



**JUNOS<sup>™</sup>e Software  
for E-series<sup>™</sup> Routing Platforms**

**Command Reference Guide N to Z**

*Release 9.1.x*

**Juniper Networks, Inc.**

1194 North Mathilda Avenue  
Sunnyvale, CA 94089

USA

408-745-2000

**[www.juniper.net](http://www.juniper.net)**

Juniper Networks, the Juniper Networks logo, NetScreen, and ScreenOS are registered trademarks of Juniper Networks, Inc. in the United States and other countries. JUNOS and JUNOSe are trademarks of Juniper Networks, Inc. All other trademarks, service marks, registered trademarks, or registered service marks are the property of their respective owners.

Juniper Networks assumes no responsibility for any inaccuracies in this document. Juniper Networks reserves the right to change, modify, transfer, or otherwise revise this publication without notice.

Products made or sold by Juniper Networks (including the ERX-310, ERX-705, ERX-710, ERX-1410, ERX-1440, M5, M7i, M10, M10i, M20, M40, M40e, M160, M320, and T320 routers, T640 routing node, and the JUNOS, JUNOSe, and SDX-300 software) or components thereof might be covered by one or more of the following patents that are owned by or licensed to Juniper Networks: U.S. Patent Nos. 5,473,599, 5,905,725, 5,909,440, 6,192,051, 6,333,650, 6,359,479, 6,406,312, 6,429,706, 6,459,579, 6,493,347, 6,538,518, 6,538,899, 6,552,918, 6,567,902, 6,578,186, and 6,590,785.

Copyright © 2008, Juniper Networks, Inc.  
All rights reserved. Printed in USA.

*JUNOSe™ Software for E-series™ Routing Platforms Command Reference Guide N to Z*, Release 9.1.x  
Writing: Mark Barnard, Diane Florio, Bruce Gillham, Sarah Lesway-Ball, Brian Wesley Simmons, Fran Singer  
Editing: Ben Mann,  
Cover Design: Edmonds Design

Revision History  
18 April 2008—Revision 1

The information in this document is current as of the date listed in the revision history.

## Software License

The terms and conditions for using this software are described in the software license contained in the acknowledgment to your purchase order or, to the extent applicable, to any reseller agreement or end-user purchase agreement executed between you and Juniper Networks. By using this software, you indicate that you understand and agree to be bound by those terms and conditions.

Generally speaking, the software license restricts the manner in which you are permitted to use the software and may contain prohibitions against certain uses. The software license may state conditions under which the license is automatically terminated. You should consult the license for further details.

For complete product documentation, please see the Juniper Networks Web site at [www.juniper.net/techpubs](http://www.juniper.net/techpubs).

## END USER LICENSE AGREEMENT

READ THIS END USER LICENSE AGREEMENT ("AGREEMENT") BEFORE DOWNLOADING, INSTALLING, OR USING THE SOFTWARE. BY DOWNLOADING, INSTALLING, OR USING THE SOFTWARE OR OTHERWISE EXPRESSING YOUR AGREEMENT TO THE TERMS CONTAINED HEREIN, YOU (AS CUSTOMER OR IF YOU ARE NOT THE CUSTOMER, AS A REPRESENTATIVE/AGENT AUTHORIZED TO BIND THE CUSTOMER) CONSENT TO BE BOUND BY THIS AGREEMENT. IF YOU DO NOT OR CANNOT AGREE TO THE TERMS CONTAINED HEREIN, THEN (A) DO NOT DOWNLOAD, INSTALL, OR USE THE SOFTWARE, AND (B) YOU MAY CONTACT JUNIPER NETWORKS REGARDING LICENSE TERMS.

**1. The Parties.** The parties to this Agreement are Juniper Networks, Inc. and its subsidiaries (collectively "Juniper"), and the person or organization that originally purchased from Juniper or an authorized Juniper reseller the applicable license(s) for use of the Software ("Customer") (collectively, the "Parties").

**2. The Software.** In this Agreement, "Software" means the program modules and features of the Juniper or Juniper-supplied software, and updates and releases of such software, for which Customer has paid the applicable license or support fees to Juniper or an authorized Juniper reseller. "Embedded Software" means Software which Juniper has embedded in the Juniper equipment.

**3. License Grant.** Subject to payment of the applicable fees and the limitations and restrictions set forth herein, Juniper grants to Customer a non-exclusive and non-transferable license, without right to sublicense, to use the Software, in executable form only, subject to the following use restrictions:

- a. Customer shall use the Embedded Software solely as embedded in, and for execution on, Juniper equipment originally purchased by Customer from Juniper or an authorized Juniper reseller.
- b. Customer shall use the Software on a single hardware chassis having a single processing unit, or as many chassis or processing units for which Customer has paid the applicable license fees; provided, however, with respect to the Steel-Belted Radius or Odyssey Access Client software only, Customer shall use such Software on a single computer containing a single physical random access memory space and containing any number of processors. Use of the Steel-Belted Radius software on multiple computers requires multiple licenses, regardless of whether such computers are physically contained on a single chassis.
- c. Product purchase documents, paper or electronic user documentation, and/or the particular licenses purchased by Customer may specify limits to Customer's use of the Software. Such limits may restrict use to a maximum number of seats, registered endpoints, concurrent users, sessions, calls, connections, subscribers, clusters, nodes, realms, devices, links, ports or transactions, or require the purchase of separate licenses to use particular features, functionalities, services, applications, operations, or capabilities, or provide throughput, performance, configuration, bandwidth, interface, processing, temporal, or geographical limits. In addition, such limits may restrict the use of the Software to managing certain kinds of networks or require the Software to be used only in conjunction with other specific Software. Customer's use of the Software shall be subject to all such limitations and purchase of all applicable licenses.
- d. For any trial copy of the Software, Customer's right to use the Software expires 30 days after download, installation or use of the Software. Customer may operate the Software after the 30-day trial period only if Customer pays for a license to do so. Customer may not extend or create an additional trial period by re-installing the Software after the 30-day trial period.
- e. The Global Enterprise Edition of the Steel-Belted Radius software may be used by Customer only to manage access to Customer's enterprise network. Specifically, service provider customers are expressly prohibited from using the Global Enterprise Edition of the Steel-Belted Radius software to support any commercial network access services.

The foregoing license is not transferable or assignable by Customer. No license is granted herein to any user who did not originally purchase the applicable license(s) for the Software from Juniper or an authorized Juniper reseller.

