested to set
- **txDelayVal**—Number of milliseconds in the range 1–50 between transmission of each echo request; default value is 10 ms
- **bitValue**—Value of the EXP bits in the range 0–7 included in the MPLS echo request packet
- **detail**—Displays detailed information about MPLS echo request sent and echo replies received

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced in JUNOS Release 8.0.0.

## ping mpls vpls

---

**Description** Sends an MPLS echo request packet to the specified VPLS instance. There is no **no** version.

**Syntax** ping mpls vpls [ vrf *vrfName* ] *vplsName*  
[ sender-site-id *senderSiteId* ] remote-site-id *remoteSiteId*  
[ destination *startIpAddress* *endIpAddress* *increment* ]  
[ source address *sourceAddr* ] [ [ repeat ] *packetCount* ]  
[ ttl *ttlValue* ] [ timeout *timeOutVal* ]  
[ data-size *dataSize* | sweep-sizes *sweepMin* *sweepMax* *sweepInt* ]  
[ pad { ones | zeros | random | hex-data *hexData* } ]  
[ reply mode { ipv4-udp | ipv4-udp-with-router-alert } ]  
[ reply pad-tlv ] [ reply dscp *trafficClass* ]  
[ interval *txdelayVal* ] [ exp-bits *bitValue* ] [ bottom-label-ttl *bottomLabelTtl* ] [ detail ]

- *vrfName*—Name of the VRF context
- *vplsName*—Name of a VPLS instance created with the **bridge vpls transport-virtual-router** command
- *senderSiteId*—Numerical identifier for the site sending the MPLS echo request packet; must be an unsigned 16-bit integer greater than zero that is unique across the VPLS domain
- *remoteSiteId*—Numerical identifier for the site receiving the MPLS echo request packet; must be an unsigned 16-bit integer greater than zero that is unique across the VPLS domain
- *startIpAddress*—First IP address within the 127.0.0.0/8 destination range
- *endIpAddress*—Last IP address within the 127.0.0.0/8 destination range
- *increment*—Number in the range 0–255 that specifies the increment between addresses in the destination address range
- *sourceAddr*—IP address used as the packet source address
- repeat—Specifies that multiple ping packets are sent
- *packetCount*—Number of packets to send to the destination address, in the range 0–4294967295; default value is 5; 0 means ping forever
- *ttlValue*—Hop count specified by setting the time-to-live field in the header, in the range 1–255; default value is 32
- *timeOutVal*—Number of seconds, in the range 1–32 to wait for an MPLS echo reply packet before the connection attempt times out
- *dataSize*—Number of bytes comprising the MPLS packet, including the header, in the range 0–64000; default value is 100 bytes

- **sweep-sizes**—Configures payload sizes, enabling you to vary the sizes of the echo packets being sent. This capability is useful for determining the minimum sizes of the MTUs configured on the nodes along the path to the destination address. This reduces packet fragmentation which contributes to performance problems. The default is not to sweep; all packets are the same size.
  - *sweepMin*—Minimum payload size in the range 0–64000
  - *sweepMax*—Maximum payload size in the range 0–64000
  - *sweepInt*—Number of bytes to add to the size of the packet; the change in the size of subsequent ping packets while sweeping across a range of sizes. For example, you can configure the sweep interval to sweep across the range of packets from 0 bytes to 10,000 bytes in increments of *sweepInt*. By default, send 100, 101, 102, 103...1000. If *sweepInt* is 5, send 100, 105, 110, 115...1000). When “sweeping,” the default interval is 1.
- **pad**—Specifies the type of bits contained in the pad TLV. You can set the bits to all ones, all zeros, a random mixture of ones and zeros, or a specific hexadecimal data pattern, in the range from 0x0–0xFFFFFFFF. The default data pattern is all zeros.
- **reply mode**—Specifies the reply mode for the echo request packet
  - *ipv4-udp*—Specifies that the echo request packet is an IPv4 UDP packet
  - *ipv4-udp-with-router-alert*—Specifies that the echo request packet is an IPv4 UDP packet with the router alert bit set in the header so all routers examine this packet more closely to determine whether further processing is necessary
- **reply pad-tlv**—Requests sender of an echo reply to send a pad TLV
- **trafficClass**—Number in the range 0–255 that represents the value of the traffic class that the sender of an echo reply is requested to set
- **txDelayVal**—Number of milliseconds in the range 1–50 between transmission of each echo request; default value is 10 ms
- **bitValue**—Value of the EXP bits in the range 0–7 included in the MPLS echo request packet
- **bottomLabelTtl**—Time-to-live value of the bottom label in the stack
- **detail**—Displays detailed information about MPLS echo request sent and echo replies received

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced in JUNOS Release 8.0.0.



## policer

---

**Description** Configures token bucket policing to rate limit SRP module traffic flows. The **no** version disables policing for a specific protocol or for all protocols.

**Syntax** `policer protocol protocolValue rate rateSize burst-size burstSize`  
`no policer protocol protocolValue`

- *protocolValue*—Name of the protocol
- *rateSize*—Rate, in packets per second in the range 0–10000
- *burstSize*—Size, in bytes, in the range 0–10000

**Mode** Control Plane Configuration

**Release Information** Command introduced in JUNOS Release 8.0.0.

**Related Topics**

- Rate-Limiting SRP Traffic Flows

## policy-parameter hierarchical

---

**Description** Creates a policy parameter for a hierarchical rate limit. The **no** version removes the policy parameter and its contents.

**Syntax** `policy-parameter parameterName hierarchical`  
`no policy-parameter parameterName`

- *parameterName*—Name of policy parameter

**Mode** Global Configuration

**Release Information** Command introduced in JUNOS Release 8.0.0.

**Related Topics**

- Creating a Classifier Group for a Policy List

## pos description

---

**Description** Assigns a text description or an alias to a POS HDLC interface. Use the **show interfaces pos** command to display the text description. The **no** version removes the description or alias.

**Syntax** `pos description name`  
`no pos description`

- *name*—Text string or alias of up to 80 characters for the POS interface

**Mode** Interface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## pos framing

---

<b>Description</b>	Sets the type of framing for a POS interface. There is no <b>no</b> version.
<b>Syntax</b>	pos framing { sdh   sonet } <ul style="list-style-type: none"> <li>■ sdh—Uses SDH framing format</li> <li>■ sonet—Uses SONET framing format (the default)</li> </ul>
<b>Mode</b>	Interface Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## pos scramble-atm

---

<b>Description</b>	Enables payload scrambling on a POS interface. When enabled, both sides of the connection must be using the scrambling algorithm. The router uses a 43rd-order synchronous scrambler to scramble the output data. Scrambling is enabled by default. The <b>no</b> version disables scrambling on the POS interface.
<b>Syntax</b>	[ no ] pos scramble-atm
<b>Mode</b>	Interface Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## ppp aaa-profile

---

<b>Description</b>	Maps an AAA profile to static and dynamic, multilink and nonmultilink PPP interfaces. The <b>no</b> version removes the AAA profile assignment to the PPP interface.
<b>Syntax</b>	ppp aaa-profile <i>profileName</i> no ppp aaa-profile <ul style="list-style-type: none"> <li>■ <i>profileName</i>—Name of the AAA profile; 32 characters maximum</li> </ul>
<b>Mode</b>	Interface Configuration, Profile Configuration, Subinterface Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## ppp authentication

---

**Description** Requests authentication from a PPP peer router. The **no** version removes the authentication requirement.

**Syntax** `ppp authentication [ virtual-router vrName ] { authProtocol }`  
`no ppp authentication`

- *vrName*—Name of a virtual router to be used as the authentication virtual router
- *authProtocol*—One or more of the following protocols, in order of preference; if the peer router refuses to negotiate the first choice, then the local router requests the next specified protocol, and so on; if the peer router refuses to negotiate authentication, the local router terminates the session
  - `eap`—Specifies EAP authentication protocol
  - `chap`—Specifies CHAP authentication protocol
  - `pap`—Specifies PAP authentication protocol

**Mode** Interface Configuration, Profile Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**eap** keyword added in JUNOS Release 7.3.0.

## ppp chap-challenge-length

---

**Description** Modifies the length of the CHAP challenge by specifying the minimum and maximum allowable length. The **no** version restores the defaults.



**CAUTION:** Do *not* use the **ppp chap-challenge-length** command; increasing the minimum length (from the default 16 bytes) or decreasing the maximum length (from the default 32 bytes) reduces the security of your router.

**Syntax** `ppp chap-challenge-length minLength maxLength`  
`no ppp chap-challenge-length`

- *minLength*—Minimum length of the CHAP challenge in bytes, in the range 8–63; default value is 16 bytes
- *maxLength*—Maximum length of the CHAP challenge in bytes, in the range 8–63; value must be equal to or greater than the minimum length; default value is 32 bytes

**Mode** Interface Configuration, Profile Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## ppp description

---

<b>Description</b>	Assigns a text description or an alias to a static PPP interface. The <b>no</b> version removes the text description or alias.
<b>Syntax</b>	ppp description <i>name</i> no ppp description <ul style="list-style-type: none"> <li>■ <i>name</i>—Text description or alias for the ppp interface; up to 64 characters</li> </ul>
<b>Mode</b>	Interface Configuration, Subinterface Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## ppp dos-protection-group

---

<b>Description</b>	Attaches a PPP denial of service (DoS) protection group to an interface. The <b>no</b> version removes the attachment of the DoS protection group from the interface.
<b>Syntax</b>	ppp dos-protection-group <i>groupName</i> no ppp dos-protection-group <ul style="list-style-type: none"> <li>■ <i>groupName</i>—Name of the DoS protection group; string of up to 31 alphanumeric characters</li> </ul>
<b>Mode</b>	Interface Configuration
<b>Release Information</b>	Command introduced in JUNOS Release 8.1.0.

## ppp fragmentation

---

<b>Description</b>	Enables fragmentation on an MLPPP link interface and optionally specifies the maximum fragment size, in octets, to be used on the link. The <b>no</b> version disables fragmentation on the link and restores the default fragment size, which is the link's MTU.
<b>Syntax</b>	ppp fragmentation [ <i>fragmentSize</i> ] no ppp fragmentation <ul style="list-style-type: none"> <li>■ <i>fragmentSize</i>—Maximum allowable size of the fragment, in the range 128–65535; the default fragment size is the link's MTU</li> </ul>
<b>Mode</b>	Interface Configuration, Profile Configuration, Subinterface Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## ppp hash-link-selection

---

**Description** Enables use of a hash-based algorithm to select the link on which the router transmits high-priority (non-best-effort) packets, such as voice or video, on an MLPPP interface. If hash-based link selection is enabled, the router uses the IP source address and IP destination address of the packet as a hash to select the MLPPP member link on which to transmit the packet. Using the hash-based algorithm instead of the default round-robin algorithm for MLPPP link selection ensures that the router maintains the proper packet order when transmitting high-priority packets. The **no** version restores the default round-robin algorithm for MLPPP link selection.

**Syntax** [ no ] ppp hash-link-selection

**Mode** Interface Configuration, Profile Configuration, Subinterface Configuration

**Release Information** Command introduced in JUNOS Release 7.2.0.

## ppp initiate-ip

---

**Description** Initiates IPv4 for passive clients. By default, PPP creates IP instances when it receives client requests. The **no** version disables initiation.

**Syntax** [ no ] ppp initiate-ip

**Mode** Interface Configuration, Profile Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## ppp initiate-ipv6

---

**Description** Initiates IPv6 for passive clients. By default, PPP creates IPv6 instances when it receives client requests. The **no** version disables initiation.

**Syntax** [ no ] ppp initiate-ipv6

**Mode** Interface Configuration, Profile Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## ppp ipcp netmask

---

**Description** Explicitly enables the IPCP option 0x90 on a per-PPP interface basis, either in a profile or on a static interface. By default, the IPCP option 0x90 is disabled on the interface. The **no** version disables the IPCP option 0x90.

**Syntax** [ no ] ppp ipcp netmask

**Mode** Interface Configuration, Profile Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## ppp keepalive

---

**Description** Specifies a keepalive value. The keepalive mechanism tracks the status of the connection. To restore the default of 30 seconds, enter **ppp keepalive** without a value. High-density mode is automatically selected when PPP is layered over ATM, tunnel, or PPPoE. Low-density mode is selected when PPP is layered over HDLC. The **no** version disables keepalive.

**Syntax** `ppp keepalive [ seconds ]`  
`no ppp keepalive`

- *seconds*—Keepalive timeout period, in the range 30–64800 seconds for high-density mode, 1–64800 seconds for POS uplink interfaces in low-density mode, or 10–64800 seconds for all other HDLC interfaces in low-density mode; default value is 30 seconds

**Mode** Interface Configuration, Profile Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## ppp log

---

**Description** Enables PPP packet or state machine logging on any dynamic interface that uses the profile being configured. The **no** version disables the logging.

**Syntax** `[ no ] ppp log logCategory`

- *logCategory*—One of the following categories
  - `pppPacket`—Enables PPP packet logging
  - `pppStateMachine`—Enables PPP state machine logging

**Mode** Profile Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## ppp magic-number disable

---

**Description** Disables negotiation of the local magic number. Issuing this command prevents the router from detecting loopback configurations. The **no** version enables negotiation.

**Syntax** `[ no ] ppp magic-number disable`

**Mode** Interface Configuration, Profile Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## ppp magic-number ignore-mismatch

---

<b>Description</b>	Causes the router to ignore a mismatch of the Link Control Protocol (LCP) peer magic number and retain the PPP connection when the peer has not negotiated an LCP magic number. The <b>no</b> version restores the default behavior, in which the router terminates the PPP connection if it detects an LCP peer magic number mismatch.
<b>Syntax</b>	[ no ] ppp magic-number ignore-mismatch
<b>Mode</b>	Interface Configuration, Profile Configuration, Subinterface Configuration
<b>Release Information</b>	Command introduced in JUNOS Release 9.0.0.

## ppp max-bad-auth

---

<b>Description</b>	Specifies the maximum number of authentication retries the router accepts before terminating a PPP session. The <b>no</b> version returns the value to the default.
<b>Syntax</b>	ppp max-bad-auth <i>maxBadAuth</i> no ppp max-bad-auth <ul style="list-style-type: none"><li>■ <i>maxBadAuth</i>—Number of authentication retries after which the interface resets itself; in the range 0–7; default value is 0, which indicates that no retries are allowed</li></ul>
<b>Mode</b>	Interface Configuration, Subinterface Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## ppp mru

---

<b>Description</b>	Sets the maximum allowable size in bytes of the maximum receive unit for PPP or MLPPP interfaces. If you issue the command in the context of an encapsulated PPP or MLPPP interface, it affects only that interface. If you issue the command in the context of an MLPPP bundle, it affects all member links within that bundle. The <b>no</b> version restores the default value, the lower-layer MRU minus the PPP header length, which varies according to module type.
<b>Syntax</b>	ppp mru <i>mruSize</i> no ppp mru <ul style="list-style-type: none"><li>■ <i>mruSize</i>—Maximum allowable size of the MRU; number of bytes in the range 64–65535</li></ul>
<b>Mode</b>	Interface Configuration, Profile Configuration, Subinterface Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## ppp multilink enable

---

<b>Description</b>	Enables creation of dynamic MLPPP interfaces when used in a profile. The <b>no</b> version causes the LNS to reject any incoming requests to establish dynamic MLPPP interfaces.
<b>Syntax</b>	[ no ] ppp multilink enable
<b>Mode</b>	Profile Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## ppp passive-mode

---

<b>Description</b>	Forces dynamic and static PPP interfaces into passive mode before LCP negotiation begins for a period of one second, enabling slow clients time to start up and to initiate LCP negotiation. The <b>no</b> version disables passive mode.
<b>Syntax</b>	[ no ] ppp passive-mode
<b>Mode</b>	Interface Configuration, Profile Configuration, Subinterface Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## ppp peer

---

<b>Description</b>	Resolves conflicts when the router and the PPP peer router have the primary and secondary DNS and WINS name server addresses configured with different values. If the PPP peer router has the address and the router does not, the peer always supplies the address regardless of how you have configured the PPP peer. The <b>no</b> version configures the router to take precedence during setup negotiations between the router and the remote personal computer client.
<b>Syntax</b>	[ no ] ppp peer { dns   wins } <ul style="list-style-type: none"> <li>■ dns—Sets the peer to take precedence over the router for resolving conflicts in the DNS primary and secondary addresses</li> <li>■ wins—Sets the peer to take precedence over the router for resolving conflicts in the WINS primary and secondary addresses</li> </ul>
<b>Mode</b>	Interface Configuration, Profile Configuration, Subinterface Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.



## ppp reassembly

---

**Description** Enables reassembly on an MLPPP link interface and optionally specifies the administrative MRRU value, in octets, for the link. The **no** version disables reassembly on the link and restores the default value, which is the link's local MRU.