**4. Use Prohibitions.** Notwithstanding the foregoing, the license provided herein does not permit the Customer to, and Customer agrees not to and shall not: (a) modify, unbundle, reverse engineer, or create derivative works based on the Software; (b) make unauthorized copies of the Software (except as necessary for backup purposes); (c) rent, sell, transfer, or grant any rights in and to any copy of the Software, in any form, to any third party; (d) remove any proprietary notices, labels, or marks on or in any copy of the Software or any product in which the Software is embedded; (e) distribute any copy of the Software to any third party, including as may be embedded in Juniper equipment sold in the secondhand market; (f) use any 'locked' or key-restricted feature, function, service, application, operation, or capability without first purchasing the applicable license(s) and obtaining a valid key from Juniper, even if such feature, function, service, application, operation, or capability is enabled without a key; (g) distribute any key for the Software provided by Juniper to any third party; (h) use the Software in any manner that extends or is broader than the uses purchased by Customer from Juniper or an authorized Juniper reseller; (i) use the Embedded Software on non-Juniper equipment; (j) use the Software (or make it available for use) on Juniper equipment that the Customer did not originally purchase from Juniper or an authorized Juniper reseller; (k) disclose the results of testing or benchmarking of the Software to any third party without the prior written consent of Juniper; or (l) use the Software in any manner other than as expressly provided herein.

**5. Audit.** Customer shall maintain accurate records as necessary to verify compliance with this Agreement. Upon request by Juniper, Customer shall furnish such records to Juniper and certify its compliance with this Agreement.

**6. Confidentiality.** The Parties agree that aspects of the Software and associated documentation are the confidential property of Juniper. As such, Customer shall exercise all reasonable commercial efforts to maintain the Software and associated documentation in confidence, which at a minimum includes restricting access to the Software to Customer employees and contractors having a need to use the Software for Customer's internal business purposes.

**7. Ownership.** Juniper and Juniper's licensors, respectively, retain ownership of all right, title, and interest (including copyright) in and to the Software, associated documentation, and all copies of the Software. Nothing in this Agreement constitutes a transfer or conveyance of any right, title, or interest in the Software or associated documentation, or a sale of the Software, associated documentation, or copies of the Software.

**8. Warranty, Limitation of Liability, Disclaimer of Warranty.** The warranty applicable to the Software shall be as set forth in the warranty statement that accompanies the Software (the "Warranty Statement"). Nothing in this Agreement shall give rise to any obligation to support the Software. Support services may be purchased separately. Any such support shall be governed by a separate, written support services agreement. TO THE MAXIMUM EXTENT PERMITTED BY LAW, JUNIPER SHALL NOT BE LIABLE FOR ANY LOST PROFITS, LOSS OF DATA, OR COSTS OR PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES, OR FOR ANY SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THIS AGREEMENT, THE SOFTWARE, OR ANY JUNIPER OR JUNIPER-SUPPLIED SOFTWARE. IN NO EVENT SHALL JUNIPER BE LIABLE FOR DAMAGES ARISING FROM UNAUTHORIZED OR IMPROPER USE OF ANY JUNIPER OR JUNIPER-SUPPLIED SOFTWARE. EXCEPT AS EXPRESSLY PROVIDED IN THE WARRANTY STATEMENT TO THE EXTENT PERMITTED BY LAW, JUNIPER DISCLAIMS ANY AND ALL WARRANTIES IN AND TO THE SOFTWARE (WHETHER EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE), INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT. IN NO EVENT DOES JUNIPER WARRANT THAT THE SOFTWARE, OR ANY EQUIPMENT OR NETWORK RUNNING THE SOFTWARE, WILL OPERATE WITHOUT ERROR OR INTERRUPTION, OR WILL BE FREE OF VULNERABILITY TO INTRUSION OR ATTACK. In no event shall Juniper's or its suppliers' or licensors' liability to Customer, whether in contract, tort (including negligence), breach of warranty, or otherwise, exceed the price paid by Customer for the Software that gave rise to the claim, or if the Software is embedded in another Juniper product, the price paid by Customer for such other product. Customer acknowledges and agrees that Juniper has set its prices and entered into this Agreement in reliance upon the disclaimers of warranty and the limitations of liability set forth herein, that the same reflect an allocation of risk between the Parties (including the risk that a contract remedy may fail of its essential purpose and cause consequential loss), and that the same form an essential basis of the bargain between the Parties.

**9. Termination.** Any breach of this Agreement or failure by Customer to pay any applicable fees due shall result in automatic termination of the license granted herein. Upon such termination, Customer shall destroy or return to Juniper all copies of the Software and related documentation in Customer's possession or control.

**10. Taxes.** All license fees for the Software are exclusive of taxes, withholdings, duties, or levies (collectively "Taxes"). Customer shall be responsible for paying Taxes arising from the purchase of the license, or importation or use of the Software.

**11. Export.** Customer agrees to comply with all applicable export laws and restrictions and regulations of any United States and any applicable foreign agency or authority, and not to export or re-export the Software or any direct product thereof in violation of any such restrictions, laws or regulations, or without all necessary approvals. Customer shall be liable for any such violations. The version of the Software supplied to Customer may contain encryption or other capabilities restricting Customer's ability to export the Software without an export license.

**12. Commercial Computer Software.** The Software is "commercial computer software" and is provided with restricted rights. Use, duplication, or disclosure by the United States government is subject to restrictions set forth in this Agreement and as provided in DFARS 227.7201 through 227.7202-4, FAR 12.212, FAR 27.405(b)(2), FAR 52.227-19, or FAR 52.227-14(ALT III) as applicable.

**13. Interface Information.** To the extent required by applicable law, and at Customer's written request, Juniper shall provide Customer with the interface information needed to achieve interoperability between the Software and another independently created program, on payment of applicable fee, if any. Customer shall observe strict obligations of confidentiality with respect to such information and shall use such information in compliance with any applicable terms and conditions upon which Juniper makes such information available.

**14. Third Party Software.** Any licensor of Juniper whose software is embedded in the Software and any supplier of Juniper whose products or technology are embedded in (or services are accessed by) the Software shall be a third party beneficiary with respect to this Agreement, and such licensor or vendor shall have the right to enforce this Agreement in its own name as if it were Juniper. In addition, certain third party software may be provided with the Software and is subject to the accompanying license(s), if any, of its respective owner(s). To the extent portions of the Software are distributed under and subject to open source licenses obligating Juniper to make the source code for such portions publicly available (such as the GNU General Public License ("GPL") or the GNU Library General Public License ("LGPL")), Juniper will make such source code portions (including Juniper modifications, as appropriate) available upon request for a period of up to three years from the date of distribution. Such request can be made in writing to Juniper Networks, Inc., 1194 N. Mathilda Ave., Sunnyvale, CA 94089, ATTN: General Counsel. You may obtain a copy of the GPL at <http://www.gnu.org/licenses/gpl.html>, and a copy of the LGPL at <http://www.gnu.org/licenses/lgpl.html>.

**15. Miscellaneous.** This Agreement shall be governed by the laws of the State of California without reference to its conflicts of laws principles. The provisions of the U.N. Convention for the International Sale of Goods shall not apply to this Agreement. For any disputes arising under this Agreement, the Parties hereby consent to the personal and exclusive jurisdiction of, and venue in, the state and federal courts within Santa Clara County, California. This Agreement constitutes the entire and sole agreement between Juniper and the Customer with respect to the Software, and supersedes all prior and contemporaneous agreements relating to the Software, whether oral or written (including any inconsistent terms contained in a purchase order), except that the terms of a separate written agreement executed by an authorized Juniper representative and Customer shall govern to the extent such terms are inconsistent or conflict with terms contained herein. No modification to this Agreement nor any waiver of any rights hereunder shall be effective unless expressly assented to in writing by the party to be charged. If any portion of this Agreement is held invalid, the Parties agree that such invalidity shall not affect the validity of the remainder of this Agreement. This Agreement and associated documentation has been written in the English language, and the Parties agree that the English version will govern. (For Canada: Les parties aux présentes confirment leur volonté que cette convention de même que tous les documents y compris tout avis qui s'y rattache, soient rédigés en langue anglaise. (Translation: The parties confirm that this Agreement and all related documentation is and will be in the English language)).



# About This Guide

This preface provides the following guidelines for using *JUNOS<sup>™</sup> Software for E-series<sup>™</sup> Routing Platforms Command Reference Guide N to Z*:

- Objectives on page v
- Audience on page v
- E-series Routers on page vi
- Documentation Conventions on page vi
- Related E-series and JUNOS<sup>™</sup> Documentation on page xx
- Obtaining Documentation on page xxiii
- Documentation Feedback on page xxiii
- Requesting Technical Support on page xxiv

## Objectives

---

This guide provides descriptions, syntax, parameter definitions, and release history for the commands in the JUNOS CLI. Refer to the configuration guides for detailed information about configuring an E-series router.

An E-series router is shipped with the latest system software installed. If you need to install a future release or reinstall the system software, refer to the procedures in *JUNOS System Basics Configuration Guide, Chapter 3, Installing JUNOS Software*.



**NOTE:** If the information in the latest *JUNOS Release Notes* differs from the information in this guide, follow the *JUNOS Release Notes*.

---

## Audience

---

This guide is intended for experienced system and network specialists working with E-series routers in an Internet access environment.

## E-series Routers

Seven models of E-series routers are available:

- E120 router
- E320 router
- ERX-1440 router
- ERX-1410 router
- ERX-710 router
- ERX-705 router
- ERX-310 router

All models use the same software. For information about all models except the E120 router and the E320 router, see *ERX Hardware Guide, Chapter 1, ERX Overview*. For information about the E120 router and the E320 router, see *E120 and E320 Hardware Guide, Chapter 1, E120 and E320 Overview*.

In the E-series documentation, the term ERX-14xx models refers to both the ERX-1440 router and the ERX-1410 router. Similarly, the term ERX-7xx models refers to both the ERX-710 router and the ERX-705 router. The terms ERX-1440 router, ERX-1410 router, ERX-710 router, ERX-705 router, ERX-310 router, E120 router, and E320 router refer to the specific models.

## Documentation Conventions

Table 1 defines notice icons used in this guide.

**Table 1: Notice Icons**




Icon	Meaning	Description
	Informational note	Indicates important features or instructions.
	Caution	Indicates a situation that might result in loss of data or hardware damage.
	Warning	Alerts you to the risk of personal injury.

Table 2 defines text conventions used in this guide and the syntax conventions used primarily in the *JUNOS Command Reference Guide*. For more information about command syntax, see *JUNOS System Basics Configuration Guide, Chapter 2, Command-Line Interface*.

**Table 2: Text and Syntax Conventions**

Convention	Description	Examples
<b>Text Conventions</b>		
<b>Bold text like this</b>	Represents commands and keywords in text.	<ul style="list-style-type: none"> <li>■ Issue the <b>clock source</b> command.</li> <li>■ Specify the keyword <b>exp-msg</b>.</li> </ul>
<b>Bold text like this</b>	Represents text that the user must type.	host1(config)# <b>traffic class low-loss1</b>
Fixed-width text like this	Represents information as displayed on your terminal's screen.	<pre>host1#show ip ospf 2 Routing Process OSPF 2 with Router ID 5.5.0.250 Router is an Area Border Router (ABR)</pre>
<i>Italic text like this</i>	<ul style="list-style-type: none"> <li>■ Emphasizes words.</li> <li>■ Identifies variables.</li> <li>■ Identifies chapter, appendix, and book names.</li> </ul>	<ul style="list-style-type: none"> <li>■ There are two levels of access, <i>user</i> and <i>privileged</i>.</li> <li>■ <i>clusterId</i>, <i>ipAddress</i>.</li> <li>■ <i>Appendix A, System Specifications</i>.</li> </ul>
Plus sign ( + ) linking key names	Indicates that you must press two or more keys simultaneously.	Press Ctrl + b.
<b>Syntax Conventions in the Command Reference Guide</b>		
Plain text like this	Represents keywords.	terminal length
<i>Italic text like this</i>	Represents variables.	<i>mask</i> , <i>accessListName</i>
(pipe symbol)	Represents a choice to select one keyword or variable to the left or right of this symbol. (The keyword or variable can be either optional or required.)	diagnostic   line
[ ] (brackets)	Represent optional keywords or variables.	[ internal   external ]
[ ]* (brackets and asterisk)	Represent optional keywords or variables that can be entered more than once.	[ level1   level2   l1 ]*
{ } (braces)	Represent required keywords or variables.	{ permit   deny } { in   out } { <i>clusterId</i>   <i>ipAddress</i> }

## Using the no Version Versus the default Version of Commands

Most router configuration commands have a **no** version, which you can use to negate a command (or a portion of it specified by an optional keyword) or restore its default setting. When you use a command *without* the keyword **no**, you can reenabling a disabled feature or override a default setting. You have the option of using the **default** keyword whenever the **no** keyword is also a choice; simply enter the keyword **default** instead of **no**.

In most cases, when you execute the **default** version of a command, it produces the exact results as the **no** version. There are some commands for which the **default** version yields a different result than the **no** version.

Commands for which the **default** behavior differs from the **no** behavior are clearly identified in this guide. Unless otherwise specified, therefore, the **default** command is identical to the **no** command and is neither documented nor discussed.

The syntax for each **no** command is described in this guide. Some commands do not have a **no** version; this is indicated in the individual command descriptions except for the **show** commands, none of which has a **no** version.

The CLI can act on **no** versions of commands when you have entered sufficient information to distinguish the command syntactically, and ignores all subsequent input on that line.

To be compatible with some non-E-series implementations, the **no** versions of commands accept the same options as the affirmative version of the commands. The CLI ignores the optional input if it has no effect on the command behavior. If using the option changes the behavior of the **no** version, the individual command entry in this guide describes the difference in behavior.

## Deprecated Commands

A command that has been deprecated in a release or in a particular configuration mode returns a notice when you issue the command manually:

NOTICE: This command is obsolete. It may be completely removed from a subsequent software release.

A preferred alternate command is provided in the notice. If you have a script that uses the deprecated command, the deprecated command is automatically mapped to the preferred command when you run the script. If the deprecated command no longer has a function, then that command has no effect when you run a script containing the command.

We recommend that you use the preferred command when writing new scripts.