**Syntax** ppp reassembly [ *mrru* ]  
no ppp reassembly

- *mrru*—Maximum allowable size of the PPP packet payload that the router can receive, in the range 64–65535; default value is the link's local MRU

**Mode** Interface Configuration, Profile Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## ppp shutdown

---

**Description** Stops a PPP session. For MLPPP, issue only in the context of a network interface; the command disables the service for the MLPPP network interface (MLPPP bundle). The **no** version restarts a PPP session.

**Syntax** [ no ] ppp shutdown [ ip | ipv6 | mpls | osi ]

- ip—Disables the IPCP service
- ipv6—Disables the IPv6CP service
- mpls—Disables MPLS service
- osi—Disables the OSINLCP service

**Mode** Interface Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## pppoe

---

<b>Description</b>	<p>In Interface Configuration and Subinterface Configuration modes, creates a PPPoE major interface. The <b>no</b> version removes the interface.</p> <p>In Subscriber Policy Configuration mode, modifies the subscriber policy for PPPoE to define whether the subscriber (client) interfaces that belong to a bridge group or to a VPLS instance forward (permit) or filter (deny) PPPoE packets. The <b>no</b> version restores the default value, permit PPPoE packets.</p> <p>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 the MPLS tunnels from the router to the remote VPLS edge (VE) devices.</p>
<b>Syntax</b>	<p>To create a PPPoE major interface in Interface Configuration mode or in Subinterface Configuration mode:</p> <pre>[ no ] pppoe</pre> <p>To modify the subscriber policy for PPPoE packets in Subscriber Policy Configuration mode:</p> <pre>pppoe { permit   deny }</pre> <pre>no pppoe</pre> <ul style="list-style-type: none"> <li>■ permit—Specifies that the subscriber interface associated with the bridge group or VPLS instance forwards PPPoE packets</li> <li>■ deny—Specifies that the subscriber interface associated with the bridge group or VPLS instance filters PPPoE packets</li> </ul>
<b>Mode</b>	Interface Configuration, Subinterface Configuration, Subscriber Policy Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## pppoe acName

---

<b>Description</b>	Allows you to configure an access concentrator name for a PPPoE interface or profile. If no AC name is configured, the router name is used. The <b>no</b> version removes the access concentrator name.
<b>Syntax</b>	<pre>pppoe acName string</pre> <pre>no pppoe acName</pre> <ul style="list-style-type: none"> <li>■ <i>string</i>—AC name; 64 characters maximum</li> </ul>
<b>Mode</b>	Interface Configuration, Profile Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## pppoe always-offer

---

**Description** Sets up the router to offer to set up a session, even if the router has insufficient resources to establish a session. The **no** version disables this feature, and is the default setting.

**Syntax** [ no ] pppoe always-offer

**Mode** Profile Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## pppoe auto-configure

---

**Description** Configures the router to dynamically create PPPoE subinterfaces over static PPPoE major interfaces. Optionally, specifies the lockout time range for the PPPoE clients associated with the dynamic PPPoE subinterface column on the PPPoE major interface. The **no** version terminates dynamic creation of PPPoE subinterfaces on the static PPPoE major interface.

**Syntax** pppoe auto-configure [ lockout-time { *minValue* *maxValue* | none } ]  
no pppoe auto-configure

- *minValue*—Minimum lockout time, in the range 1–86400 seconds (24 hours)
- *maxValue*—Maximum lockout time, in the range 1–86400 seconds (24 hours)
- none—Disables lockout for the PPPoE clients associated with the dynamic PPPoE subinterface column on the static PPPoE major interface; this is the default value

**Mode** Interface Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**lockout-time** keyword, *minValue* variable, *maxValue* variable, and **none** keyword added in JUNOS Release 7.2.0.

## pppoe clear logout interface

---

**Description** In configurations with dynamic PPPoE subinterfaces over static PPPoE major interfaces, clears the lockout condition configured for the individual PPPoE client associated with the specified source media access control (MAC) address. There is no **no** version.

**Syntax** `pppoe clear logout interface interfaceType interfaceSpecifier macAddress`

- *interfaceType*—One of the following interface types listed in *Interface Types and Specifiers* in *About This Guide*:
  - atm
  - fastEthernet
  - gigabitEthernet
  - lag
  - serial—PPPoE is not currently supported on serial interfaces
  - tenGigabitEthernet
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *macAddress*—Source MAC address of the PPPoE client; a unique 48-bit (6-byte) number that is programmed into each LAN network interface card (NIC) at the time of manufacture; also known as a hardware address or physical address. The MAC address format is a dotted triple of four-digit hexadecimal numbers; for example, 0090.1a40.4c7c

**Mode** Privileged Exec

**Release Information** Command introduced in JUNOS Release 7.2.0.

## pppoe dos-protection-group

---

**Description** Attaches a PPPoE denial of service (DoS) protection group to an interface. The **no** version removes the attachment of the DoS protection group from the interface.

**Syntax** `pppoe dos-protection-group groupName`  
`no pppoe dos-protection-group`

- *groupName*—Name of the DoS protection group; string of up to 31 alphanumeric characters

**Mode** Interface Configuration

**Release Information** Command introduced in JUNOS Release 8.1.0.

## pppoe duplicate-protection

---

**Description** Sets up the router to prevent a client from establishing more than one session using the same MAC address. The **no** version disables this feature, and is the default setting.

**Syntax** [ no ] pppoe duplicate-protection

**Mode** Profile Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## pppoe log pppoeControlPacket

---

**Description** Enables packet trace logging on PPPoE dynamic interfaces that are created with the profile being configured. Packet trace information is logged to the pppoeControlPacket log. The **no** version disables the logging.

**Syntax** [ no ] pppoe log pppoeControlPacket

**Mode** Profile Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## pppoe motm

---

**Description** Causes the PPPoE application to send a PADM message of the minute message. The **no** version disables the message.

The recipient of the message is determined by the mode from which the command is issued. From Privileged Exec mode the message is sent to all PPPoE clients connected to the router; from Interface Configuration mode the PADM message is sent to the client as it is configured (if connected); and from Profile Configuration mode the message is sent to the new client created when the profile is dynamically attached to an IP interface. The MOTM string is passed with no changes.

**Syntax** pppoe motm *string*  
no pppoe motm

- *string*—Message sent

**Mode** Interface Configuration, Privileged Exec, Profile Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## pppoe mtu

---

- Description** Enables you to control the deployment of larger packet sizes. The **no** version restores the default behavior, which specifies a maximum MTU value.
- Syntax** `pppoe mtu { maximumMtu | use-lower-layer | use-mtu-tag }`  
`no pppoe mtu`
- *maximumMtu*—Maximum transfer unit parameter in bytes, in the range 66-65535 with the default value 1494
  - *use-lower-layer*—Specifies use of the lower layer interface value minus any PPPoE overhead
  - *use-mtu-tag*—Specifies use of the provided PPPoE mtu tag value
- Mode** Interface Configuration, Profile Configuration, Subinterface Configuration
- Release Information** Command introduced in JUNOS Release 7.1.0.

## pppoe pads disable-ac-info

---

- Description** Prevents the router from sending the AC-Name and AC-Cookie tags in the PPPoE Active Discovery Session (PADS) packet. The **pppoe pads disable-ac-info** command affects PADS packets sent on all PPPoE interfaces configured on the router after the command is issued; it has no effect on previously created PPPoE interfaces. The **no** version restores the default behavior, which is to send the AC-Name and AC-Cookie tags in the PADS packet.
- Syntax** `[ no ] pppoe pads disable-ac-info`
- Mode** Global Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.

## pppoe profile

---

**Description** Assigns a profile to a static PPPoE major interface. The profile configuration is used to dynamically configure an upper bridged Ethernet, IP, PPP, and/or PPPoE interface. The **no** version removes the profile assignment from the interface.

**Syntax** [ no ] pppoe profile [ bridgedEthernet | ip | ppp | pppoe | any ] *profileName*

- bridgedEthernet—Specifies a bridged Ethernet encapsulation type to which the profile applies
- ip—Specifies an IP encapsulation type to which the profile applies
- ppp—Specifies a PPP encapsulation type to which the profile applies
- pppoe—Specifies a PPPoE encapsulation type to which the profile applies
- any—Specifies any autoconfigured encapsulation that does not have a specific profile assignment
- *profileName*—Profile name of up to 80 characters

**Mode** Interface Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## pppoe remote-circuit-id

---

**Description** Enables a static or dynamic PPPoE interface on the router to capture and process a vendor-specific tag containing a remote circuit ID transmitted from a DSLAM device. The router can then send this value to a RADIUS server or to an L2TP network server (LNS) to uniquely identify subscriber locations. The **no** version restores the default behavior, which is not to capture and process the remote circuit ID.

**Syntax** [ no ] pppoe remote-circuit-id

**Mode** Interface Configuration, Profile Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## pppoe service-name-table

---

**Description** From Interface Configuration or Subinterface Configuration mode, assigns a PPPoE service name table to a PPPoE major interface for use by a static ATM or Ethernet interface. The **no** version removes the PPPoE service name table assignment.

From Profile Configuration mode, assigns a PPPoE service name table to a profile for use by the dynamic PPPoE interface column associated with the profile. The **no** version removes the PPPoE service name table assignment.

**Syntax** `pppoe service-name-table tableName`  
`no pppoe service-name-table`

- *tableName*—Name of the PPPoE service name table; string of up to 31 alphanumeric characters

**Mode** Interface Configuration, Profile Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## pppoe-service-name-table

---

**Description** Creates a PPPoE service name table and accesses PPPoE Service Name Table Configuration mode, which enables you to configure entries for the PPPoE service name table. PPPoE clients use the entries in a PPPoE service name table to request that an AC, such as an E-series router, support certain services. The **no** version removes the specified PPPoE service name table from the router.

**Syntax** `[ no ] pppoe-service-name-table tableName`

- *tableName*—Name of the PPPoE service name table; string of up to 31 alphanumeric characters

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.



## pppoe sessions

---

**Description** Specifies the number of subinterfaces permitted on a PPPoE interface. The command affects only subinterfaces that are created *after* the command is entered. *Previously* created interfaces remain, even if their number exceeds the new value of the parameter. The **no** version restores the default value, 8000 (ERX routers) and 16,000 (E120 and E320 routers).

**Syntax** pppoe sessions *sessions*  
no pppoe sessions

- *sessions*—Number of subinterfaces permitted on the interface in the range 1–8000 (ERX routers) or 1–16,000 (E120 and E320 routers); default value is 8000 (ERX routers) or 16,000 (E120 and E320 routers)

**Mode** Interface Configuration, Profile Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## pppoe subinterface

---

**Description** Creates a PPPoE subinterface on the specified interface. The **no** version removes the interface.

**Syntax** [ no ] pppoe subinterface *interfaceType interfaceSpecifier*

- *interfaceType*—One of the following interface types listed in *Interface Types and Specifiers* in *About This Guide*:
  - atm
  - fastEthernet
  - gigabitEthernet
  - lag
  - serial—PPPoE is not currently supported on serial interfaces
  - tenGigabitEthernet
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## pppoe url

---

<b>Description</b>	Causes the PPPoE application to send a string to the new client. The <b>no</b> version disables the message.  The recipient of the message is determined by the mode from which the command is issued. From Interface Configuration mode the PADM message is sent to the client as it is configured (if connected). From Profile Configuration mode the message is sent to the new client created when the profile is dynamically attached to an IP interface.
<b>Syntax</b>	pppoe url <i>url</i> no pppoe url ■ <i>url</i> —URL string sent
<b>Mode</b>	Interface Configuration, Profile Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## pre-authenticate

---

<b>Description</b>	Configures an AAA profile to support RADIUS preauthentication. During the preauthentication process, the router sends an Access-Request message to a RADIUS preauthentication server to obtain an AAA logical line identifier (LLID) for each subscriber. In response, the preauthentication server returns the LLID in the RADIUS Calling-Station-Id [31] attribute of an Access-Accept message. The <b>no</b> version removes preauthentication support from the AAA profile.
<b>Syntax</b>	[ no ] pre-authenticate
<b>Mode</b>	AAA Profile Configuration
<b>Release Information</b>	Command introduced in JUNOS Release 8.1.0.

## preference

---

<b>Description</b>	Specifies the preference value for an L2TP tunnel. The <b>no</b> version restores the default value, 0.
<b>Syntax</b>	preference <i>tunnelPreference</i> no preference ■ <i>tunnelPreference</i> —Tunnel preference, in the range 0–2000; 0 is the highest preference
<b>Mode</b>	Domain Map Tunnel Configuration, Tunnel Group Tunnel Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## pre-share

---

**Description** Configures an unencrypted (red) preshared key. The router uses this key to authenticate IKE negotiations that arrive from any remote IP address specified for this transport profile and that are destined for the local IP address specified. The **no** version removes the key.



**NOTE:** To have preshared key authentication take place, you must also specify the IKE policy rule as preshared by issuing the **authentication pre-share** command in ISAKMP Policy Configuration mode.

**Syntax** pre-share key  
no pre-share

- *key*—Key value in ASCII format

**Mode** Local IPSec Transport Profile Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## pre-share-masked

---

**Description** Specifies an encrypted (black) preshared key. The router uses this key to authenticate IKE negotiations that arrive from any remote IP address specified for this transport profile and that are destined for any local IP address specified for this transport profile. There is no **no** version. To remove a key, use the **no pre-share** command.



**NOTE:** To have preshared key authentication take place, you must also specify the IKE policy rule as preshared by issuing the **authentication pre-share** command in ISAKMP Policy Configuration mode.

**Syntax** pre-share-masked key

- *key*—Encrypted key value; to obtain this value, enter the unencrypted key using the **pre-share** command and then display the encrypted version of the key using the **show config** command

**Mode** Local IPSec Transport Profile Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## priority burst

---

**Description** Sets the burst size for each priority. The **no** version returns to the default value.

**Syntax** *priority priorityValue burst burstSize*  
**no** *priority priorityValue burst*

- *priorityValue*—Hi-Green-IC, Hi-Green-SC, Hi-Yellow-IC, Hi-Yellow-SC, Lo-Green-IC, Lo-Green-SC, Lo-Yellow-IC, Lo-Yellow-SC
- *burstSize*—Number of packets, in the range 32–65535; 0 denotes no burst size: default value is equal to half of the configured maximum rate

**Mode** DoS Protection Group Configuration

**Release Information** Command introduced in JUNOS Release 8.1.0.

## priority over-subscription-factor

---

**Description** Sets the oversubscription value for each priority rate limiter. The **no** version returns to the default value.

**Syntax** *priority priorityValue over-subscription-factor oversubscriptionValue*  
**no** *priority priorityValue over-subscription-factor*

- *priorityValue*—Hi-Green-IC, Hi-Green-SC, Hi-Yellow-IC, Hi-Yellow-SC, Lo-Green-IC, Lo-Green-SC, Lo-Yellow-IC, Lo-Yellow-SC
- *oversubscriptionValue*—Percentage of packets in the range 100–1000; default value is 500

**Mode** DoS Protection Group Configuration

**Release Information** Command introduced in JUNOS Release 8.1.0.

## priority rate

---

**Description** Sets the rate for each priority. The **no** version returns to the default value.

**Syntax** *priority priorityValue rate rateValue*  
**no** *priority priorityValue rate*

- *priorityValue*—Hi-Green-IC, Hi-Green-SC, Hi-Yellow-IC, Hi-Yellow-SC, Lo-Green-IC, Lo-Green-SC, Lo-Yellow-IC, Lo-Yellow-SC
- *rate*—Packets per second, in the range 64–65535

**Mode** DoS Protection Group Configuration

**Release Information** Command introduced in JUNOS Release 8.1.0.

## privilege

---

**Description** Assigns a privilege level to the specified command that appears in the specified mode. The **no** version sets the privilege level for the command to its default value and displays the default privilege level in the **show configuration** output.



**NOTE:** You must access the CLI at privilege level 15 to view or use this command. You cannot modify the privilege level of this command.

**Syntax** `privilege mode [ all ] level levelValue commandPrefix`  
`no privilege mode [ all ] [ level levelValue ] commandPrefix`

- *mode*—Mode in which the command appears; for example, User Exec mode, Global Configuration mode, Router Configuration mode
- *all*—Specifies that this command assigns the specified privilege level to all commands in the specified mode and/or to all commands that match the specified command prefix
- *levelValue*—Level, in the range 0–15, at which you want the command to be accessible
- *commandPrefix*—Command prefix that you want to change; can be a partial keyword, the starting keyword(s) of a command, or a complete command

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## privilege-group alias

---

**Description** Gives the privilege group name alias to the privilege group. The **no** version removes the privilege group alias.



**NOTE:** You must access the CLI at privilege level 15 to view or use this command. You cannot modify the privilege level of this command.

**Syntax** `[ no ] privilege-group alias`

**Mode** Global Configuration

**Release Information** Command introduced in JUNOS Release 8.0.0.

## privilege-group membership

---

**Description** Adds a member group to or removes a member group from a privilege group. The **no** version restores one or all privilege groups to the default settings. When all privilege groups are reset to default settings, the privilege group membership is hierarchical.



**NOTE:** You must access the CLI at privilege level 15 to view or use this command. You cannot modify the privilege level of this command.

**Syntax** `privilege-group membership privilegeGroup privilegeGroupName [ add | remove ] memberGroup memberGroupName`

`no privilege-group membership privilegeGroup`

- *privilegeGroupName*—Privilege group name
- *memberGroupName*—Member group name

**Mode** Global Configuration

**Release Information** Command introduced in JUNOS Release 8.0.0.

## privilege-group membership clear

---

**Description** Clears a privilege group or all members from a privilege group. There is no **no** version.



**NOTE:** You must access the CLI at privilege level 15 to view or use this command. You cannot modify the privilege level of this command.

**Syntax** `privilege-group membership clear privilegeGroup privilegeGroupName`

- *privilegeGroupName*—Privilege group name

**Mode** Global Configuration

**Release Information** Command introduced in JUNOS Release 8.0.0.

## privilege level

---

**Description** Sets the default login privilege level of the console line or one or more vty lines. The **no** version restores the default login privilege level for the command.



**NOTE:** You must access the CLI at privilege level 15 to view or use this command.

---

**Syntax** `privilege level levelValue`

`no privilege level`

- *levelValue*—Level in the range 0–15 at which you want the command accessible

**Mode** Line Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## privilege reset

---

**Description** Restores the privilege level of the command. After issuing this command, the **show configuration** output does not display the default privilege setting of the command. There is no **no** version.

**Syntax** `privilege mode [ all ] reset commandPrefix`

- *mode*—Mode in which the command appears; for example, User Exec mode, Global Configuration mode, Router Configuration mode
- *all*—Specifies that this command assigns the specified privilege level to all commands in the specified mode and/or to all commands that match the specified command prefix
- *reset*—Restores the privilege level of the command to its default
- *commandPrefix*—Command prefix for which you want to restore its default privilege level; can be a partial keyword, the starting keyword(s) of a command, or a complete command

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## profile

---

**Description** When used from Global Configuration mode, creates a profile. Use profiles to configure interfaces dynamically, which enables you to manage a large number of interfaces effectively. The **no** version removes the profile.

When used from Interface Configuration mode and Subinterface Configuration mode, assigns a profile to an interface. Use profiles to configure interfaces dynamically, which enables you to manage a large number of interfaces effectively. The **no** version removes the profile assigned to the interface.

When used in IP Tunnel Destination Profile Configuration mode, defines an IP profile with parameters that are used to stack an upper IP interface over a dynamic GRE or DVMRP tunnel. The **no** version removes the IP profile from the destination profile.

When used from L2TP Destination Profile Host Configuration mode, sets an attribute of the current remote host. The **no** version removes the attribute from the remote host.

**Syntax** To assign a profile name for a remote host:

[ no ] *profile profileName*

To create a profile or assign a profile to an interface:

*profile* [ bridgedEthernet | ip | l2tp | ppp | pppoe | vlan | any ] *profileName*

*no profile* [ bridgedEthernet | ip | l2tp | ppp | pppoe | vlan | any ]

- *bridgedEthernet*—Specifies a bridged Ethernet encapsulation type to which the profile applies
- *ip*—Specifies an IP encapsulation type to which the profile applies
- *l2tp*—Specifies an L2TP encapsulation type to which the profile applies
- *ppp*—Specifies a PPP encapsulation type to which the profile applies
- *pppoe*—Specifies a PPPoE encapsulation type to which the profile applies
- *vlan*—Specifies a VLAN encapsulation type to which the profile applies
- *any*—Specifies any autoconfigured encapsulation that does not have a specific profile assignment
- *profileName*—Profile name of up to 80 characters

**Mode** Global Configuration, Interface Configuration, IP Tunnel Destination Profile Configuration, L2TP Destination Profile Host Configuration, Subinterface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**vlan** keyword added in JUNOS Release 7.1.0.  
 IP Tunnel Destination Profile Configuration mode added in JUNOS Release 8.2.0.



## profile atm1483 bulk-config-name

---

**Description** Assigns the base profile configured for a dynamic ATM 1483 subinterface to the VC range configured on a static ATM AAL5 interface with the **atm bulk-config** command. The **no** version removes the profile assignment.

**Syntax** profile atm1483 bulk-config-name *bulkConfigName* *profileName*  
no profile atm1483 bulk-config-name *bulkConfigName*

- *bulkConfigName*—Name associated with the VC range on the static ATM AAL5 interface, as specified in the **atm bulk-config** command
- *profileName*—Base profile name associated with the dynamic ATM 1483 subinterface

**Mode** Interface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## profile atm1483 bulk-config-name pvc

---

**Description** Assigns an overriding profile to a single ATM PVC that exists within a VC subrange previously configured with the **atm bulk-config** command. The **profile atm1483 bulk-config-name pvc** command enables you to troubleshoot the specified PVC by overriding the currently assigned base profile with one that has debugging attributes enabled. After the overriding profile is assigned, it is used instead of the previously assigned base profile to create any ATM 1483 dynamic subinterface columns over the specified PVC. The **no** version removes the overriding profile assignment for the PVC and restores the original base profile assignment.

**Syntax** profile atm1483 bulk-config-name *bulkConfigName* pvc *vpi vci overrideProfileName*  
no profile atm1483 bulk-config-name *bulkConfigName* pvc *vpi vci*

- *bulkConfigName*—Name associated with the VC range configured for use by a dynamic ATM 1483 subinterface, as specified in the **atm bulk-config** command
- *vpi*—Virtual path identifier of the PVC; must exist between the starting VPI value and ending VPI value of a bulk-configured VC subrange
- *vci*—Virtual circuit identifier of the PVC; must exist between the starting VCI value and ending VCI value of a bulk-configured VC subrange
- *overrideProfileName*—Name of the profile that overrides the previously assigned base profile for the specified ATM PVC

**Mode** Interface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## profile-reassign

---

**Description** Reassigns the profile currently assigned to the specified encapsulation type for the specified ATM 1483 subinterface. For troubleshooting purposes, the **profile-reassign** command enables you to “swap” the currently assigned profile for one that has PPP or PPPoE packet-logging attributes enabled. There is no **no** version.



**NOTE:** Issuing the **profile-reassign** command causes the router to tear down any dynamic interfaces that exist above the ATM 1483 subinterface. After the profile is reassigned, the router restores the interfaces based on the necessary client reconnections.

**Syntax** `profile-reassign atm interfaceSpecifier { ppp | pppoe | any } profileName`

- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- ppp—Specifies a PPP encapsulation type to which the profile applies
- pppoe—Specifies a PPPoE encapsulation type to which the profile applies
- any—Specifies any autoconfigured encapsulation that does not have a specific profile assignment; valid only if neither the ppp encapsulation type nor the pppoe encapsulation type has an existing profile assignment
- *profileName*—Profile name of up to 80 characters

**Mode** Privileged Exec (at privilege level 5 or higher)

**Release Information** Command introduced before JUNOS Release 7.1.0.

## profile vlan bulk-config

---

**Description** Assigns the base profile configured for a dynamic VLAN subinterface to the VLAN range configured on a static VLAN major interface with the **vlan bulk-config** command. The **no** version removes the base profile assignment.

**Syntax** `profile vlan bulk-config bulkConfigName profileName`  
`no profile vlan bulk-config bulkConfigName`

- *bulkConfigName*—Name of the VLAN range; string of up to 80 characters
- *profileName*—Profile name of up to 80 characters

**Mode** Interface Configuration

**Release Information** Command introduced in JUNOS Release 7.3.0.

## profile vlan override bulk-config

---

- Description** Assigns an overriding profile to a single-tagged VLAN ID or double-tagged S-VLAN ID that exists within a VLAN subrange previously configured with the **vlan bulk-config** command. The **profile vlan override bulk-config** command enables you to assign a special profile for the subscribers associated with a specific DSLAM. After the overriding profile is assigned, it is used instead of the previously assigned base profile to create any VLAN dynamic subinterface columns over the specified VLAN ID or double-tagged S-VLAN ID. The **no** version removes the overriding profile assignment for the VLAN ID or double-tagged S-VLAN ID and restores the original base profile assignment.
- Syntax** To configure an override for a single-tagged VLAN ID:  
`profile vlan override bulk-config bulkConfigName vlan vlanIdValue overrideProfileName`
- To configure an override for a double-tagged S-VLAN ID:  
`profile vlan override bulk-config bulkConfigName svlan s-vlanIdValue { vlanIdValue | any } overrideProfileName`
- To remove the profile override assignment:  
`no profile vlan override bulk-config bulkConfigName { svlan s-vlanId | vlan } { vlanId | any }`
- *bulkConfigName*—Name of the VLAN range; string of up to 80 characters
  - *s-vlanIdValue*—S-VLAN ID number, in the range 0–4095
  - *vlanIdValue*—VLAN ID number, in the range 0–4095
  - *overrideProfileName*—Name of the profile for which you want to assign an override
  - *any*—Specifies the VLAN ID as a wildcard
- Mode** Interface Configuration
- Release Information** Command introduced in JUNOS Release 7.1.0.  
**bulk-config** keyword and *bulkConfigName* variable added in JUNOS Release 7.3.0.

## protocol burst

---

- Description** Sets the burst size for the protocol. The **no** version sets the value to the default packet value, which is equal to half of the configured maximum rate.
- Syntax** `protocol protocolValue burst burstSize`  
`no protocol protocolValue burst`
- *protocolValue*—Name of the protocol
  - *burstSize*—Number of packets, in the range 32–65535; default value is one half the maximum rate
- Mode** DoS Protection Group Configuration
- Release Information** Command introduced in JUNOS Release 8.1.0.

## protocol drop-probability

---

**Description** Sets the drop probability for the protocol. The **no** version sets the drop probability value to the drop probability specified in the associated preconfigured group.

**Syntax** protocol *protocolValue* drop-probability *dropValue*  
no protocol *protocolValue* drop-probability

- *protocolValue*—Name of the protocol
- *dropValue*—Percentage, in the range 10–100; default value is 100

**Mode** DoS Protection Group Configuration

**Release Information** Command introduced in JUNOS Release 8.1.0.

## protocol priority

---

**Description** Sets the priority of the protocol. The **no** version sets the priority value to the priority value specified in the associated preconfigured group.

**Syntax** protocol *protocolValue* priority *priorityValue*  
no protocol *protocolValue* priority

- *protocolValue*—Name of the protocol
- *priorityValue*—dataPath, Hi-Green, Hi-Yellow, Lo-Green, Lo-Yellow

**Mode** DoS Protection Group Configuration

**Release Information** Command introduced in JUNOS Release 8.1.0.

## protocol rate

---

**Description** Sets the maximum rate for the specified protocol. The **no** version sets the rate to the value of the associated preconfigured protocol.

**Syntax** protocol *protocolValue* rate *rateValue*  
no protocol *protocolValue* rate

- *protocolValue*—Name of the protocol
- *rateValue*—Packets per second per line card, in the range 64–65335

**Mode** DoS Protection Group Configuration

**Release Information** Command introduced in JUNOS Release 8.1.0.

## protocol shutdown

---

<b>Description</b>	Disables the IS-IS protocol without removing the IS-IS configuration. The <b>no</b> version reenables the IS-IS protocol.
<b>Syntax</b>	[ no ] protocol shutdown
<b>Mode</b>	Router Configuration
<b>Release Information</b>	Command introduced in JUNOS Release 7.3.0.

## protocol skip-priority-rate-limiter

---

<b>Description</b>	Configures the protocol to skip or not skip the priority rate limiter. The <b>no</b> version sets the value to the default, which is do not skip priority rate limiter.
<b>Syntax</b>	[ no ] protocol <i>protocolValue</i> skip-priority-rate-limiter <ul style="list-style-type: none"><li>■ <i>protocolValue</i>—Name of the protocol</li></ul>
<b>Mode</b>	DoS Protection Group Configuration
<b>Release Information</b>	Command introduced in JUNOS Release 8.1.0.

## protocol weight

---

<b>Description</b>	Sets the weight for the protocol and affects all protocols in group. The <b>no</b> version sets the weight to the value specified in the associated preconfigured group.
<b>Syntax</b>	protocol <i>protocolValue</i> weight <i>weightValue</i> no protocol <i>protocolValue</i> weight <ul style="list-style-type: none"><li>■ <i>protocolValue</i>—Name of the protocol</li><li>■ <i>weightValue</i>—Number relative to 100 in the range 100–500</li></ul>
<b>Mode</b>	DoS Protection Group Configuration
<b>Release Information</b>	Command introduced in JUNOS Release 8.1.0.

**pvc**

**Description** From Interface Configuration mode, creates a control PVC that supports ILMI services. To create a control PVC, you must specify the VCD, VPI, VCI, and the **ilmi** encapsulation type. The **no** version removes the specified control PVC from the router.

From Subinterface Configuration mode, creates a data PVC and accesses ATM VC Configuration mode, from which you can configure and modify individual PVC attributes one at a time. To create a data PVC, you must specify the VCD, VPI, and VCI. The **no** version removes the specified data PVC from the router.

**Syntax** To create a control PVC from Interface Configuration mode:

```
pvc vcd vpi/vci ilmi
```

```
no pvc vcd
```

To create a data PVC from Subinterface Configuration mode and access ATM VC Configuration mode:

```
pvc vcd vpi/vci
```

```
no pvc vcd
```

- *vcd*—Virtual circuit descriptor that is an identifier for the VC in other commands; number, in the range 1–2147483647
- *vpi*—Virtual path identifier for this PVC. The numeric range depends on the module capabilities and current configuration.
- *vci*—Virtual circuit identifier for this PVC. The numeric range depends on the module capabilities and current configuration. For control PVCs, the recommended VCI value is 16 for **ilmi** encapsulation and 5 for **qsaal** encapsulation. The VCI value cannot be 0.
- **ilmi**—Configures Integrated Local Management Interface encapsulation for a control PVC

**Mode** Interface Configuration, Subinterface Configuration

**Release Information** Command introduced in JUNOS Release 7.1.0.

## qos-adaptive-mode

---

**Description** Enables ANCP to dynamically create QoS parameter instances associated with the ANCP downstream rate application. ANCP also determines the value the system uses when recalculating the QoS shaping rate. The values of the parameter instances track the bandwidth of the local loop that is communicated by ANCP. The **no** version disables QoS adaptive mode.

**Syntax** [ no ] qos-adaptive-mode

**Mode** Layer 2 Control Configuration

**Release Information** Command introduced in JUNOS Release 7.2.0.

## qos-mode-port

---

**Description** Configures an ATM port for per-port queuing. The **no** version restores the default integrated mode, removing per-port queuing from the ATM port; in this state, shaping done by the SAR is controlled by ATM.

**Syntax** [ no ] qos-mode-port [ low-cdv | low-latency ]

- low-cdv—HRR scheduler and SAR scheduler operate in concert. The SAR runs with more buffering than in low-latency mode, shaping rates are driven by QoS profiles, VC backpressure is disabled, and lenient port backpressure is enabled.
- low-latency—Shaping done by the SAR is controlled by QoS. The HRR scheduler controls the traffic rate. The SAR runs with minimal buffering, VC backpressure is disabled, and aggressive port backpressure is enabled. This is the behavior enforced if you do not specify an option.

**Mode** Interface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

### Related Topics

- Integrating the HRR Scheduler and SAR Scheduler
- Configuring Default Integrated Mode for ATM Interfaces
- Configuring Low-Latency Mode for Per-Port Queuing on ATM Interfaces
- Configuring Low-CDV Mode for Per-Port Queuing on ATM Interfaces
- Disabling Per-Port Queuing on ATM Interfaces

## qos-parameter

---

**Description** In Global Configuration mode, creates a QoS parameter instance and assigns a value to the parameter. A global parameter instance is typically used to provide a global default for a parameter value. The **no** version deletes the parameter instance.

In Interface Configuration mode, creates a parameter instance, assigns a value to the parameter, and attaches the parameter instance to the interface. The **no** version detaches the parameter instance from the interface.

In Profile Configuration mode, creates a parameter instance command in a profile for use with Service Manager. When the service is activated, the parameter instances are created for the subscriber interface. The **no** version removes the parameter instance command from the profile.

**Syntax** In Global Configuration and Interface Configuration modes:  
`qos-parameter qosParameterInstanceName qosParameterInstanceValue`  
`no qos-parameter`

In Profile Configuration mode:

`qos-parameter qosParameterInstanceName [ qosParameterInstanceValue |  
add qosParameterAddValue [ initial-value qosParameterInitialValue ] ]`

`no qos-parameter qosParameterInstanceName [ add ]`

- *qosParameterInstanceName*—Name of the QoS parameter instance
- *qosParameterInstanceValue*—Number of the rate for the parameter instance; the default value is the minimum value defined in the parameter definition
- *qosParameterAddValue*—Number of the rate that is added to an existing parameter instance
- *qosParameterInitialValue*—Number of the initial rate of a newly created parameter instance

**Mode** Global Configuration, Interface Configuration, Profile Configuration

**Release Information** Command introduced in JUNOS Release 7.1.0.  
**add** and **initial-value** keywords added in JUNOS Release 7.2.0.  
Profile Configuration mode added in JUNOS Release 7.2.0.