## Filtering show Commands

You have access to a variety of **show** commands that display router and protocol information. You can filter the output of a **show** command by specifying | (the UNIX pipe symbol), one of the following keywords, and either a case-sensitive text string or a regular expression.

- **begin**—Displays output beginning with the first line that contains the text string or regular expression
- **include**—Displays output lines that contain the text string or regular expression and excludes lines that do not contain the text string or regular expression
- **exclude**—Displays output lines that do not contain the text string or regular expression and excludes lines that do contain the text string or regular expression

For a list of regular expressions, see *JUNOS IP Services Configuration Guide, Chapter 1, Configuring Routing Policy*.



You can press Ctrl + c to interrupt the **show** command output.



**NOTE:** The router does not recognize beginning spaces of the text string. For example, if you enter the **include** option with IP as the text string on which to filter, the router ignores the space and displays lines that include words such as RIP.

**Example** In the following example, the output display consists only of lines that contain the string *ip*. The router omits all other lines of the output from the display because none of them contain the string *ip*.

```
host1#show config include-defaults | include ip
! Configuration script generated on FRI NOV 12 1999 16:56:41 UTC
ip address 192.168.1.229 255.255.255.0
ip rip receive version 2 1
ip rip send version 1
ip rip authentication mode md5 17
ip rip authentication key
ip route 10.6.0.0 255.255.0.0 192.168.1.1
ip route 10.10.0.0 255.255.0.0 192.168.1.1
ip route 10.10.0.166 255.255.255.255 192.168.1.1
ip debounce-time 0
router rip
```

## Interface Types and Specifiers

Many commands take the variables *interfaceType* and *interfaceSpecifier*. Some commands support all types of interfaces, whereas other commands support only certain types of interfaces. Similarly, some commands support all interface specifier formats for a particular interface type, whereas other commands support only certain interface specifier formats.

Table 3 on page ix lists the interface specifiers for each type of interface on ERX-7xx models, ERX-14xx models, and the ERX-310 router.

Table 4 on page xv lists the interface specifiers for each type of interface on the E120 router and the E320 router.

**Table 3: Interface Types and Specifiers for ERX-7xx Models, ERX-14xx Models, and ERX-310 Router**

Interface Type	Description	Interface Specifier	Example
atm	ATM interface or ATM 1483 subinterface	Refer to the individual formats listed below.	
■ ATM interface or subinterface		To configure an ATM interface or subinterface: <i>slot port[.subinterface]</i> ■ <i>slot</i> —Number of the chassis slot in the range 0–6 (ERX-7xx models), 0–13 (ERX-14xx models), and 0–2 (ERX-310 router) ■ <i>port</i> —Port number on the I/O module ■ <i>subinterface</i> —Number of the subinterface in the range 1–2147483647	atm 3/2.6

**Table 3: Interface Types and Specifiers for ERX-7xx Models, ERX-14xx Models, and ERX-310 Router (continued)**

Interface Type	Description	Interface Specifier	Example
■ ATM 1483 subinterface <sup>a</sup>		<p>To display information about an ATM 1483 subinterface by using <b>show</b> commands:</p> <p><i>slot/port/vpi/vci</i></p> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–6 (ERX-7xx models), 0–13 (ERX-14xx models), and 0–2 (ERX-310 router)</li> <li>■ <i>port</i>—Port number on the I/O module</li> <li>■ <i>vpi</i>—Virtual path identifier of the PVC on this ATM 1483 subinterface; allowable numeric range depends on the module capabilities and current configuration</li> <li>■ <i>vci</i>—Virtual circuit identifier of the PVC on this ATM 1483 subinterface; allowable numeric range depends on the module capabilities and current configuration</li> </ul>	atm 3/2/1/2
fastEthernet	IEEE 802.3 Fast Ethernet (FE) interface	<p><i>slot/port[.subinterface1[.subinterface2 ] ]</i></p> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–6 (ERX-7xx models), 0–13 (ERX-14xx models), and 0–2 (ERX-310 router)</li> <li>■ <i>port</i>—Port number on the I/O module or port 0 for the Fast Ethernet management port on the SRP I/O module</li> </ul> <p>The meaning of the <i>subinterface</i> variables depends on the configuration context. You can configure Fast Ethernet interfaces with or without VLANs.</p> <ul style="list-style-type: none"> <li>■ VLANs: <ul style="list-style-type: none"> <li>■ <i>subinterface1</i>—Number of the VLAN subinterface in the range 1–2147483647; no more than 4096 VLAN subinterfaces per Fast Ethernet physical port</li> <li>■ <i>subinterface2</i>—When using PPPoE, the number of the PPPoE subinterface in the range 1–2147483647; no more than 4094 PPPoE subinterfaces per Fast Ethernet physical port</li> </ul> </li> <li>■ No VLANs: <ul style="list-style-type: none"> <li>■ <i>subinterface1</i>—When using PPPoE, the number of the PPPoE subinterface in the range 1–2147483647; no more than 4094 PPPoE subinterfaces per Fast Ethernet physical port</li> <li>■ <i>subinterface2</i>—Not used</li> </ul> </li> </ul>	fastEthernet 3/2.6.20

**Table 3: Interface Types and Specifiers for ERX-7xx Models, ERX-14xx Models, and ERX-310 Router (continued)**

Interface Type	Description	Interface Specifier	Example
gigabitEthernet	IEEE 802.3 Gigabit Ethernet (GE) interface	<i>slot/port[.subinterface1[.subinterface2 ] ]</i> ■ <i>slot</i> —Number of the chassis slot in the range 0–6 (ERX-7xx models), 0–13 (ERX-14xx models), and 0–2 (ERX-310 router) ■ <i>port</i> —Port number on the I/O module The meaning of the <i>subinterface</i> variables depends on the configuration context. You can configure Gigabit Ethernet interfaces with or without VLANs. ■ VLANs: ■ <i>subinterface1</i> —Number of the VLAN subinterface in the range 1–2147483647; no more than 4096 VLAN subinterfaces per Gigabit Ethernet physical port ■ <i>subinterface2</i> —When using PPPoE, the number of the PPPoE subinterface in the range 1–2147483647; no more than 4094 PPPoE subinterfaces per Gigabit Ethernet physical port ■ No VLANs: ■ <i>subinterface1</i> —When using PPPoE, the number of the PPPoE subinterface in the range 1–2147483647; no more than 4094 PPPoE subinterfaces per Gigabit Ethernet physical port ■ <i>subinterface2</i> —Not used	gigabitEthernet 3/0.6.20
lag	IEEE 802.3ad link aggregation group (LAG) interface	<i>bundle-name[.subinterface ]</i> ■ <i>bundle-name</i> —Name of the bundle ■ <i>subinterface</i> —Number of the LAG subinterface in the range 1–2147483647	lag paris.2
loopback	Loopback interface	<i>integer</i> ■ <i>integer</i> —Integer in the range 1–4294967293	loopback 20
mlframe-relay	Multilink frame relay interface	<i>bundle-name[.subinterface ]</i> ■ <i>bundle-name</i> —Name of the bundle ■ <i>subinterface</i> —Number of the MLFR subinterface in the range 1–4294967293	mlframe-relay boston.1
mlppp	Multilink PPP interface	<i>bundle-name</i> ■ <i>bundle-name</i> —Name of the bundle	mlppp chicago
mplsL2shim	MPLS shim interface	<i>slot/port[.subinterface ]</i> ■ <i>slot</i> —Number of the chassis slot in the range 0–6 (ERX-7xx models), 0–13 (ERX-14xx models), and 0–2 (ERX-310 router) ■ <i>port</i> —Port number on the I/O module ■ <i>subinterface</i> —Number of the subinterface in the range 1–2147483647	mplsL2shim 3/2.1

**Table 3: Interface Types and Specifiers for ERX-7xx Models, ERX-14xx Models, and ERX-310 Router (continued)**

Interface Type	Description	Interface Specifier	Example
mplsMajor	MPLS major interface	<i>slot/port[.subinterface]</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–6 (ERX-7xx models), 0–13 (ERX-14xx models), and 0–2 (ERX-310 router)</li> <li>■ <i>port</i>—Port number on the I/O module</li> <li>■ <i>subinterface</i>—Number of the subinterface in the range 1–2147483647</li> </ul>	mplsMajor 3/2.1
mplsMinor	MPLS minor interface	[ <i>vr:</i> ] <i>tunnel-name</i> <ul style="list-style-type: none"> <li>■ <i>vr</i>—Name of a virtual router</li> <li>■ <i>tunnel-name</i>—Name of the tunnel</li> </ul>	mplsMinor lsp-02020202-1-4
null <sup>b</sup>	Null interface, which cannot forward or receive traffic	0	null 0
pos	Packet over SONET (POS) interface	<i>slot/port[.subinterface]</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–6 (ERX-7xx models), 0–13 (ERX-14xx models), and 0–2 (ERX-310 router)</li> <li>■ <i>port</i>—Port number on the I/O module</li> <li>■ <i>subinterface</i>—Number of the subinterface in the range 1–2147483647<sup>c</sup></li> </ul>	pos 3/2
serial	CT3, E3 Frame, T3 Frame, or cOCx/STMx interface	Refer to the individual formats listed below.	
■ CT3		<i>slot/port:channel/subchannel[.subinterface]</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–6 (ERX-7xx models) and 0–13 (ERX-14xx models)</li> <li>■ <i>port</i>—Port number on the I/O module</li> <li>■ <i>channel</i>—Number of a T1 channel on a CT3 module; in the range 1–28</li> <li>■ <i>subchannel</i>—Number of the channel group associated with a range of DS0 timeslots on a CT3 module; in the range 1–28</li> <li>■ <i>subinterface</i>—Number of the subinterface in the range 1–2147483647<sup>c</sup></li> </ul>	serial 3/2:20/15
■ E3/T3 Frame		<i>slot/port[.subinterface]</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–6 (ERX-7xx models) and 0–13 (ERX-14xx models)</li> <li>■ <i>port</i>—Port number on the I/O module</li> <li>■ <i>subinterface</i>—Number of the subinterface in the range 1–2147483647<sup>c</sup></li> </ul>	serial 3/2

**Table 3: Interface Types and Specifiers for ERX-7xx Models, ERX-14xx Models, and ERX-310 Router (continued)**

Interface Type	Description	Interface Specifier	Example
■ cOCx/STMx: unframed E1		<i>slot/port/path-channel/path-payload/ tributary-group/tributary-number/ channelNumber[.subinterface ]</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–6 (ERX-7xx models), 0–13 (ERX-14xx models), and 0–2 (ERX-310 router)</li> <li>■ <i>port</i>—Port number on the I/O module</li> <li>■ <i>path-channel</i>—Number of the STS-1 or STM-0 line in the range 1–2147483648</li> <li>■ <i>path-payload</i>—Number of the payload within the path</li> <li>■ <i>tributary-group</i>—Number of the tributary group within the path</li> <li>■ <i>tributary-number</i>—Number of the tributary within the group</li> <li>■ <i>channelNumber</i>—1 (the router assigns the number one to an unframed E1 channel)</li> <li>■ <i>subinterface</i>—Number of the subinterface in the range 1–2147483647<sup>c</sup></li> </ul>	serial 3/0:10/1/2/2/1
■ cOCx/STMx: fractional E1/T1		<i>slot/port/path-channel/path-payload/ tributary-group/tributary-number/ channel-group[.subinterface ]</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–6 (ERX-7xx models), 0–13 (ERX-14xx models), and 0–2 (ERX-310 router)</li> <li>■ <i>port</i>—Port number on the I/O module</li> <li>■ <i>path-channel</i>—Number of the STS-1 or STM-0 line in the range 1–2147483648</li> <li>■ <i>path-payload</i>—Number of the payload within the path</li> <li>■ <i>tributary-group</i>—Number of the tributary group within the path</li> <li>■ <i>tributary-number</i>—Number of the tributary within the group</li> <li>■ <i>channel-group</i>—Number of a fractional T1 or E1 line</li> <li>■ <i>subinterface</i>—Number of the subinterface in the range 1–2147483647<sup>c</sup></li> </ul>	serial 3/0:10/1/2/2/1
■ cOCx/STMx: unchannelized DS3		<i>slot/port/path-channel/ds3-channel-number [.subinterface ]</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–6 (ERX-7xx models), 0–13 (ERX-14xx models), and 0–2 (ERX-310 router)</li> <li>■ <i>port</i>—Port number on the I/O module</li> <li>■ <i>path-channel</i>—Number of the STS-1 or STM-0 line in the range 1–2147483648</li> <li>■ <i>ds3-channel-number</i>—Number of a T3 channel</li> <li>■ <i>subinterface</i>—Number of the subinterface in the range 1–2147483647<sup>c</sup></li> </ul>	serial 3/0:1/1