### Related Topics

- Creating Parameter Instances



## qos-parameter-define

---

**Description** Specifies a QoS parameter name and accesses QoS Parameter Definition mode. The **no** version deletes the QoS parameter definition.

**Syntax** [ no ] qos-parameter-define *qosParameterDefinitionName*  
[ application *applicationName* ] [ hierarchical ]

- *qosParameterDefinitionName*—Name of the parameter definition
- *applicationName*—Name of the application that you want to associate with the parameter definition:
  - ip-multicast—Specifies the IP multicast bandwidth adjustment application. You must also specify the **hierarchical** keyword when you specify this application.
  - byte-adjustment—Specifies the byte adjustment application, which enables you to adjust the shaping rate to account for different layer 2 encapsulations. If you have configured the QoS shaping mode as cell, the system adjusts the shaping rate to account for the ATM cell pad, header, and trailer.
  - qos-cell-mode—Specifies the QoS cell mode application, which enables you to configure the operational shaping mode (frame or cell) for ATM, Gigabit Ethernet, or 10-Gigabit Ethernet interfaces.
  - qos-downstream-rate—Specifies the QoS downstream rate application, which enables you to adjust the downstream rate of VLANs and ATM VCs based on parameter instances that are created dynamically by ANCP or AAA. The values of the parameter instances track the bandwidth of the local loop that are communicated by ANCP.
- hierarchical—Specifies that the parameter instance is hierarchical. Hierarchical parameters have explicit instances that are associated with the logical interfaces of instance-interface types, as well as implicit instances that are associated with the logical interfaces of controlled-interface types. The system computes the values of an implicit instance as the sum of the values of the explicit instances stacked above the implicit instance.

**Mode** Global Configuration

**Release Information** Command introduced in JUNOS Release 7.1.0.

### Related Topics

- Configuring a Basic Parameter Definition for QoS Administrators
- Configuring a Parameter Definition to Calculate Hierarchical Instances
- Configuring a Parameter Definition for IP Multicast Bandwidth Adjustment
- Configuring a Parameter Definition to Shape Ethernet Traffic Using Cell Mode
- Configuring a Parameter Definition for Byte Adjustment
- Configuring a Parameter Definition for QoS Downstream Rate

## qos-port-type-profile

---

**Description** Associates a QoS profile with all the ports of a given interface type. There is no **no** version for this command.

**Syntax** `qos-port-type-profile typeOfInterface qos-profile qosProfileName`

- *typeOfInterface*—One of the following interface types to be associated with the QoS port-type profile; atm, ethernet, lag, serial, server-port
- *qosProfileName*—Name of the QoS profile

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**lag** keyword added in JUNOS Release 8.1.0.

### Related Topics

- Attaching a QoS Profile to an Interface
- Enabling Default Subscriber Load Balancing for 802.3ad Link Aggregation Groups

## qos-profile

---

**Description** In Global Configuration mode, creates a QoS profile on the router and enters QoS Profile Configuration mode. The **no** version deletes the QoS profile.

In Interface Configuration mode, attaches a QoS profile to an interface. The **no** version detaches the QoS profile from the interface.

In Profile Configuration mode, adds a QoS profile command for use with Service Manager. When the service is activated, the QoS profile is created and attached to the subscriber interface. The **no** version removes the QoS profile from the profile.

**Syntax** `[ no ] qos-profile qosProfileName`

- *qosProfileName*—Name of the QoS profile

**Mode** Global Configuration, Interface Configuration, Profile Configuration

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

### Related Topics

- Configuring a QoS Profile
- Attaching a QoS Profile to an Interface
- Configuring Shadow Nodes
- Configuring a Basic Parameter Definition for QoS Administrators
- Creating Parameter Instances

## qos-shaping-mode

---

**Description** Specifies either cell-based or frame-based traffic shaping for ATM, Gigabit Ethernet, or 10-Gigabit Ethernet interfaces. The shaping mode is configured for a major interface and affects scheduling for all nodes and queues stacked above the interface. In cell shaping mode, queues and nodes are scheduled as if they were ATM cells. All newly configured ports use the shaping mode from port 0; frame is the default shaping mode for port 0. If you do not specify an option, the command restores the default, frame. The **no** version restores the default, frame.

**Syntax** [ no ] qos-shaping-mode [ cell | frame ]

- cell—Shapes traffic based on the number of bytes in a cell, and accounts for ATM cell encapsulation and padding overhead
- frame—Shapes traffic based on the number of bytes in a frame, without considering cell encapsulation and padding overhead; the default shaping mode for port 0

**Mode** Interface Configuration

**Release Information** Command introduced before JUNOSe Release 7.1.0.

### Related Topics

- Configuring the QoS Shaping Mode for ATM Interfaces
- Configuring the QoS Shaping Mode for Ethernet Interfaces on the ES2 4G LM

## qos-shared-shaper-control

---

**Description** Enables the user-configurable variables in the QoS simple shared shaper algorithm and enters QoS Shared Shaper Control Configuration mode. The **no** version disables the user-configurable variables in the QoS simple shared shaper algorithm.

**Syntax** [ no ] qos-shared-shaper-control

**Mode** Global Configuration

**Release Information** Command introduced in JUNOSe Release 8.0.0.

### Related Topics

- Configuring Simple Shared Shaper Algorithm Variables

## query-interval

---

**Description** Specifies how often the router sends PIM router query messages to remote neighbors. The **no** version specifies the default time interval, 30 seconds.



**NOTE:** This command is typically used when you configure PIM remote neighbors to run multicast services over BGP/MPLS VPNs. That functionality is no longer supported.

---

**Syntax** `query-interval queryTime`  
`no query-interval`

- *queryTime*—Interval, in the range 0–210 seconds, at which the router sends PIM router query messages from this interface

**Mode** Interface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## queue

---

**Description** Specifies that a queue traffic class be configured for the selected interface type. The **no** version removes this rule from the QoS profile.

**Syntax** [ no ] *typeOfInterface* queue traffic-class *trafficClassName*  
[ queue-profile *queueProfileName* [ scheduler-profile *schedProfileName* ] |  
scheduler-profile *schedProfileName* [ queue-profile *queueProfileName* ] ]  
[ drop-profile *dropProfileName* ] [ statistics-profile *statisticsProfileName* ]

- *typeOfInterface*—Interface type for queue traffic classes to be configured; atm, atm-vp, atm-vc, bridge, ethernet, fr-vc, ip, ipv6, ip-tunnel, l2tp-session, l2tp-tunnel, lsp, serial, server-port, svlan, vlan
- *trafficClassName*—Name of the traffic class
- *queueProfileName*—Name of the queue profile
- *schedProfileName*—Name of the scheduler profile
- *dropProfileName*—Name of the drop profile
- *statisticsProfileName*—Name of the statistics profile

**Mode** QoS Profile Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**svlan** keyword added in JUNOS Release 7.1.0.

### Related Topics

- Configuring a QoS Profile
- Configuring Shadow Nodes
- Configuring a Basic Parameter Definition for QoS Administrators
- Configuring Rate Statistics
- Configuring Event Statistics

## queue-profile

---

**Description** Configures a queue profile. The **no** version removes the named queue profile.

**Syntax** [ no ] queue-profile *queueProfileName*

- *queueProfileName*—Name of the queue profile

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

### Related Topics

- Configuring Queue Profiles to Manage Buffers and Thresholds

## radius accounting server

---

**Description** Specifies the IP address of a RADIUS accounting server and puts the E-series router into RADIUS Configuration mode. The **no** version deletes the instance of the RADIUS server.

**Syntax** [ no ] radius accounting server *ipAddress*

- *ipAddress*—IP address of the server

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius acct-session-id-format

---

**Description** Configures the RADIUS client's use of a specific format for RADIUS attribute 44, Acct-Session-Id. The **no** version negates the Acct-Session-Id format.

**Syntax** radius acct-session-id-format { decimal | description }

no radius acct-session-id-format

- decimal—Configures the RADIUS client to use a decimal format
- description—Configures the RADIUS client to use the generic format:  
`erx interfaceType interfaceSpecifier:hexNumber`
  - *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*
  - *hexNumber*—Hexadecimal number identifying the session

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius algorithm

---

**Description** Specifies the algorithm that the RADIUS client uses to contact the RADIUS server. The **no** version restores the default value, direct.

**Syntax** radius algorithm { direct | round-robin }  
no radius algorithm

- direct—Contacts the first AAA server on the list for each user, the second AAA server if the first one fails, and so on
- round-robin—Contacts the first AAA server for the first user, the second AAA server for the second user, and so on

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius authentication server

---

**Description** Specifies the IP address of a RADIUS authentication server and puts the E-series router into RADIUS Configuration mode. The **no** version deletes the instance of the RADIUS server.

**Syntax** [ no ] radius authentication server *ipAddress*  
■ *ipAddress*—IP address of the server

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius calling-station-delimiter

---

**Description** Specifies the delimiter for DSL PPP users for RADIUS attribute 31, Calling-Station-Id. The **no** version removes the delimiter.

**Syntax** radius calling-station-delimiter *delimiter*  
no radius calling-station-delimiter  
■ *delimiter*—Special character to set off items in the Calling-Station-Id's definition (for example, # or %)

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius calling-station-format

---

**Description** On a virtual router, specifies the format of RADIUS attribute 31, Calling-Station-Id, when the PPP user is terminated at the non-LNS E-series router. Depending on the keyword you use, the virtual router uses the specified format for each interface type, replacing variables in the format with their actual values for your configuration. The **no** version restores the default Calling-Station-Id format, **delimited**.

**Syntax** radius calling-station-format { delimited | fixed-format | fixed-format-adapter-embedded | fixed-format-adapter-new-field }

no radius calling-station-format

- delimited—Specifies that the RADIUS client uses the delimited format:
  - Format for ATM interfaces:  
*delimiter systemName delimiter interfaceDescription delimiter VPI delimiter VCI*
  - Format for Ethernet interfaces:  
*delimiter systemName delimiter interfaceDescription delimiter VLAN*
- fixed-format—Specifies that the RADIUS client uses a fixed format of up to 15 characters consisting of all ASCII fields:
  - Format for ATM interfaces:  
*systemName* (up to 4 bytes) *slot* (2 bytes) *port* (1 byte) *VPI* (3 bytes) *VCI* (5 bytes)
  - Format for Ethernet interfaces:  
*systemName* (up to 4 bytes) *slot* (2 bytes) *port* (1 byte) *VLAN* (8 bytes)
  - Format for serial interfaces:  
*systemName* (up to 4 bytes) *slot* (2 bytes) *port* (1 byte) 0 (8 bytes)
  - In the case of PPP terminated from LNS, the Calling-Station-Id attribute is the value passed as the calling-station AVP.
- fixed-format-adapter-embedded—Specifies that the RADIUS client uses a fixed format of up to 15 characters consisting of all ASCII fields with a 1-byte *slot* field, 1-byte *adapter* field, and 1-byte *port* field:
  - Format for ATM interfaces:  
*systemName* (up to 4 bytes) *slot* (1 byte) *adapter* (1 byte) *port* (1 byte) *VPI* (3 bytes) *VCI* (5 bytes)
  - Format for Ethernet interfaces:  
*systemName* (up to 4 bytes) *slot* (1 byte) *adapter* (1 byte) *port* (1 byte) *VLAN* (8 bytes)
  - Format for serial interfaces:  
*systemName* (up to 4 bytes) *slot* (1 byte) *adapter* (1 byte) *port* (1 byte) 0 (8 bytes)
  - For E120 routers and E320 routers, *adapter* is the number of the bay in which the I/O adapter (IOA) resides, either 0 (representing the right IOA bay on the E120 router and the upper IOA bay on the E320 router) or 1 (representing the left IOA bay on the E120 router or the lower IOA bay on the E320 router). For ERX-7xx models, ERX-14xx models, and ERX-310 routers, *adapter* is always shown as 0.



- Slot numbers 0 through 16 are shown as ASCII characters in the 1-byte *slot* field.
- **fixed-format-adapter-new-field**—Specifies that the RADIUS client uses a fixed format of up to 17 characters consisting of all ASCII fields with a 2-byte *slot* field, 1-byte *adapter* field, and 2-byte *port* field:
  - Format for ATM interfaces:  
*systemName* (up to 4 bytes) *slot* (2 bytes) *adapter* (1 byte) *port* (2 bytes)  
*VPI* (3 bytes) *VCI* (5 bytes)
  - Format for Ethernet interfaces:  
*systemName* (up to 4 bytes) *slot* (2 bytes) *adapter* (1 byte) *port* (2 bytes)  
*VLAN* (8 bytes)
  - Format for serial interfaces:  
*systemName* (up to 4 bytes) *slot* (2 bytes) *adapter* (1 byte) *port* (2 bytes)  
0 (8 bytes)
  - For E120 routers and E320 routers, *adapter* is the number of the bay in which the IOA resides, either 0 or 1. For ERX-7xx models, ERX-14xx models, and ERX-310 routers, *adapter* is always shown as 0.
  - Slot numbers 0 through 16 are shown as integers in the 2-byte *slot* field.

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**fixed-format-adapter-embedded** and **fixed-format-adapter-new-field** keywords added in JUNOS Release 8.1.0.

## radius client

---

**Description** This command has only a **no** version. See the **no radius client** command for a complete description and syntax.

## radius connect-info-format

---

**Description** Specifies the format of RADIUS attribute 77, Connect-Info, on the LNS. The format uses the received L2TP connect-speed AVPs that the LAC sends to the LNS. The **no** version restores the default, in which the LNS does not generate the Connect-Info attribute.

**Syntax** **radius connect-info-format** { **l2tp-connect-speed** | **l2tp-connect-speed-rx-when-equal** }  
**no radius connect-info-format**

- **l2tp-connect-speed**—Specifies that the Connect-Info attribute include only the RX speed when the RX speed is different from the TX speed and is greater than zero.
- **l2tp-connect-speed-rx-when-equal**—Specifies that the Connect-Info attribute always include the RX speed when the speed is greater than zero.

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius disconnect client

**Description** Configures a RADIUS disconnect client and enters RADIUS Disconnect Configuration mode. The **no** version removes the RADIUS disconnect client.



**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 **subscriber disconnect** command and the RADIUS dynamic-request server feature. The RADIUS Disconnect Configuration mode is also deprecated.

**Syntax** [ no ] radius disconnect client *ipAddress*

- *ipAddress*—IP address of the RADIUS server that is acting as the disconnect client

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius dsl-port-type

**Description** Sets RADIUS attribute 61, NAS-Port-Type, in RADIUS access request packets and accounting start and stop packets for ATM interfaces. The **no** version restores the default setting, xdsl.

**Syntax** radius dsl-port-type { sdsl | adsl-cap | adsl-dmt | idsl | xdsl | virtual }  
no radius dsl-port-type

- sdsl—Symmetric DSL
- adsl-cap—Asymmetric DSL, carrierless amplitude phase modulation
- adsl-dmt—Asymmetric DSL, discrete multitone
- idsl—ISDN DSL
- xdsl—DSL of unspecified type (default)
- virtual—Virtual

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius dynamic-request server

---

**Description** Specifies the IP address of a RADIUS dynamic-request server and puts the E-series router into RADIUS Configuration mode. The **no** version deletes the instance of the RADIUS server.



**NOTE:** The **radius dynamic-request server** command replaces the functionality of the **radius disconnect client** command.

The RADIUS Disconnect Configuration mode is deprecated. Use the **radius dynamic-request server** command to enter RADIUS Configuration mode and configure options formerly available in RADIUS Disconnect Configuration mode.

---

**Syntax** [ no ] radius dynamic-request server *ipAddress*

- *ipAddress*—IP address of the server

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

**Related Topics**

- Configuring RADIUS-Based Mirroring

## radius ethernet-port-type

---

**Description** Indicates to RADIUS which Ethernet port type to use in RADIUS attribute 61, NAS-Port-Type, for all Ethernet users on the E-series router. The **no** version restores the default, ethernet.

**Syntax** radius ethernet-port-type [ virtual | ethernet ]

no radius ethernet-port-type

- virtual—Sets RADIUS NAS-Port-Type to virtual
- ethernet—Sets RADIUS NAS-Port-Type to Ethernet

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius ignore

---

**Description** Ignores the specified attribute in RADIUS Access-Accept messages. All attributes are disabled by default except for Framed-Ip-Netmask. The **no** version restores the default.