**Table 3: Interface Types and Specifiers for ERX-7xx Models, ERX-14xx Models, and ERX-310 Router (continued)**

Interface Type	Description	Interface Specifier	Example
■ cOCx/STMx: DS3 channelized to DS0		<i>slot/port:path-channel/ds3-channel-number/ ds1-channel-number/subchannel-number [.subinterface ]</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–6 (ERX-7xx models), 0–13 (ERX-14xx models), and 0–2 (ERX-310 router)</li> <li>■ <i>port</i>—Port number on the I/O module</li> <li>■ <i>path-channel</i>—Number of the STS-1 or STM-0 line in the range 1–2147483648</li> <li>■ <i>ds3-channel-number</i>—Number of a T3 channel</li> <li>■ <i>ds1-channel-number</i>—Number of a T1 channel</li> <li>■ <i>subchannel-number</i>—Number of a fractional T1 channel</li> <li>■ <i>subinterface</i>—Number of the subinterface in the range 1–2147483647<sup>c</sup></li> </ul>	serial 3/0:1/1/10/15
sonet – line layer	Line layer of a SONET/SDH interface	<i>slot/port</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–6 (ERX-7xx models), 0–13 (ERX-14xx models), and 0–2 (ERX-310 router)</li> <li>■ <i>port</i>—Port number on the I/O module</li> </ul>	sonet 3/0
sonet – path layer	Path layer of a SONET/SDH interface	<i>slot/port:path-channel</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–6 (ERX-7xx models), 0–13 (ERX-14xx models), and 0–2 (ERX-310 router)</li> <li>■ <i>port</i>—Port number on the I/O module</li> <li>■ <i>path-channel</i>—Number of the STS-1 or STM-0 line in the range 1–2147483648</li> </ul>	sonet 3/0:2
sonet – section layer	Section layer of a SONET/SDH interface	<i>slot/port</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–6 (ERX-7xx models), 0–13 (ERX-14xx models), and 0–2 (ERX-310 router)</li> <li>■ <i>port</i>—Port number on the I/O module</li> </ul>	sonet 3/0
tunnel	Tunnel interface	<i>tunnel-type:tunnel-name[.subinterface ]</i> <ul style="list-style-type: none"> <li>■ <i>tunnel-type</i>—Type of the tunnel: dvmrp, gre, ipsec, l2tp, or mpls</li> <li>■ <i>tunnel-name</i>—Name of the tunnel</li> <li>■ <i>subinterface</i>—For GRE tunnels, number of the subinterface in the range 1–2147483647<sup>c</sup></li> </ul>	tunnel gre:boston

a. You can use the **atm slot/port/vpi/vci** interface specifier format as an alternative to the **atm slot/port.subinterface** format with the specific **show interface** and **show subinterface** commands to monitor all ATM 1483 subinterfaces (except NBMA interfaces) as well as the upper-layer interfaces configured over an ATM 1483 subinterface. You cannot, however, use the **atm slot/port/vpi/vci** format to create or modify an ATM 1483 subinterface.

b. You cannot configure values on the null interface. This interface acts as a data sink; it cannot forward or receive traffic.

**Table 4: Interface Types and Specifiers for E120 Router and E320 Router**

Interface Type	Description	Interface Specifier	Example
atm	ATM interface or ATM 1483 subinterface	Refer to the individual formats listed below.	
■ ATM interface or subinterface		<p>To configure an ATM interface or subinterface:</p> <p><i>slot/adapter/port[.subinterface]</i></p> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–5 (E120 router) and 0–5 or 11–16 (E320 router)</li> <li>■ <i>adapter</i>—Identifier for the IOA within the chassis slot, either 0 or 1, where: <ul style="list-style-type: none"> <li>■ 0 indicates that the IOA is installed in the right IOA bay (E120 router) or the upper IOA bay (E320 router).</li> <li>■ 1 indicates that the IOA is installed in the left IOA bay (E120 router) or the lower IOA bay (E320 router).</li> </ul> </li> <li>■ <i>port</i>—Port number on the IOA</li> <li>■ <i>subinterface</i>—Number of the subinterface in the range 1–2147483647</li> </ul>	atm 3/1/7.6
■ ATM 1483 subinterface <sup>a</sup>		<p>To display information about an ATM 1483 subinterface by using <b>show</b> commands:</p> <p><i>slot/adapter/port/vpi/vci</i></p> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–5 (E120 router) and 0–5 or 11–16 (E320 router)</li> <li>■ <i>adapter</i>—Identifier for the IOA within the chassis slot, either 0 or 1, where: <ul style="list-style-type: none"> <li>■ 0 indicates that the IOA is installed in the right IOA bay (E120 router) or the upper IOA bay (E320 router).</li> <li>■ 1 indicates that the IOA is installed in the left IOA bay (E120 router) or the lower IOA bay (E320 router).</li> </ul> </li> <li>■ <i>port</i>—Port number on the IOA</li> <li>■ <i>vpi</i>—Virtual path identifier of the PVC on this ATM 1483 subinterface; numeric range for the E120 and E320 routers is 0–255</li> <li>■ <i>vci</i>—Virtual circuit identifier of the PVC on this ATM 1483 subinterface; numeric range for the E120 and E320 routers is 1–65535</li> </ul>	atm 3/1/7/1/2

**Table 4: Interface Types and Specifiers for E120 Router and E320 Router (continued)**

Interface Type	Description	Interface Specifier	Example
fastEthernet (for Fast Ethernet management port on SRP IOA)	IEEE 802.3 Fast Ethernet (FE) interface	<i>slot/adapter/port</i> ■ <i>slot</i> —Number of the chassis slot, either 6 or 7 ■ <i>adapter</i> —Identifier for the SRP I/O adapter (IOA) within the chassis slot; always 0 ■ <i>port</i> —Port number on the SRP IOA; always 0	fastEthernet 6/0/0
gigabitEthernet	IEEE 802.3 Gigabit Ethernet (GE) interface	<i>slot/adapter/port[.subinterface1[.subinterface2 ] ]</i> ■ <i>slot</i> —Number of the chassis slot in the range 0–5 (E120 router) and 0–5 or 11–16 (E320 router) ■ <i>adapter</i> —Identifier for the IOA within the chassis slot, either 0 or 1, where: ■ 0 indicates that the IOA is installed in the right IOA bay (E120 router) or the upper IOA bay (E320 router). ■ 1 indicates that the IOA is installed in the left IOA bay (E120 router) or the lower IOA bay (E320 router). ■ <i>port</i> —Port number on the IOA The meaning of the <i>subinterface</i> variables depends on the configuration context. You can configure Gigabit Ethernet interfaces with or without VLANs. ■ VLANs: ■ <i>subinterface1</i> —Number of the VLAN subinterface in the range 1–2147483647; no more than 4096 VLAN subinterfaces per Gigabit Ethernet physical port ■ <i>subinterface2</i> —When using PPPoE, the number of the PPPoE subinterface in the range 1–2147483647; no more than 4094 PPPoE subinterfaces per Gigabit Ethernet physical port ■ No VLANs: ■ <i>subinterface1</i> —When using PPPoE, the number of the PPPoE subinterface in the range 1–2147483647; no more than 4094 PPPoE subinterfaces per Gigabit Ethernet physical port ■ <i>subinterface2</i> —Not used	gigabitEthernet 4/0/1.20
lag	IEEE 802.3ad link aggregation group (LAG) interface	<i>bundle-name[.subinterface ]</i> ■ <i>bundle-name</i> —Name of the bundle ■ <i>subinterface</i> —Number of the LAG subinterface in the range 1–2147483647	lag paris.2



**Table 4: Interface Types and Specifiers for E120 Router and E320 Router (continued)**

Interface Type	Description	Interface Specifier	Example
mplsL2shim	MPLS shim interface	<i>slot/adapter/port[.subinterface ]</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–5 (E120 router) and 0–5 or 11–16 (E320 router)</li> <li>■ <i>adapter</i>—Identifier for the IOA within the chassis slot, either 0 or 1, where: <ul style="list-style-type: none"> <li>■ 0 indicates that the IOA is installed in the right IOA bay (E120 router) or the upper IOA bay (E320 router).</li> <li>■ 1 indicates that the IOA is installed in the left IOA bay (E120 router) or the lower IOA bay (E320 router).</li> </ul> </li> <li>■ <i>port</i>—Port number on the IOA</li> <li>■ <i>subinterface</i>—Number of the subinterface in the range 1–2147483647</li> </ul>	mplsL2shim 3/0/2.1
mplsMajor	MPLS major interface	<i>slot/adapter/port[.subinterface ]</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–5 (E120 router) and 0–5 or 11–16 (E320 router)</li> <li>■ <i>adapter</i>—Identifier for the IOA within the chassis slot, either 0 or 1, where: <ul style="list-style-type: none"> <li>■ 0 indicates that the IOA is installed in the right IOA bay (E120 router) or the upper IOA bay (E320 router).</li> <li>■ 1 indicates that the IOA is installed in the left IOA bay (E120 router) or the lower IOA bay (E320 router).</li> </ul> </li> <li>■ <i>port</i>—Port number on the IOA</li> <li>■ <i>subinterface</i>—Number of the subinterface in the range 1–2147483647</li> </ul>	mplsMajor 3/0/2.1
mplsMinor	MPLS minor interface	[ <i>vr:</i> ] <i>tunnel-name</i> <ul style="list-style-type: none"> <li>■ <i>vr</i>—Name of a virtual router</li> <li>■ <i>tunnel-name</i>—Name of the tunnel</li> </ul>	mplsMinor lsp-02020202-1-4
pos	Packet over SONET (POS) interface	<i>slot/adapter/port</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–5 (E120 router) and 0–5 or 11–16 (E320 router)</li> <li>■ <i>adapter</i>—Identifier for the IOA within the chassis slot, either 0 or 1, where: <ul style="list-style-type: none"> <li>■ 0 indicates that the IOA is installed in the right IOA bay (E120 router) or the upper IOA bay (E320 router).</li> <li>■ 1 indicates that the IOA is installed in the left IOA bay (E120 router) or the lower IOA bay (E320 router).</li> </ul> </li> <li>■ <i>port</i>—Port number on the IOA</li> </ul>	pos 5/0/0

**Table 4: Interface Types and Specifiers for E120 Router and E320 Router (continued)**

Interface Type	Description	Interface Specifier	Example
sonet – line layer	Line layer of a SONET/SDH interface	<i>slot/adapter/port</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–5 (E120 router) and 0–5 or 11–16 (E320 router)</li> <li>■ <i>adapter</i>—Identifier for the IOA within the chassis slot, either 0 or 1, where: <ul style="list-style-type: none"> <li>■ 0 indicates that the IOA is installed in the right IOA bay (E120 router) or the upper IOA bay (E320 router).</li> <li>■ 1 indicates that the IOA is installed in the left IOA bay (E120 router) or the lower IOA bay (E320 router).</li> </ul> </li> <li>■ <i>port</i>—Port number on the IOA</li> </ul>	sonet 3/0/0
sonet – path layer	Path layer of a SONET/SDH interface	<i>slot/adapter/port</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–5 (E120 router) and 0–5 or 11–16 (E320 router)</li> <li>■ <i>adapter</i>—Identifier for the IOA within the chassis slot, either 0 or 1, where: <ul style="list-style-type: none"> <li>■ 0 indicates that the IOA is installed in the right IOA bay (E120 router) or the upper IOA bay (E320 router).</li> <li>■ 1 indicates that the IOA is installed in the left IOA bay (E120 router) or the lower IOA bay (E320 router).</li> </ul> </li> <li>■ <i>port</i>—Port number on the IOA</li> </ul>	sonet 3/0/0
sonet – section layer	Section layer of a SONET/SDH interface	<i>slot/adapter/port</i> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–5 (E120 router) and 0–5 or 11–16 (E320 router)</li> <li>■ <i>adapter</i>—Identifier for the IOA within the chassis slot, either 0 or 1, where: <ul style="list-style-type: none"> <li>■ 0 indicates that the IOA is installed in the right IOA bay (E120 router) or the upper IOA bay (E320 router).</li> <li>■ 1 indicates that the IOA is installed in the left IOA bay (E120 router) or the lower IOA bay (E320 router).</li> </ul> </li> <li>■ <i>port</i>—Port number on the IOA</li> </ul>	sonet 3/0/0

**Table 4: Interface Types and Specifiers for E120 Router and E320 Router (continued)**

Interface Type	Description	Interface Specifier	Example
tenGigabitEthernet	IEEE 802.3ae 10-Gigabit Ethernet (GE) interface	<p><i>slot/adapter/port[.subinterface1[.subinterface2 ] ]</i></p> <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot in the range 0–5 (E120 router) and 0–5 or 11–16 (E320 router)</li> <li>■ <i>adapter</i>—Identifier for the IOA within the chassis slot. 0 indicates that this a full-height IOA.</li> <li>■ <i>port</i>—Port number on the IOA</li> </ul> <p>The meaning of the <i>subinterface</i> variables depends on the configuration context. You can configure 10-Gigabit Ethernet interfaces with or without VLANs.</p> <ul style="list-style-type: none"> <li>■ VLANs: <ul style="list-style-type: none"> <li>■ <i>subinterface1</i>—Number of the VLAN subinterface in the range 1–2147483647; no more than 4096 VLAN subinterfaces per 10-Gigabit Ethernet physical port</li> <li>■ <i>subinterface2</i>—When using PPPoE, the number of the PPPoE subinterface in the range 1–2147483647; no more than 4094 PPPoE subinterfaces per 10-Gigabit Ethernet physical port</li> </ul> </li> <li>■ No VLANs: <ul style="list-style-type: none"> <li>■ <i>subinterface1</i>—When using PPPoE, the number of the PPPoE subinterface in the range 1–2147483647; no more than 4094 PPPoE subinterfaces per 10-Gigabit Ethernet physical port</li> <li>■ <i>subinterface2</i>—Not used</li> </ul> </li> </ul>	tenGigabitEthernet 4/0/1.20
tunnel	Tunnel interface	<p><i>tunnel-type:tunnel-name[.subinterface]</i></p> <ul style="list-style-type: none"> <li>■ <i>tunnel-type</i>—Type of the tunnel: dvmrp, gre, l2tp, or mpls</li> <li>■ <i>tunnel-name</i>—Name of the tunnel</li> <li>■ <i>subinterface</i>—For GRE tunnels, number of the subinterface in the range 1–2147483647<sup>b</sup></li> </ul>	tunnel gre:boston

a. You can use the **atm** *slot/adapter/port/vpi/vci* interface specifier format as an alternative to the **atm** *slot/adapter/port.subinterface* format with the specific **show interface** and **show subinterface** commands to monitor all ATM 1483 subinterfaces (except NBMA interfaces) as well as the upper-layer interfaces configured over an ATM 1483 subinterface. You cannot, however, use the **atm** *slot/adapter/port/vpi/vci* format to create or modify an ATM 1483 subinterface.

b. You cannot configure values on the null interface. This interface acts as a data sink; it cannot forward or receive traffic.