**Syntax** radius ignore *attributeName* { enable | disable }  
no radius ignore *attributeName*

- *attributeName*—One of the following RADIUS attributes:
  - atm-mbs—Mbs, VSA 26-17
  - atm-pcr—Pcr, VSA 26-15
  - atm-scr—Scr, VSA 26-16
  - atm-service-category—Service-Category, VSA 26-14
  - egress-policy-name—Egress-Policy-Name, VSA 26-11
  - framed-ip-netmask—Framed-Ip-Netmask, attribute 9
  - ingress-policy-name—Ingress-Policy-Name, VSA 26-10
  - virtual-router—Virtual-Router, VSA 26-1
- enable—Specifies the feature
- disable—Disables the feature; this is the default setting

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius include

---

**Description** Configures the inclusion of RADIUS attributes in RADIUS messages. Not all attributes are available in all message types. The listed attributes are included by default except where noted. The **no** version restores the default.

**Syntax** `radius include attributeName`  
`{ access-request | acct-on | acct-off | acct-start | acct-stop } { enable | disable }`  
`no radius include attributeName`  
`{ access-request | acct-on | acct-off | acct-start | acct-stop }`

- *attributeName*—One of the following RADIUS attributes; not all attributes are available in all message types.

Attributes available for Access-Request, Acct-Start, and Acct-Stop messages:

- `acct-multi-session-id`—Includes RADIUS attribute 50, Acct-Multi-Session-Id
- `acct-tunnel-connection`—Includes RADIUS attribute 68, Acct-Tunnel-Connection
- `ascend-num-in-multilink`—Includes RADIUS attribute 188, Ascend-Num-In-Multilink
- `called-station-id`—Includes RADIUS attribute 30, Called-Station-Id
- `calling-station-id`—Includes RADIUS attribute 31, Calling-Station-Id
- `connect-info`—Includes RADIUS attribute 77, Connect-Info
- `dhcp-options`—Includes RADIUS attribute 26-55, DHCP-Options
- `dhcp-gi-address`—Includes RADIUS attribute 26-57, DHCP-GI-Address
- `dhcp-mac-address`—Includes RADIUS attribute 26-56, DHCP-MAC Address
- `framed-interface-id`—Excluded by default; includes RADIUS attribute 96, Framed-Interface-Id, if an IPv6 interface ID is assigned to the subscriber
- `framed-ip-addr`—Includes RADIUS attribute 8, Framed-IP-Address, if an IP address is assigned to the subscriber
- `framed-ipv6-prefix`—Excluded by default; includes RADIUS attribute 97, Framed-Ipv6-Prefix, if at least one IPv6 prefix is assigned to the subscriber
- `interface-description`—Includes RADIUS attribute 26-63, Interface-Desc
- `l2c-downstream-data`—Includes RADIUS attribute 26-92, L2C-Down-Stream-Data
- `l2c-upstream-data`—Includes RADIUS attribute 26-93, L2C-Up-Stream-Data
- `l2c-upstream-data`—Includes RADIUS attribute 26-93, L2C-Up-Stream-Data

- l2cd-acc-loop-cir-id—Excluded by default; includes RADIUS attribute 26-110, Acc-Loop-Cir-Id
- l2cd-acc-aggr-cir-id-bib—Excluded by default; includes RADIUS attribute 26-111, Acc-Aggr-Cir-Id-Bin
- l2cd-acc-aggr-cir-id-asc—Excluded by default; includes RADIUS attribute 26-112, Acc-Aggr-Cir-Id-Asc
- l2cd-act-data-rate-up—Excluded by default; includes RADIUS attribute 26-113, Act-Data-Rate-Up
- l2cd-act-data-rate-dn—Excluded by default; includes RADIUS attribute 26-114, Act-Data-Rate-Dn
- l2cd-min-data-rate-up—Excluded by default; includes RADIUS attribute 26-115, Min-Data-Rate-Up
- l2cd-min-data-rate-dn—Excluded by default; includes RADIUS attribute 26-116, Min-Data-Rate-Dn
- l2cd-att-data-rate-up—Excluded by default; includes RADIUS attribute 26-117, Att-Data-Rate-Up
- l2cd-att-data-rate-dn—Excluded by default; includes RADIUS attribute 26-118, Att-Data-Rate-Dn
- l2cd-max-data-rate-up—Excluded by default; includes RADIUS attribute 26-119, Max-Data-Rate-Up
- l2cd-max-data-rate-dn—Excluded by default; includes RADIUS attribute 26-120, Max-Data-Rate-Dn
- l2cd-min-lp-data-rate-up—Excluded by default; includes RADIUS attribute 26-121, Min-LP-Data-Rate-Up
- l2cd-min-lp-data-rate-dn—Excluded by default; includes RADIUS attribute 26-122, Min-LP-Data-Rate-Dn
- l2cd-max-interlv-delay-up—Excluded by default; includes RADIUS attribute 26-123, Max-Interlv-Delay-Up
- l2cd-act-interlv-delay-up—Excluded by default; includes RADIUS attribute 26-124, Act-Interlv-Delay-Up
- l2cd-max-interlv-delay-dn—Excluded by default; includes RADIUS attribute 26-125, Max-Interlv-Delay-Dn
- l2cd-act-interlv-delay-dn—Excluded by default; includes RADIUS attribute 26-126, Act-Interlv-Delay-Dn
- l2cd-dsl-line-state—Excluded by default; includes RADIUS attribute 26-127, DSL-Line-State
- l2cd-dsl-type—Excluded by default; includes RADIUS attribute 26-128, DSL-Type
- mlppp-bundle-name—Excluded by default; includes RADIUS attribute 26-62, MLPPP-Bundle-Name
- nas-port—Includes RADIUS attribute 5, NAS-Port
- nas-port-id—Includes RADIUS attribute 87, NAS-Port-Id
- nas-port-type—Includes RADIUS attribute 61, NAS-Port-Type

- pppoe-description—Includes RADIUS attribute 26-24, Pppoe-Description
- profile-service-description—Includes RADIUS attribute 26-53, Service-Description
- tunnel-client-auth-id—Includes RADIUS attribute 90, Tunnel-Client-Auth-Id
- tunnel-client-endpoint—Includes RADIUS attribute 66, Tunnel-Client-Endpoint
- tunnel-interface-id—Excluded by default; includes RADIUS attribute 26-44, Tunnel-Interface-ID
- tunnel-medium-type—Includes RADIUS attribute 65, Tunnel-Medium-Type
- tunnel-server-attributes—Excluded by default; includes all supported tunnel server attributes; that is, the attributes of the tunnel client when PPP is terminated at the LNS on the router
- tunnel-server-auth-id—Includes RADIUS attribute 91, Tunnel-Server-Auth-Id
- tunnel-server-endpoint—Includes RADIUS attribute 67, Tunnel-Server-Endpoint
- tunnel-type—Includes RADIUS attribute 64, Tunnel-Type

Attributes available for Access-Request messages only:

- access-loop-parameters—Includes RADIUS attribute 26-81, L2c-Information

Attributes available for Acct-Start and Acct-Stop messages only:

- acct-link-count—Includes RADIUS attribute 51, Acct-Link-Count
- class—Includes RADIUS attribute 25, Class
- egress-policy-name—Includes RADIUS attribute 26-11, Egress-Policy-Name
- framed-compression—Includes RADIUS attribute 13, Framed-Compression
- framed-ip-netmask—Includes RADIUS attribute 9, Framed-IP-Netmask
- ingress-policy-name—Includes RADIUS attribute 26-10, Ingress-Policy-Name
- tunnel-assignment-id—Includes RADIUS attribute 82, Tunnel-Assignment-Id
- tunnel-preference—Includes RADIUS attribute 83, Tunnel-Preference

Attributes available for Acct-Stop messages only:

- input-gigapkts—Includes RADIUS attribute 26-35, Acct-Input-Gigapackets
- input-gigawords—Includes RADIUS attribute 52, Acct-Input-Gigawords
- l2tp-ppp-disconnect-cause—Includes RADIUS attribute 26-51, Disconnect-Cause
- output-gigapkts—Includes RADIUS attribute 26-36, Acct-Output-Gigapackets
- output-gigawords—Includes RADIUS attribute 53, Acct-Output-Gigawords

Attributes available for Access-Request, Acct-Start, Acct-Stop, Acct-On, and Acct-Off messages:

- nas-identifier—Includes RADIUS attribute 32, NAS-Identifier

Attributes available for Access-Request, Acct-On, and Acct-Off messages:

- acct-session-id—Includes RADIUS attribute 44, Acct-Session-Id

Attributes available for Acct-Start, Acct-Stop, Acct-On, and Acct-Off messages:

- event-timestamp—Includes RADIUS attribute 55, Event-Timestamp

Attributes available for Acct-On and Acct-Off messages only:

- acct-authentic—Includes RADIUS attribute 45, Acct-Authentic
- acct-delay-time—Includes RADIUS attribute 41, Acct-Delay-Time

Attributes available for Acct-Off messages only:

- acct-terminate-cause—Includes RADIUS attribute 49, Acct-Terminate-Cause
- access-request—Specifies RADIUS Access-Request messages
- acct-on—Specifies RADIUS Acct-On messages
- acct-off—Specifies RADIUS Acct-Off messages
- acct-start—Specifies RADIUS Acct-Start messages
- acct-stop—Specifies RADIUS Acct-Stop messages
- enable—Enables attribute inclusion
- disable—Disables attribute inclusion; the attribute is excluded

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2c-access-loop-parameters** attribute added in JUNOS Release 7.2.0.  
**l2cd** attributes added in JUNOS Release 9.0.0.  
**framed-interface-id** and **framed-ipv6-prefix** attributes, and acct-stop support for **framed-ip-addr** attribute added in JUNOS Release 9.0.0.



## radius include dsl-forum-attributes

---

**Description** Enables the inclusion of a set of DSL Forum vendor-specific attributes (VSAs) in Access-Request, Acct-Start, or Acct-Stop messages that the router sends to RADIUS. If you specify the Acct-Stop message, the router also includes the DSL Forum VSAs in outgoing RADIUS Interim-Acct messages. The **no** version restores the default behavior, which excludes the DSL Forum VSAs from these outgoing RADIUS messages.

If you enable the inclusion of DSL Forum VSAs in RADIUS messages, the router includes all of the following DSL Forum VSAs in the specified message type, provided that the VSA is available in the information that the router receives from the DSLAM.

Agent-Circuit-Id [26-1]	Maximum-Data-Rate-Downstream [26-136]
Agent-Remote-Id [26-2]	Minimum-Data-Rate-Upstream-Low-Power [26-137]
Actual-Data-Rate-Upstream [26-129]	Minimum-Data-Rate-Downstream-Low-Power [26-138]
Actual-Data-Rate-Downstream [26-130]	Maximum-Interleaving-Delay-Upstream [26-139]
Minimum-Data-Rate-Upstream [26-131]	Actual-Interleaving-Delay-Upstream [26-140]
Minimum-Data-Rate-Downstream [26-132]	Maximum-Interleaving-Delay-Downstream [26-141]
Attainable-Data-Rate-Upstream [26-133]	Actual-Interleaving-Delay-Downstream [26-142]
Attainable-Data-Rate-Downstream [26-134]	Access-Loop-Encapsulation [26-144]
Maximum-Data-Rate-Upstream [26-135]	IWF-Session [26-254]

**Syntax** radius include dsl-forum-attributes  
{ access-request | acct-start | acct-stop } { enable | disable }  
no radius include dsl-forum-attributes { access-request | acct-start | acct-stop }

- access-request—Specifies RADIUS Access-Request messages
- acct-start—Specifies RADIUS Acct-Start messages
- acct-stop—Specifies RADIUS Acct-Stop messages and Interim-Acct messages
- enable—Causes the router to include the DSL Forum VSAs, if available, in the specified outgoing RADIUS message
- disable—Causes the router to exclude the DSL Forum VSAs from the specified outgoing RADIUS message; this is the default behavior

**Mode** Global Configuration

**Release Information** Command introduced in JUNOS Release 7.3.0.

## radius nas-identifier

---

**Description** Configures the RADIUS client's value for RADIUS attribute 32, NAS-Identifier. The **no** version deletes the NAS-Identifier.

**Syntax** radius nas-identifier *identifierValue*  
no radius nas-identifier

- *identifierValue*—Number, in the range 1–64 characters; used in the NAS-Identifier attribute for authentication and accounting requests

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius nas-port-format

---

**Description** Configures the RADIUS client's use of a specific format for RADIUS attribute 5, NAS-Port. The **no** version removes the format.

**Syntax** radius nas-port-format { 0ssssppp | ssss0ppp }  
no radius nas-port-format

- 0ssssppp—Sets the RADIUS client to use the 0ssssppp format where *s* is slot and *p* is port
- ssss0ppp—Sets the RADIUS client to use the ssss0ppp format where *s* is slot and *p* is port

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius nas-port-format extended

---

**Description** Configures the RADIUS client's use of an extended format for RADIUS attribute 5, NAS-Port, on ATM, Gigabit Ethernet, and 10-Gigabit Ethernet interfaces on the E120 router and the E320 router. If you do not set the extended format for E120 or E320 routers, the RADIUS client uses the default format set through the **radius nas-port-format** command, which does not accommodate the number of bits required by the *slot/adapter/port* interface specifier on E120 and E320 routers. Issuing this command enables you to encode the interface information in the attribute by specifying the number of bits available for each field in the interface specifier. The **no** version removes the format.

**Syntax** For ATM interfaces:

```
radius nas-port-format extended atm [ field-widths [ slot slotWidth ]  
[ adapter adapterWidth ] [ port portWidth ] [ vpi vpiWidth ] [ vci vciWidth ] ]
```

```
no radius nas-port-format extended atm
```

For Gigabit and 10-Gigabit Ethernet interfaces:

```
radius nas-port-format extended ethernet [ field-widths [ slot slotWidth ]  
[ adapter adapterWidth ] [ port portWidth ] [ svlan svlanWidth ] [ vlan vlanWidth ] ]
```

```
no radius nas-port-format extended ethernet
```

- *field-widths*—Configures the width of the fields in the NAS-Port attribute
- *slotWidth*—Number of bits for the slot field
- *adapterWidth*—Number of bits for the adapter field
- *portWidth*—Number of bits for the port field
- *vpiWidth*—Number of bits for the VPI subinterface field on ATM interfaces
- *vciWidth*—Number of bits for the VCI subinterface field on ATM interfaces
- *svlanWidth*—Number of bits for the S-VLAN subinterface field on Gigabit Ethernet and 10-Gigabit Ethernet interfaces
- *vlanWidth*—Number of bits for the VLAN subinterface field on Gigabit Ethernet and 10-Gigabit Ethernet interfaces

**Mode** Global Configuration

**Release Information** Command introduced in JUNOS Release 7.1.0.

## radius override calling-station-id remote-circuit-id

---

**Description** Configures RADIUS to override the standard use of the Calling-Station-Id [31] RADIUS attribute and instead use the PPPoE remote circuit ID transmitted from a DSLAM device. The **no** version restores the default Calling-Station-Id value, which is the telephone number from which the call originated.

**Syntax** radius override calling-station-id remote-circuit-id  
no radius override calling-station-id

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius override nas-info

---

**Description** Configures the RADIUS client for a virtual router context to override the standard use of the NAS-IP-Address [4] and NAS-Identifier [32] attributes when the client performs AAA broadcast accounting. Normally, AAA accounting packets include the NAS-IP-Address and NAS-Identifier attributes of the virtual router that generates the accounting information. However, this command specifies that the broadcast accounting packets instead include the authenticating virtual router's NAS-IP-Address and NAS-Identifier attributes. The **no** version restores the standard use of the two attributes in AAA accounting information.

**Syntax** [ no ] radius override nas-info

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius override nas-ip-addr tunnel-client-endpoint

---

**Description** Configures the RADIUS client (LNS) to override the standard use of the NAS-IP-Address [4] RADIUS attribute and instead use the tunnel-client-endpoint (LAC) IP address. The **no** version restores the default address.

**Syntax** radius override nas-ip-addr tunnel-client-endpoint  
no radius override nas-ip-addr

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius override nas-port-id remote-circuit-id

---

**Description** Configures RADIUS to override the standard use of the NAS-Port-Id [87] RADIUS attribute and instead use the PPPoE remote circuit ID transmitted from a DSLAM device. The **no** version restores the default NAS-Port-Id value, which is the physical interface of the network access server (NAS) that is authenticating the user.

**Syntax** radius override nas-port-id remote-circuit-id  
no radius override nas-port-id

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius pppoe nas-port-format unique

---

**Description** Allows the E-series RADIUS client to use a unique value for the NAS-Port attribute for subscribers on PPPoE interfaces. The router derives the unique value from the subscriber's profileHandle. The **no** version restores the default value, determined by the interface.

**Syntax** [ no ] radius pppoe nas-port-format unique

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius pre-authentication server

---

**Description** Specifies the IP address of a RADIUS preauthentication server and accesses RADIUS Configuration mode. The **no** version deletes the instance of the RADIUS preauthentication server.

**Syntax** [ no ] radius pre-authentication server *ipAddress*  
■ *ipAddress*—IP address of the server

**Mode** Global Configuration

**Release Information** Command introduced in JUNOS Release 8.1.0.

## radius relay server

---

**Description** Configures a RADIUS relay authentication or accounting server, and enters RADIUS Relay Configuration mode. The **no** version deletes all RADIUS relay servers or the specific authentication or accounting server.

**Syntax** radius relay { authentication | accounting } server  
 no radius relay [ { authentication | accounting } server ]

- authentication—Configure the RADIUS relay authentication server
- accounting—Configure the RADIUS relay accounting server

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius relay udp-checksum

---

**Description** Enables or disables UDP checksum for RADIUS relay packets on virtual routers that you configure for B-RAS. The **no** version restores the default value, enable.

**Syntax** radius relay udp-checksum { enable | disable }  
 no radius relay udp-checksum

- enable—Enables UDP checksum
- disable—Disables UDP checksum

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius remote-circuit-id-delimiter

---

**Description** Specifies the delimiter character that sets off components in the PPPoE remote circuit ID value sent from a DSLAM and captured on the router. The **no** version restores the default delimiter character, #.

**Syntax** radius remote-circuit-id-delimiter *delimiter*  
 no radius remote-circuit-id-delimiter

- *delimiter*—Special character (for example, ! or %) to set off components in the PPPoE remote circuit ID value captured from a DSLAM; the default delimiter character is #

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius remote-circuit-id-format

---

**Description** Specifies the format of the PPPoE remote circuit ID value sent from a DSLAM and captured on the router. You can format the PPPoE remote circuit ID value to include either or both of the agent-circuit-ID (suboption 1) and agent-remote-id (suboption 2) suboptions of the tags supplied by the PPPoE intermediate agent. The **no** version restores the default format, agent-circuit-id.

**Syntax** radius remote-circuit-id-format { [ nas-identifier ] { agent-circuit-id | agent-remote-id | agent-circuit-id agent-remote-id } | dsl-forum-1 }  
no radius remote-circuit-id format

- nas-identifier—Formats the PPPoE remote circuit ID value to include the NAS-Identifier [32] RADIUS attribute with either or both of the agent-circuit-id and agent-remote-id suboptions. If you include the **nas-identifier** keyword, you must also include either or both of the **agent-circuit-id** and **agent-remote-id** keywords.
- agent-circuit-id—Formats the PPPoE remote circuit ID value to include only the agent-circuit-id suboption; this is the default format
- agent-remote-id—Formats the PPPoE remote circuit ID value to include only the agent-remote-id suboption
- agent-circuit-id agent-remote-id—Formats the PPPoE remote circuit ID value to include both the agent-circuit-id and agent-remote-id suboptions
- dsl-forum-1—Formats the PPPoE remote circuit ID value to append the agent-circuit-id suboption value to an interface specifier that is consistent with the recommended format in the DSL Forum Technical Report (TR)-101—Migration to Ethernet-Based DSL Aggregation (April 2006).

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**dsl-forum-1** keyword added in JUNOS Release 7.2.0.

## radius rollover-on-reject

---

**Description** On a virtual router, specifies whether the router should roll over to the next RADIUS server when the router receives an access-reject message for the user it is authenticating. The **no** version restores the default value, disable.

**Syntax** radius rollover-on-reject { enable | disable }  
no radius rollover-on-reject

- enable—Specifies the feature
- disable—Disables the feature; this is the default setting

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius route-download server

---

**Description** Specifies the IP address of a RADIUS server that downloads routes and puts the E-series router into RADIUS Configuration mode. The **no** version deletes the instance of the RADIUS route-download server.

**Syntax** [ no ] radius route-download server *ipAddress*

- *ipAddress*—IP address of the RADIUS server

**Mode** Global Configuration

**Release Information** Command introduced in JUNOS Release 8.1.0.

## radius trap acct-server-not-responding

---

**Description** Enables or disables SNMP traps when a RADIUS accounting server fails to respond to a RADIUS accounting request. The **no** version restores the default, disable.

**Syntax** radius trap acct-server-not-responding { enable | disable }  
no radius trap acct-server-not-responding

- enable—Specifies the feature
- disable—Disables the feature; this is the default setting

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius trap acct-server-responding

---

**Description** Enables or disables SNMP traps when a RADIUS accounting server returns to service after being marked as unavailable. The **no** version restores the default, disable.

**Syntax** radius trap acct-server-responding { enable | disable }  
no radius trap acct-server-responding

- enable—Specifies the feature
- disable—Disables the feature; this is the default setting

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.



## radius trap auth-server-not-responding

---

**Description** Enables or disables SNMP traps when a RADIUS authentication server fails to respond to a RADIUS Access-Request message. The **no** version restores the default, disable.

**Syntax** radius trap auth-server-not-responding { enable | disable }  
no radius trap auth-server-not-responding

- enable—Specifies the feature
- disable—Disables the feature; this is the default setting

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius trap auth-server-responding

---

**Description** Enables or disables SNMP traps when a RADIUS authentication server returns to service after being marked as unavailable. The **no** version restores the default, disable.

**Syntax** radius trap auth-server-responding { enable | disable }  
no radius trap auth-server-responding

- enable—Specifies the feature
- disable—Disables the feature; this is the default setting

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius trap no-acct-server-responding

---

**Description** Enables or disables SNMP traps when all the configured RADIUS accounting servers per VR fail to respond to a RADIUS accounting request. The **no** version restores the default, disable.

**Syntax** radius trap no-acct-server-responding { enable | disable }  
no radius trap no-acct-server-responding

- enable—Specifies the feature
- disable—Disables the feature; this is the default setting

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius trap no-auth-server-responding

---

**Description** Enables or disables SNMP traps when all the configured RADIUS authentication servers per VR fail to respond to a RADIUS Access-Request message. The **no** version restores the default, disable.

**Syntax** radius trap no-auth-server-responding { enable | disable }  
 no radius trap no-auth-server-responding

- enable—Specifies the feature
- disable—Disables the feature; this is the default setting

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius tunnel-accounting

---

**Description** Enables or disables tunnel accounting. The **no** version restores the default value, disable.

**Syntax** radius tunnel-accounting { enable | disable }  
 no radius tunnel-accounting

- enable—Specifies the feature
- disable—Disables the feature; this is the default setting

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius udp-checksum

---

**Description** Enables or disables UDP checksum for RADIUS packets on virtual routers that you configure for B-RAS. The **no** version restores the default value, enable.

**Syntax** radius udp-checksum { enable | disable }  
 no radius udp-checksum

- enable—Specifies the feature; this is the default setting
- disable—Disables the feature

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius update-source-addr

---

**Description** Specifies an alternate source IP address for the router to use rather than the default router ID. The **no** version deletes the alternate address, and the router uses the router ID.

**Syntax** radius update-source-addr *sourceAddr*  
no radius update-source-addr

- *sourceAddr*—Source address of the RADIUS client

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## radius vlan nas-port-format stacked

---

**Description** Configures the RADIUS NAS-Port attribute to include the S-VLAN ID, in addition to the VLAN ID, for subscribers on Ethernet interfaces. The **no** version restores the default situation, which does not include the S-VLAN ID.

**Syntax** radius vlan nas-port-format stacked  
no radius vlan nas-port-format

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## range

---

**Description** Assigns a range of minimum and maximum values to a specific QoS parameter definition. QoS clients can specify only values within this range when creating QoS parameter instances. The **no** version removes the range from the QoS parameter definition.

**Syntax** range *minimumParameterValue* *maximumParameterValue*  
no range

- *minimumParameterValue*—Minimum parameter value, in the range 0–2147483647
- *maximumParameterValue*—Maximum parameter value, in the range 0–2147483647

**Mode** QoS Parameter Definition

**Release Information** Command introduced in JUNOS Release 7.1.0.

### Related Topics

- Configuring a Basic Parameter Definition for QoS Administrators

## rate-limit-profile

**Description** From Global Configuration mode, creates a rate-limit profile and enters Rate Limit Profile Configuration mode. The **no** version deletes the rate-limit profile.

From Classifier Group Configuration mode, creates a rate-limit profile rule in a policy list. The **no** version removes a rate-limit profile from a policy list; the **suspend** version suspends the rule; the **no suspend** resumes a suspended rule.



**NOTE:** The Classifier Group Configuration mode version of the **rate-limit-profile** command replaces the Policy List Configuration mode version, which may be removed completely in a future release.

From Parent Group Configuration mode, creates a parent group in a hierarchy.

The **hierarchical** keyword creates a hierarchical rate limit. The **no** version removes a hierarchical rate-limit profile.

**Syntax** To create or modify a rate-limit profile:  
`[ no ] profileType rate-limit-profile profileName [ rateLimitType ]`

To specify a rate-limit profile in a policy in classifier-group mode:  
`[ no ] [ suspend ] rate-limit-profile profileName`

To create a hierarchical rate-limit profile:  
`[ no ] rate-limit-profile profileName [ rateLimitType ] [ hierarchical ]`

To specify a rate-limit for an external parent group:  
`rate-limit-profile profileName`

`no rate-limit-profile`

- *profileType*—ip, ipv6, l2tp, or mpls; for backward compatibility, if you do not specify a profile type, the router creates an IP profile
- *profileName*—Name of the rate-limit profile
- *rateLimitType*—One-rate or two-rate

**Mode** Classifier Group Configuration, Global Configuration, Parent Group Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**hierarchical** keyword added in JUNOS Release 7.2.0.  
 Parent Group Configuration mode added in JUNOS Release 8.0.0.

### Related Topics

- Policy Rule Precedence
- Creating a One-Rate Rate-Limit Profile
- Creating a Two-Rate Rate-Limit Profile

## rate-period

---

**Description** Configures the length of time during which statistics are logged. The **no** version deletes the rate period and results in no statistics being gathered.

**Syntax** `rate-period ratePeriod`  
`no rate-period`

- *ratePeriod*—Number of seconds in the range 1–43200

**Mode** Statistics Profile Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

**Related Topics**

- Configuring Rate Statistics
- Configuring Event Statistics

## rd

---

**Description** Specifies the unique two-part route distinguisher for a VRF. There is no **no** version.

**Syntax** `rd distinguisher`

- *distinguisher*—Unique two-part identifier in the format *number1:number2*
  - *number1*—AS number or an IP address
  - *number2*—Unique integer; 32 bits if *number1* is an AS number; 16 bits if *number1* is an IP address

**Mode** VRF Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## reaction-factor

---

<b>Description</b>	Specifies the reaction factor for all simple shared shapers on the router. The reaction factor determines how the shared shaper reacts to changes in the measured rate. The <b>no</b> version removes the specified reaction factor from all simple shared shapers on the router.
<b>Syntax</b>	reaction-factor <i>reactionFactor</i> no reaction-factor <ul style="list-style-type: none"> <li>■ <i>reaction-factor</i>—Percentage in the range 0–1000; default value is 200</li> </ul>
<b>Mode</b>	QoS Shared Shaper Control Configuration
<b>Release Information</b>	Command introduced in JUNOS Release 8.0.0.
<b>Related Topics</b>	<ul style="list-style-type: none"> <li>■ Configuring Simple Shared Shaper Algorithm Variables</li> </ul>

## receive-interface

---

<b>Description</b>	Specifies the interface on which the RTR probe expects to receive responses. You must set this attribute when multiple RTR entries are configured to use the same target address. Specifying a receiving interface enables the router to map incoming RTR responses to the proper RTR entry, even when multiple RTR entries have the same target address. The <b>no</b> version restores the default value, which is to receive a response on any interface.
<b>Syntax</b>	receive-interface <i>interfaceType interfaceSpecifier</i> no receive-interface <ul style="list-style-type: none"> <li>■ <i>interfaceType</i>—Interface type; see <i>Interface Types and Specifiers</i> in <i>About This Guide</i></li> <li>■ <i>interfaceSpecifier</i>—Particular interface; format varies according to interface type; see <i>Interface Types and Specifiers</i> in <i>About This Guide</i></li> </ul>
<b>Mode</b>	RTR Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## receive version

---

**Description** Restricts the RIP version that the router can receive on a RIP remote-neighbor interface. The **no** version sets the remote-neighbor interface back to the default value, receiving both RIP version 1 and version 2.

**Syntax** [ no ] receive version [ 1 ] [ 2 ] [ off ]

- 1—Specifies RIP version 1 only
- 2—Specifies RIP version 2 only
- off—Turns reception off

**Mode** Remote Neighbor Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## receive-window

---

**Description** Configures the L2TP receive window size (RWS) for a tunnel on the LAC (in Domain Map Tunnel Configuration and Tunnel Group Tunnel Configuration modes) or on the LNS (in L2TP Destination Profile Host Configuration mode). The RWS is the number of packets that the peer can transmit without receiving an acknowledgment from the router. The **no** version reverts to the systemwide RWS setting configured with the **l2tp tunnel default-receive-window** command.

**Syntax** receive-window *receiveWindowSize*  
no receive-window

- *receiveWindowSize*—Tunnel receive window size, in packets; currently, the only supported value is 4

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

**Release Information** Command introduced before JUNOS Release 7.1.0.

## redistribute

---

- Description** Redistributes routes from one routing domain into another routing domain. For DVMRP, only routes that appear in the RPF table can be redistributed. The **no** version ends redistribution of information.
- Syntax** The options available vary depending on the routing protocol context; that is, on whether you are configuring BGP, DVMRP, IS-IS, OSPF, or RIP.
- For BGP:
- ```
redistribute { fromProtocol | [ ospf match internal [ external [ 1 | 2 ] ] |
ospf match external [ 1 | 2 ] [ internal ] ] } [ metric absoluteValue |
route-map mapTag | weight wtValue ]*
```
- ```
no redistribute { fromProtocol | [ ospf match internal [ external [ 1 | 2 ] ] |
ospf match external [ 1 | 2 ] [ internal ] ] } [ metric [ absoluteValue ] |
route-map [ mapTag ] | weight [ wtValue ] ]*
```
- For DVMRP:
- ```
[ no ] redistribute fromProtocol [ route-map mapTag ]
```
- For IS-IS:
- ```
redistribute { fromProtocol | static ip |
[ ospf match internal [ external [ 1 | 2 ] ] |
ospf match external [ 1 | 2 ] [ internal ] ] } [ level-1 | level-1-2 | level-2 |
metric absoluteValue | metric-type { external | internal } | route-map mapTag ]*
```
- ```
no redistribute { fromProtocol | static ip |
[ ospf match internal [ external [ 1 | 2 ] ] |
ospf match external [ 1 | 2 ] [ internal ] ] } [ level-1 | level-1-2 | level-2 |
metric [ absoluteValue ] | metric-type [ external | internal ] | route-map [ mapTag ] ]*
```
- For OSPFv2:
- ```
redistribute { fromProtocol | ospf match internal }
[ metric-type { 1 | 2 } | metric absoluteValue | route-map mapTag | tag tagValue ]*
```
- ```
no redistribute { fromProtocol | ospf match internal }
[ metric-type [ 1 | 2 ] | metric [ absoluteValue ] | route-map [ mapTag ] | tag [ tagValue ] ]*
```
- ```
redistribute ospf
{ match internal external [ 1 | 2 ] | match external [ 1 | 2 ] [ internal ] }
[ metric absoluteValue | route-map mapTag | tag tagValue ]*
```
- ```
no redistribute ospf
{ match internal external [ 1 | 2 ] | match external [ 1 | 2 ] [ internal ] }
[ metric [ absoluteValue ] | route-map [ mapTag ] | tag [ tagValue ] ]*
```
- For OSPFv3:
- ```
redistribute { fromProtocol | ospf match internal } | metric-type { 1 | 2 }
[ metric absoluteValue | tag tagValue | route-map mapTag ]*
```
- ```
no redistribute { fromProtocol | ospf match internal } | metric-type [ 1 | 2 ]
[ metric [ absoluteValue ] | tag [ tagValue ] | route-map [ mapTag ] ]*
```
- ```
[ no ] redistribute ospf
{ match internal external [ 1 | 2 ] | match external [ 1 | 2 ] [ internal ] }
[ metric [ absoluteValue ] | route-map [ mapTag ] | tag [ tagValue ] ]*
```



For RIP:

```
redistribute { fromProtocol | ospf match internal [ external [ 1 | 2 ] ] |  
ospf match external [ 1 | 2 ] [ internal ] } [ metric absoluteValue | route-map mapTag ]*  
  
no redistribute { fromProtocol | ospf match internal } [ external [ 1 | 2 ] ] |  
ospf match external [ 1 | 2 ] [ internal ] } [ metric [ absoluteValue ] |  
route-map [ mapTag ] ]*
```

- *fromProtocol*—Source protocol from which routes are being redistributed; default value is no source protocol defined
  - access—Redistributes access-server routes (framed routes sourced by AAA)
  - access-internal—Redistributes internal host routes to directly connected clients
  - bgp—Routes sourced from BGP protocol
  - connected—Routes that are established automatically when IP is enabled on an interface (non-multicast routing protocols). For routing protocols such as OSPF and IS-IS, these routes are redistributed as external to the AS. When you specify the **connected** keyword, only those connected networks that are configured on an interface that is *not* configured to run IS-IS will be redistributed. For DVMRP, specifying this keyword redistributes routes that are established automatically in the RPF table when another multicast routing protocol, such as PIM, is enabled on an interface.
  - dvmrp—Routes sourced from DVMRP
  - isis—Routes sourced from IS-IS
  - ospf—Routes sourced from OSPF
  - rip—Routes sourced from RIP
  - static—Redistributes static routes
- static ip—Redistributes static routes for IS-IS
- ospf match—Determines what type(s) of routes to redistribute from OSPF; all OSPF routes are redistributed if you do not specify a type
  - internal—Redistributes OSPF internal routes
  - external 1—Redistributes OSPF external routes of metric-type 1
  - external 2—Redistributes OSPF external routes of metric-type 2
- *absoluteValue*—Metric that is applied to all routes from the source protocol, in the range 0–4294967295; in BGP this value is the MED, which defaults to the IGP metric of the redistributed route
- *mapTag*—String of up to 32 alphanumeric characters that specifies a route map applied to all routes from the source protocol; all routes are redistributed if you do not specify a route map
- *wtValue*—Administrative weight (relative importance) for routes redistributed into the protocol; a number, in the range 0–65535
- level-1—Specifies the redistribution of routes into only IS-IS level 1
- level-1-2—Specifies the redistribution of routes into both IS-IS level 1 and level 2

- **level-2**—Specifies the redistribution of routes into only IS-IS level 2; this is the default behavior
- **metric-type**—Specifies the OSPF or IS-IS metric type for all routes from the source protocol

For routes redistributed into IS-IS:

- **metric-type external**—Only the metric of the route itself is considered for comparison
- **metric-type internal**—Both the metric of the route and the cost to the router that advertised the route are considered for comparison; this is the IS-IS default

For routes redistributed into OSPF:

- **metric-type 1**—Cost of the external routes is equal to the sum of all internal costs and the external cost
- **metric-type 2**—Cost of the external routes is equal to the external cost alone; this is the OSPF default
- **tagValue**—Tag that is applied to all routes from the source protocol, in the range 0–4294967295
- **\***—Indicates that one or more parameters can be repeated multiple times in a list in the command line

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## redistribute isis

---

**Description** Redistributes IPv6 routes from one IS-IS routing level into the other. The **no** version ends the redistribution.

**Syntax** [ no ] redistribute isis from { level-1 into level-2 | level-2 into level-1 }  
route-map *mapTag*

- **level-1**—Specifies the redistribution of routes from or into IS-IS level 1
- **level-2**—Specifies the redistribution of routes from or into IS-IS level 2
- **mapTag**—String of up to 32 alphanumeric characters specifying the route map applied to all routes from the source protocol; if you do not specify a route map, all routes are redistributed

**Mode** Address Family Configuration

**Release Information** Command introduced in JUNOS Release 8.2.0.

## redistribute isis ip

---

**Description** Redistributes routes from one IS-IS routing level into the other. You must specify either an IP access list or a route map to define the IS-IS routes to be redistributed. The **no** version ends the redistribution.

**Syntax** [ no ] redistribute isis ip { level-1 into level-2 | level-2 into level-1 }  
{ distribute-list *accessListName* | route-map *mapTag* }

- level-1—Specifies the redistribution of routes from or into IS-IS level 1
- level-2—Specifies the redistribution of routes from or into IS-IS level 2
- *accessListName*—String of up to 32 alphanumeric characters specifying the IP access list used to filter routes between levels
- *mapTag*—String of up to 32 alphanumeric characters specifying the route map applied to all routes from the source protocol; if you do not specify a route map, all routes are redistributed

**Mode** Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## red-mark

---

**Description** Applies ToS mark value to red packets, which can be from policy actions, earlier policies, or rate-limit hierarchies. The **no** version deletes the ToS mark value.

**Syntax** [ no ] red-mark *colorMarkValue*

- *colorMarkValue*—Value of the ToS mark to be applied, in the range 0–255

**Mode** Color Mark Profile Configuration

**Release Information** Command introduced in JUNOS Release 7.2.0.

### Related Topics

- Hierarchical Rate Limits Overview
- Policy Rule Precedence

## redundancy

---

**Description** Enables redundancy configuration mode. There is no **no** version.

**Syntax** redundancy

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## redundancy force-switchover

---

**Description** Forces the router to switch from the primary line module in the specified slot or the primary SRP module to the spare line module or SRP module. This command overrides the **redundancy lockout** command. With the **srp** option, the command is equivalent to the **srp switch** command. There is no **no** version.



**NOTE:** This command replaces the **redundancy force-failover** command, which has been deprecated.

**Syntax** `redundancy force-switchover { slotNumber | srp }`

- *slotNumber*—Number of the slot in which the primary line module resides
- *srp*—Indicates that the router should switch from the active to the standby SRP module

**Mode** Privileged Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.

## redundancy lockout

---

**Description** Prevents the router from switching automatically to a spare line module if the primary module fails on a slot. The **no** version reverts to the default situation, in which the router switches automatically to a spare line module if the primary module fails on a slot. The **redundancy force-switchover** command overrides this command.

**Syntax** `[ no ] redundancy lockout slotNumber`

- *slotNumber*—Number of the slot in which the primary line module resides

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## redundancy revert

---

**Description** Forces the router to revert to the primary line module in the specified slot. If you specify a time or time and date, reversion occurs when the primary line module becomes available after that time. Otherwise, reversion occurs immediately. Issuing this command causes reversion once; after reboot, the router returns to the settings configured in the software. The **no** version has no effect.

**Syntax** [ no ] redundancy revert *slotNumber*  
[ *startTime* [ [ *startMonth* *startDay* | *startDay* *startMonth* ] *startYear* ] ]

- *slotNumber*—Number of the slot in which the primary line module resides
- *startTime*—Time, in 24-hour format (00:00:00), at which the router reverts to this line module
- *startMonth*—Name of the month in which the router reverts to this line module
- *startDay*—Day of the month on which the router reverts to this line module
- *startYear*—Four-digit year in which the router reverts to this line module

**Mode** Privileged Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.

## redundancy revertive

---

**Description** Enables the router to revert from spare line modules to available primary line modules automatically. The **no** version reverts to the default situation, in which there is no automatic reversion from spare to primary line modules.

**Syntax** [ no ] redundancy revertive [ *timeOfDay* ]

- *timeOfDay*—Time, in 24-hour format (00:00:00), at which the router reverts to the available primary line modules every day

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## redundant-port

---

<b>Description</b>	Specifies a member link of a LAG bundle as redundant. The <b>no</b> version disables the redundant status of the member link or disables the specified redundancy setting for the member link.
<b>Syntax</b>	<p>To specify a member interface with optional failover timeout and packet sampling settings:</p> <pre>[ no ] redundant-port <i>interfaceType interfaceSpecifier</i> [ [ failover timeout <i>failoverTime</i> ] [ packet-sampling [ delay <i>delayTime</i> ] ] ]</pre> <p>To specify a member interface with optional auto-reversion, transmitter, and failover timeout settings:</p> <pre>[ no ] redundant-port <i>interfaceType interfaceSpecifier</i> [ [ auto-revert ] [ transmitter { on   off } ] [ failover timeout <i>failoverTime</i> ] ]</pre> <ul style="list-style-type: none"> <li>■ <i>interfaceType</i>—Interface type; see <i>Interface Types and Specifiers</i> in <i>About This Guide</i></li> <li>■ <i>interfaceSpecifier</i>—Particular interface; format varies according to interface type; see <i>Interface Types and Specifiers</i> in <i>About This Guide</i></li> <li>■ <i>failoverTime</i>—Time between the current link event leading to failover or reversion and the previous link failover or reversion, in the range 100-10000 milliseconds (ms)</li> <li>■ packet-sampling—Enables packet sampling to determine a failed port</li> <li>■ <i>delayTime</i>—Minimum time difference between redundant and active port samples, in the range 100–10000 milliseconds (ms)</li> <li>■ auto-revert—Specifies that the failed port automatically resumes as active</li> <li>■ on—Specifies the transmitter is enabled when port is in redundant mode</li> <li>■ off—Specifies the transmitter is disabled when port is in redundant mode</li> </ul>
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced in JUNOS Release 8.0.0.

## redundant-port force-failover

---

<b>Description</b>	Specifies a member link of a LAG bundle to fail over when more than one active member link exists. There is no <b>no</b> version.
<b>Syntax</b>	<pre>redundant-port <i>interfaceType interfaceSpecifier</i> [ force-failover ]</pre> <ul style="list-style-type: none"> <li>■ <i>interfaceType</i>—Interface type; see <i>Interface Types and Specifiers</i> in <i>About This Guide</i></li> <li>■ <i>interfaceSpecifier</i>—Particular interface; format varies according to interface type; see <i>Interface Types and Specifiers</i> in <i>About This Guide</i></li> <li>■ force-failover—Forces the specified port to fail over</li> </ul>
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced in JUNOS Release 8.0.0.

## reference-bandwidth

---

<b>Description</b>	Configures a reference bandwidth on which the default routing metric for an IS-IS interface is based in the absence of a configured metric. The default metric is calculated as the reference bandwidth divided by the interface's bandwidth. The <b>no</b> version removes the reference bandwidth.
<b>Syntax</b>	<code>reference-bandwidth <i>refBandwidth</i></code> <code>no reference-bandwidth</code> <ul style="list-style-type: none"><li>■ <i>refBandwidth</i>—Number of bits per second, in the range 1000–1000000000000</li></ul>
<b>Mode</b>	Router Configuration
<b>Release Information</b>	Command introduced in JUNOS Release 8.0.0.

## reference-rate

---

<b>Description</b>	Specifies the reference rate for the policy parameter. The <b>no</b> version sets the reference rate to the default value.
<b>Syntax</b>	<code>reference-rate <i>refRate</i></code> <code>no reference-rate</code> <ul style="list-style-type: none"><li>■ <i>refRate</i>—Value of reference rate, in the range 0–4294967295, default value is 65536</li></ul>
<b>Mode</b>	Policy Parameter Configuration
<b>Release Information</b>	Command introduced in JUNOS Release 8.1.0.
<b>Related Topics</b>	<ul style="list-style-type: none"><li>■ Policy Rule Precedence</li></ul>

## refresh-period

---

<b>Description</b>	Specifies the timeout period in milliseconds between generation of RSVP refresh messages. The <b>no</b> version restores the default value, 30000 milliseconds.
<b>Syntax</b>	<code>refresh-period <i>period</i></code> <code>no refresh-period</code> <ul style="list-style-type: none"><li>■ <i>period</i>—Interval from 0–4294967295</li></ul>
<b>Mode</b>	RSVP Profile Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## relearn

---

**Description** Modifies the relearning subscriber policy for the subscriber (client) interfaces that belong to a bridge group or to a VPLS instance. A bridge group or a VPLS instance learns the addresses of network nodes by examining the MAC source address of every incoming packet and creating an entry in the forwarding table that consists of the address and associated interface where the packet was received. The **relearn** command defines whether subscriber interfaces that belong to a bridge group or to a VPLS instance can relearn a MAC address entry on a different interface from the one initially associated with this entry in the forwarding table. The **no** version restores the default value, permit relearning.

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 the MPLS tunnels from the router to the remote VPLS edge (VE) devices.

**Syntax** relearn { permit | deny }

no relearn

- permit—Enables the subscriber interfaces that belong to a bridge group or to a VPLS instance to relearn a MAC address entry on a different interface from the one initially associated with this entry in the forwarding table
- deny—Prevents the subscriber interfaces that belong to a bridge group or to a VPLS instance from relearning a MAC address entry on a different interface from the one initially associated with this entry in the forwarding table; with this option, the interface waits until the entry expires from the forwarding table to relearn it on the new interface

**Mode** Subscriber Policy Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.



## reload

---

**Description** Reloads the operating system in the designated interval or at the designated time. There is no **no** version.

---



**NOTE:** Reloading the standby SRP module causes high availability to be temporarily disabled until the standby SRP module reloads and resynchronizes with the active SRP module.

---

**Syntax** `reload [ reason | force [ reason ] | in inTime [ reason ] | at atTime [ month day | day month ] [ reason ] | cancel | standby-srp ]`

- *reason*—Reason for the reload (1–255 characters long)
- *force*—Prompts for confirmation to reboot if the router is in certain states, such as during the synchronization of SRP modules, that could lead to a loss of configuration data or an NVS corruption.
- *inTime*—Interval in minutes or hours and minutes ([ *hh*: ] *mm*) at the end of which the operating system is reloaded. If the router is in a state at that time that could lead to a loss of configuration data or an NVS corruption, the reload is automatically delayed for one minute, up to five times. If the router cannot reload on its sixth attempt, the scheduled reload fails.
- *atTime*—Time (*hh:mm* using a 24-hour clock) at which the software is reloaded. If you specify the month and day, the reload takes place at the specified time and date. If you do not specify the month and day, the reload takes place at the specified time on the current day (if the specified time is later than the current time) or on the next day (if the specified time is earlier than the current time). Specifying 00:00 schedules the reload for midnight. If the router is in a state at that time that could lead to a loss of configuration data or an NVS corruption, the reload is automatically delayed for one minute, up to five times. If the router cannot reload on its sixth attempt, the scheduled reload fails.
- *month*—Name of the month (any number of characters in a unique string)
- *day*—Number of the day of the month, in the range 1–31
- *cancel*—Cancels a scheduled reload
- *standby-srp*—Reloads the standby SRP module without having to look up its slot number to use with the **reload slot** command

**Mode** Privileged Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.

## reload slot

---

**Description** Reboot the module in the selected slot. You can reboot the subsystems on the SRP modules on the E120 router or the E320 router separately. There is no **no** version.

**Syntax** `reload slot slotNumber [ subsystem ] [ force ]`

- *slotNumber*—Number of a selected slot in the router; for ERX-7xx models, a number, in the range 0–6; for ERX-14xx models, a number, in the range 0–13; for the ERX-310 router, a number, in the range 0–2; for E120 and E320 routers, a number, in the range 0–16
- *subsystem*—Type of subsystem on E120 and E320 routers; use when the specified *slotNumber* is a slot that contains an SRP module
  - *srp*—Indicates the system controller (SC) on one or both SRP modules; specify this keyword to reboot only the portion of the SC on the individual SRP module
  - *fabric*—Indicates the portion of the switch fabric on the SRP modules; specify this keyword to reboot only an individual fabric slice
- *force*—Prompts for confirmation to reboot if the router is in certain states, such as during the synchronization of SRP modules, that could lead to a loss of configuration data or an NVS corruption.

**Mode** Privileged Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.

## remote host

---

**Description** Defines an L2TP host profile. Accesses the L2TP Destination Profile Host Configuration mode. The **no** version removes an L2TP host profile.

**Syntax** `remote host { hostname | default }`  
`no remote host { hostname | default }`

- *hostname*—Name the LAC must supply in the hostname AVP of the receive SCCRQ; can be up to 64 characters in length (no spaces)
- *default*—Allows the LAC to use any hostname in the hostname AVP

**Mode** L2TP Destination Profile Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## remote-neighbor

---

**Description** Configures an OSPF, PIM, or RIP remote neighbor. The **no** version removes the remote neighbor and any attributes configured for the neighbor.



**NOTE:** For PIM, this command is typically used when you configure PIM remote neighbors to run multicast services over BGP/MPLS VPNs. That functionality is no longer supported.

---

**Syntax** For OSPF:  
[ no ] remote-neighbor *ipAddress* area { *areaId* | *areaIdInt* }  
  
For PIM:  
[ no ] remote-neighbor [ *ipAddress* | *ipv6Address* ] sparse-mode  
  
For RIP:  
[ no ] remote-neighbor *ipAddress*

- *ipAddress*—IPv4 address identifying the remote neighbor
- *areaId*—OSPF area ID in IP address format
- *areaIdInt*—OSPF area ID as a decimal value, in the range 0–4294967295
- *ipv6Address*—IPv6 address identifying the remote neighbor

**Mode** Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## rename

**Description** Renames a local file. There is no **no** version.



**NOTE:** You cannot change the extension of a file, for example, from .mac to .scr. See *Renaming Files in JUNOS System Basics Configuration Guide, Chapter 5, Managing the System*, for detailed information on file type usage with the **rename** command.

**Syntax** `rename [ sourcePath]sourceFilename [ destinationPath]destinationFilename`

- *sourcePath*—Path to the source in the format:  
`hostName: | deviceName: | /incoming/subdirectory/ | /outgoing/subdirectory/`
  - *hostName*:—Name of the network host
  - *deviceName*:—Name of the device specifying a flash card slot
    - *disk0*—Specifies flash card slot 0 on the primary SRP module; if no device is specified for the primary SRP module, then *disk0* is used
    - *disk1*—Specifies flash card slot 1 on the primary SRP module; source and destination file types must be .dmp; supported only on the E120 router and the E320 router
    - *standby*—Specifies flash card slot 0 on the standby SRP module for backward compatibility
    - *standby-disk0*—Specifies flash card slot 0 on the standby SRP module
    - *standby-disk1*—Specifies flash card slot 1 on the standby SRP module; source and destination file types must be .dmp; supported only on E120 and E320 routers
  - *incoming*—Specifies the router's incoming FTP directory
  - *subdirectory*—Name of a subdirectory on the router's FTP server. If the subdirectory does not exist, the router creates it.
  - *outgoing*—Specifies the router's outgoing FTP directory
- *sourceFileName*—File to rename
- *destinationPath*—Path to the destination in the format:  
`networkPath | /incoming/subdirectory | /outgoing/subdirectory`
  - *networkPath*—Path to the network host
  - *incoming*—Specifies the incoming router's FTP directory
  - *subdirectory*—Name of a subdirectory on the router's FTP server. If the subdirectory does not exist, the router creates it.
  - *outgoing*—Specifies the router's outgoing FTP directory
- *destinationFileName*—New filename

**Mode** Privileged Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*hostName* and *deviceName* variables added in JUNOS Release 7.2.0.

## request-data-size

---

<b>Description</b>	Sets the request payload data size. The <b>no</b> version restores the default value.
<b>Syntax</b>	<pre>request-data-size requestSizeValue no request-data-size</pre> <ul style="list-style-type: none"><li>■ <i>requestSizeValue</i>—Size of the data in bytes in the request packet's payload; default value is 1 byte</li></ul>
<b>Mode</b>	RTR Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## reserve

---

<b>Description</b>	For DHCP local server clients, reserves an IP address for a specific MAC address. The <b>no</b> version removes the reservation.
<b>Syntax</b>	<pre>reserve ipAddress macAddress no reserve ipAddress</pre> <ul style="list-style-type: none"><li>■ <i>ipAddress</i>—IP address to reserve</li><li>■ <i>macAddress</i>—MAC address for which the IP address is reserved.</li></ul>
<b>Mode</b>	DHCP Local Pool Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## resource

---

<b>Description</b>	Specifies the total number of triggers that the virtual router allows. The <b>no</b> version returns the resource level to its default (50).
<b>Syntax</b>	<pre>resource resourceValue no resource</pre> <ul style="list-style-type: none"><li>■ <i>resourceValue</i>—Total number of triggers, in the range 1–1000, that the virtual router allows.</li></ul>
<b>Mode</b>	SNMP Server Event Manager Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## resource if-type

**Description** Specifies threshold values for specific interface types on a slot or systemwide basis. The **no** version sets the threshold parameter to its default value (for rising, 90 % of the maximum value of the resource; for falling, 1 % of the maximum value of the resource; for hold-down time, 300 seconds).



**CAUTION:** Do not specify a falling value larger than the specified rising value; do not specify a rising value smaller than the specified falling value.

**Syntax** [ no ] resource if-type { atm-active-sub-if | atm-sub-if | atm-vc | ip | ppp-link }  
 { slot *slot* | system }  
 threshold { falling *fallingValue* | hold-down-time *holdDownTime* | rising *risingValue* }

- atm-active-sub-if—Configures active ATM subinterfaces
- atm-sub-if—Configures both active and inactive ATM subinterfaces
- atm-vc—Configures ATM virtual circuits
- ip—Configures IP interfaces
- ppp-link—Configures PPP link interfaces
- *slot*—Number of the chassis slot in the range 0–2 (ERX-310 model), 0–6 (ERX-7xx models), and 0–13 (ERX-14xx models)
- *fallingValue*—Falling threshold for the resource, in the range 0–4294967295
- *holdDownTime*—Hold-down time for the resource, in the range 0–4294967295 seconds
- *risingValue*—Rising threshold for the resource, in the range 0–4294967295

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## resource threshold

**Description** Disables the issuance of traps when the resource reaches a preset threshold. The **no** version reenables traps for resource threshold conditions.

**Syntax** [ no ] resource threshold disable traps

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## retransmit

---

**Description** Specifies maximum number of times the router retransmits a RADIUS packet to an authentication or accounting server. The **no** version restores the default value.

**Syntax** retransmit *retries*  
no retransmit

- *retries*—Number of retries, in the range 0–16; default value is 3

**Mode** RADIUS Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## retransmit-interval

---

**Description** Specifies the time between LSA retransmissions for the OSPF remote-neighbor interface when an acknowledgment for the LSA is not received. The **no** version restores the default value.

**Syntax** retransmit-interval *retransInterval*  
no retransmit-interval

- *retransInterval*—Number of seconds, in the range 0–3600; default value is 5

**Mode** Remote Neighbor Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## rib-out disable

---

**Description** Disables storage of routes to the Adj-RIBs-Out tables (disables rib-out) for all BGP peers. Storage is disabled by default. The **no** version enables the route storage. The **default** version removes the explicit global configuration for all peers and reestablishes inheritance of the feature configuration.



**NOTE:** If you enable or disable rib-out globally and this action changes the current configuration, all sessions are automatically bounced.

---

**Syntax** [ no | default ] rib-out disable

**Mode** Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## root proxy url

---

**Description** Specifies your network's HTTP proxy server, which can submit HTTP requests on the E-series router's behalf to retrieve the root CA certificate during online digital certificate configuration. The **no** version removes the URL from the configuration.

**Syntax** root proxy url *name*  
 no root proxy url

- *name*—Name of proxy server in the format `http://server_ipaddress`; 1 to 200 characters

**Mode** IPSec CA Identity Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## route interface

---

**Description** Routes layer 2 traffic on a specified MPLS tunnel. 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. You cannot enter the command in a VRF. The **no** version negates this command. See also the **mpls-relay** command.

**Syntax** route interface tunnel *lspName* [ *vc-id* ] *vcidValue* [ *groupID groupIdValue* ]  
 [ *control-word* | *no-control-word* ] [ *sequencing* | *no-sequencing* ]  
 [ *relay-format* { *ethernet* | *ppp* | *vlan* } ]  
 no route interface

- *lspName*—Name of the MPLS LSP
- *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
- *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 not to 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

**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 Ethernet/VLAN Layer 2 Services
- Configuring Frame Relay Layer 2 Services
- Configuring HDLC Layer 2 Services
- Configuring S-VLAN Tunnels for Layer 2 Services

## route-map

---

**Description** Specifies a route map for DVMRP, RIP, or data MDTs, or defines the conditions for applying routing policies to filter or modify routes redistributed into or propagated by a routing protocol. The **no** version deletes the route map.

**Syntax** Specifying a route map for DVMRP or RIP:  
`[ no ] route-map mapTag [ interfaceType interfaceSpecifier ]`

- *mapTag*—String of up to 32 alphanumeric characters.
- *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*

Defining a route map:

`[ no ] route-map mapTag [ permit | deny ] [ sequence ]`

Defining a route map for data MDTs:

`route-map routeMapName`

`no route-map`

- *mapTag*—String of up to 32 alphanumeric characters. The **redistribute** Router Configuration command uses this string to reference this route map. Multiple route maps may share the same map tag.
- *permit*—If the match criteria are met for this route map and **permit** is specified, the route is redistributed as controlled by the set actions.
- *deny*—If the match criteria are met for the route map and **deny** is specified, the route is not redistributed, and no further route maps sharing the same map tag are examined.
- *sequence*—Number, in the range 0–65535, that indicates the position a new route map is to have in the list of route maps already configured with the same map tag. If given with the **no** version of this command, it specifies the position of the route map that should be deleted.

**Mode** Address Family Configuration (RIP), Global Configuration, IP PIM Data MDT Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
 IP PIM Data MDT Configuration mode added in JUNOS Release 8.2.0.

## route-target

---

**Description** Creates or adds to a list of VPN extended communities used to determine which routes are imported by a VRF. The **no** version removes a route target from the specified list.

A route is installed in the VRF's forwarding table when both of the following conditions are met:

- An update message with a route-target export list advertises a route.
- That list contains at least one route target that matches a route target in the route-target import list associated with a VRF.

**Syntax** [ no ] route-target { import | export | both } *extendedCommunity*

- **import**—Adds the route target to the current VRF's import list; the VRF accepts only routes that have at least one route target that matches a route target in the import list
- **export**—Adds the route target to the current VRF's export list; all routes advertised from this VRF are associated with the export list; at least one route target in the export list must match a route target in the import list of a VRF receiving the route for the route to be installed in the VRF's forwarding table
- **both**—Adds the route target to both the import list and export list of the current VRF
- *extendedCommunity*—Two-part number of the format *number1:number2* that identifies an extended community of VPNs where:
  - *number1*—AS number or IP address
  - *number2*—Unique integer; 32 bits if *number1* is an AS number; 16 bits if *number1* is an IP address

**Mode** VRF Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## router bgp

---

**Description** Configures the BGP routing process. Allows you to set up a distributed routing core that automatically guarantees the loop-free exchange of routing information between ASs. All subsequent BGP configuration commands are placed within the context of this router and AS; you can have only a single BGP instance per virtual router. The **no** version removes the BGP routing process.

**Syntax** [ no ] router bgp *autonomousSystem*

- *autonomousSystem*—Number, in the range 1–4294967295; the AS number that identifies the router to other BGP routers

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

**Related Topics**

- Configuring BGP Signaling

## router dvmrp

---

**Description** Creates and enables DVMRP on a virtual router; accesses DVMRP router configuration mode. The **no** version deletes DVMRP from a virtual router.

**Syntax** [ no ] router dvmrp

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## router-id

---

**Description** Specifies an IP address that the router uses as a router ID for OSPF. The **no** version forces OSPF to use the previous OSPF router ID.

**Syntax** [ no ] router-id *ipAddress*

- *ipAddress*—IP address that the router uses as a router ID for OSPF.

**Mode** Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## router igmp

---

**Description** Creates and enables IGMP on a virtual router; accesses IGMP router configuration mode. The **no** version disables IGMP on a virtual router.

**Syntax** [ no ] router igmp

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## router isis

---

**Description** Enables the IS-IS routing protocol and specifies an IS-IS process for IP. The **no** version disables IS-IS routing.

**Syntax** [ no ] router isis [ tag ]

- *tag*—Meaningful name for a routing process; name must be unique among all IP router processes for a given router; if not specified, a null tag is assumed, and the process is referenced with a null tag

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## router mld

---

**Description** Creates and enables MLD on a virtual router; accesses MLD router configuration mode. The **no** version disables MLD on a virtual router.



**NOTE:** This command is identical to the **ipv6 router mld** command.

---

**Syntax** [ no ] router mld

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## router-name

---

<b>Description</b>	Maps a virtual router to a user domain name. The <b>no</b> version deletes the router name parameter, and the router defaults to the default virtual router.
<b>Syntax</b>	<pre>router-name vrName</pre> <pre>no router-name [ vrName ]</pre> <ul style="list-style-type: none"> <li>■ <i>vrName</i>—Name of the virtual router to map to the user domain name</li> </ul>
<b>Mode</b>	Domain Map Configuration, Tunnel Group Tunnel Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## router ospf

---

<b>Description</b>	Configures an OSPF routing process. The <b>no</b> version disables an OSPF routing process.
<b>Syntax</b>	<pre>[ no ] router ospf processId [ vrf vrfName ]</pre> <ul style="list-style-type: none"> <li>■ <i>processId</i>—Number, in the range 1–65535, that identifies the OSPF process</li> <li>■ <i>vrfName</i>—Name of the VRF; string of 1–32 alphanumeric characters; available only in virtual router context, not VRF context</li> </ul>
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## router pim

---

<b>Description</b>	Creates and enables PIM on a virtual router; accesses PIM router configuration mode. The <b>no</b> version deletes PIM from a virtual router.
<b>Syntax</b>	<pre>[ no ] router pim</pre>
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## router rip

---

<b>Description</b>	Enables RIP routing protocol configuration. The <b>no</b> version deletes the RIP process and removes the configuration from the router.
<b>Syntax</b>	<pre>[ no ] router rip</pre>
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## rtr

---

**Description** Sets the number of the RTR operation to be configured and accesses the RTR Configuration mode. The **no** version removes all configuration information for a specified RTR operation.

**Syntax** [ no ] *rtr rtrIndex*

- *rtrIndex*—Number of the operation to be configured, in the range 1–4294967295; there is no default

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## rtr reaction-configuration

---

**Description** This command has only a **no** version. See the **no rtr reaction-configuration** command for a complete description and syntax.

## rtr reaction-configuration action-type

---

**Description** Sets certain actions to occur based on events under control of the RTR. The default is that traps of enabled events are taken. There is no **no** version. See the **no rtr reaction-configuration** command.

**Syntax** *rtr reaction-configuration rtrIndex [ action-type actionType ]*

- *rtrIndex*—Number of the operation to be configured, in the range 1–4294967295
- *actionType*—One of the following types:
  - *none*—No action; selecting this option clears all traps for the given operation
  - *trapOnly*—Trap only action; this is the default; enabled events trigger the trap

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## rtr reaction-configuration operation-failure

---

**Description** Enables operation-failure reaction. When the type of RTR entry is echo, you can also configure a value that triggers the operation-failure trap. When the type of RTR entry is pathEcho, you cannot configure the operation-failure trap. There is no **no** version. See the **no rtr reaction-configuration** command.

**Syntax** `rtr reaction-configuration rtrIndex operation-failure [ operationFailureValue ]`

- *rtrIndex*—Number of the operation to be configured, in the range 1–4294967295
- *operationFailureValue*—Number, in the range 0–15; default value is 1

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## rtr reaction-configuration path-change

---

**Description** Enables path change reaction. When the type of RTR entry is echo, you cannot configure the path-change trap. There is no **no** version. See the **no rtr reaction-configuration** command.

**Syntax** `rtr reaction-configuration rtrIndex path-change`

- *rtrIndex*—Number of the operation to be configured, in the range 1–4294967295; no default

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## rtr reaction-configuration test-completion

---

**Description** Enables test completion reaction. There is no **no** version. See the **no rtr reaction-configuration** command.

**Syntax** `rtr reaction-configuration rtrIndex test-completion`

- *rtrIndex*—Number of the operation to be configured, in the range 1–4294967295

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.



## rtr reaction-configuration test-failure

---

**Description** Enables test failure reaction to occur. When the type of RTR entry is echo, you can also configure a value that triggers the test-failure trap. There is no **no** version. See the **no rtr reaction-configuration** command.

**Syntax** `rtr reaction-configuration rtrIndex test-failure [ testFailureValue ]`

- *rtrIndex*—Number of the operation to be configured, in the range 1–4294967295; no default
- *testFailureValue*—Number, in the range 0–15; default value is 1

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## rtr reset

---

**Description** Shuts down all RTR operations and clears the RTR configuration for the given virtual router. The **no** version negates the reset operation.

**Syntax** `[ no ] rtr reset`

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## rtr schedule

---

**Description** Configures the RTR time parameters for an RTR operation. The **no** version stops the operation by putting it in the pending state. The **no** version also resets the restart-time attribute and the life attribute.

**Syntax** `[ no ] rtr schedule rtrIndex`

- *rtrIndex*—Number of the operation to be configured, in the range 1–4294967295; no default

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## rtr schedule life

---

**Description** Specifies the length of the RTR probe. There is no **no** version.

**Syntax** `rtr schedule rtrIndex life lifeValue`

- *rtrIndex*—Number of the operation to be configured, in the range 1–4294967295; no default
- *lifeValue*—Number of operations or maximum TTL in the range 1–2147483647; value that depends on the type of the RTR entry
  - If the type of the RTR entry is `echo`, *lifeValue* relates to the number of operations sent until a test finishes. The default value is 90. If you use 60 operations \* 60 seconds, the frequency between each operation that a test completes is 3,600 seconds (one hour).
  - If the type of the RTR entry is `pathEcho`, *lifeValue* relates to the maximum number of hops used by the `traceRoute` trap. The default value is 30. If you use 30 (as the maximum hops) \* 3 (operations per hop) \* 60 seconds frequency between each operation, a test is completed within 3,600 seconds. If a destination is reached in fewer than 30 hops, the test is completed earlier.

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## rtr schedule restart-time

---

**Description** Specifies the interval at which the RTR probe restarts, in seconds. There is no **no** version.

**Syntax** `rtr schedule rtrIndex restart-time restartValue`

- *rtrIndex*—Number of the operation to be configured, in the range 1–4294967295; no default
- *restartValue*—Interval in seconds until test restarts, in the range 0–2147483647; default value is 0, which specifies no restart after the test finishes

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## rtr schedule start-time

---

**Description** Configures an entry's start. There is no **no** version.

**Syntax** `rtr schedule rtrIndex start-time { now | pending }`

- *rtrIndex*—Number of the operation to be configured, in the range 1–4294967295; no default
- *now*—RTR immediately begins to collect information.
- *pending*—RTR does not begin to collect information. This is the default.

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.

## run

---

**Description** Allows you to issue an Exec mode command from any configuration command mode. This command functions the same as the **do** command. There is no **no** version.

**Syntax** `run execCommand`

- *execCommand*—CLI command that you can issue from User Exec or Privileged Exec mode

**Mode** All configuration command modes

**Release Information** Command introduced before JUNOS Release 7.1.0.