## Related E-series and JUNOS Documentation

The E-series and JUNOS documentation set consists of several hardware and software guides, which are available in electronic and printed formats.

### E-series and JUNOS Documents

Table 5 lists and describes the E-series and JUNOS document set. For a complete list of abbreviations used in this document set, along with their spelled-out terms, see *JUNOS System Basics Configuration Guide, Appendix A, Abbreviations and Acronyms*.

**Table 5: Juniper Networks E-series and JUNOS Technical Publications**

Document	Description
<b>E-series Hardware Documentation</b>	
<i>E120 and E320 Quick Start Guide</i>	Shipped in the box with all new E120 and E320 routers. Provides the basic procedures to help you get the routers up and running quickly.
<i>E120 and E320 Hardware Guide</i>	<p>Provides the necessary procedures for getting E120 routers and E320 routers operational, including information about:</p> <ul style="list-style-type: none"> <li>■ Installing the chassis and modules</li> <li>■ Connecting cables</li> <li>■ Powering up the routers</li> <li>■ Configuring the routers for management access</li> <li>■ Troubleshooting common issues</li> </ul> <p>Describes switch route processor (SRP) modules, line modules, and I/O adapters (IOAs) available for E120 and E320 routers.</p>
<i>E120 and E320 Module Guide</i>	<p>Provides detailed specifications for line modules and IOAs in E120 and E320 routers, and information about the compatibility of these modules with JUNOS software releases.</p> <p>Lists the layer 2 protocols, layer 3 protocols, and applications that line modules and their corresponding IOAs support.</p> <p>Provides module LED information.</p>
<i>E-series Installation Quick Start poster or ERX Quick Start Guide</i>	Shipped in the box with all new ERX routers. Provides the basic procedures to help you get an ERX router up and running quickly.
<i>ERX Hardware Guide</i>	<p>Provides the necessary procedures for getting ERX-14xx models, ERX-7xx models, and ERX-310 routers operational, including information about:</p> <ul style="list-style-type: none"> <li>■ Installing the chassis and modules</li> <li>■ Connecting cables</li> <li>■ Powering up the routers</li> <li>■ Configuring the routers for management access</li> <li>■ Troubleshooting common issues</li> </ul> <p>Describes switch route processor (SRP) modules, line modules, and I/O modules available for the ERX routers.</p>
<i>ERX Module Guide</i>	<p>Provides detailed specifications for line modules and I/O modules in ERX-14xx models, ERX-7xx models, and ERX-310 routers, and information about the compatibility of these modules with JUNOS software releases.</p> <p>Lists the layer 2 protocols, layer 3 protocols, and applications that line modules and their corresponding I/O modules support.</p> <p>Provides module LED information.</p>

**Table 5: Juniper Networks E-series and JUNOSe Technical Publications (continued)**

Document	Description
<i>ERX End-of-Life Module Guide</i>	<p>Provides an overview and description of ERX modules that are end-of-life (EOL) and can no longer be ordered for the following routers:</p> <ul style="list-style-type: none"> <li>■ ERX-7xx models</li> <li>■ ERX-14xx models</li> <li>■ ERX-310 router</li> </ul>
<b>JUNOSe Software Guides</b>	
<i>JUNOSe System Basics Configuration Guide</i>	<p>Provides information about:</p> <ul style="list-style-type: none"> <li>■ Planning and configuring your network</li> <li>■ Using the command-line interface (CLI)</li> <li>■ Installing JUNOSe software</li> <li>■ Configuring the Simple Network Management Protocol (SNMP)</li> <li>■ Managing the router and its modules, including the use of high availability (HA) for SRP redundancy</li> <li>■ Configuring and running a unified in-service software upgrade (ISSU)</li> <li>■ Configuring passwords and security</li> <li>■ Configuring the router clock</li> <li>■ Configuring virtual routers</li> </ul>
<i>JUNOSe Physical Layer Configuration Guide</i>	Explains how to configure, test, and monitor physical layer interfaces.
<i>JUNOSe Link Layer Configuration Guide</i>	Explains how to configure and monitor static and dynamic link layer interfaces.
<i>JUNOSe IP, IPv6, and IGP Configuration Guide</i>	Explains how to configure and monitor IP, IPv6 and Neighbor Discovery, and interior gateway protocols (RIP, OSPF, and IS-IS).
<i>JUNOSe IP Services Configuration Guide</i>	<p>Explains how to configure and monitor IP routing services. Topics include:</p> <ul style="list-style-type: none"> <li>■ Routing policies</li> <li>■ Firewalls</li> <li>■ Network Address Translation (NAT)</li> <li>■ J-Flow statistics</li> <li>■ Bidirectional forwarding detection (BFD)</li> <li>■ Internet Protocol Security (IPSec)</li> <li>■ Access Node Control Protocol (ANCP), also known as Layer 2 Control (L2C)</li> <li>■ Digital certificates</li> <li>■ IP tunnels</li> <li>■ Virtual Router Redundancy Protocol (VRRP)</li> <li>■ Mobile IP home agent</li> </ul>
<i>JUNOSe Multicast Routing Configuration Guide</i>	<p>Explains how to configure and monitor IP multicast routing and IPv6 multicast routing. Topics include:</p> <ul style="list-style-type: none"> <li>■ Internet Group Management Protocol (IGMP)</li> <li>■ Protocol Independent Multicast (PIM)</li> <li>■ Distance Vector Multicast Routing Protocol (DVMRP)</li> <li>■ Multicast Listener Discovery (MLD)</li> </ul>

**Table 5: Juniper Networks E-series and JUNOS Technical Publications (continued)**

Document	Description
<i>JUNOS BGP and MPLS Configuration Guide</i>	Explains how to configure and monitor: <ul style="list-style-type: none"> <li>■ Border Gateway Protocol (BGP) routing</li> <li>■ Multiprotocol Label Switching (MPLS) and related applications</li> <li>■ Layer 2 services over MPLS</li> <li>■ Virtual private LAN service (VPLS)</li> <li>■ Layer 2 virtual private networks (L2VPNs)</li> </ul>
<i>JUNOS Policy Management Configuration Guide</i>	Explains how to configure, manage, and monitor customized policy rules for packet classification, forwarding, filtering, and flow rates. Also describes the packet mirroring feature, which uses secure policies.
<i>JUNOS Quality of Service Configuration Guide</i>	Explains how to configure quality of service (QoS) features to queue, schedule, and monitor traffic flow. These features include: <ul style="list-style-type: none"> <li>■ Traffic classes and traffic-class groups</li> <li>■ Drop, queue, QoS, and scheduler profiles</li> <li>■ QoS parameters</li> <li>■ Statistics</li> </ul>
<i>JUNOS Broadband Access Configuration Guide</i>	Explains how to configure and monitor a remote access environment, which can include the following features: <ul style="list-style-type: none"> <li>■ Authentication, authorization, and accounting (AAA)</li> <li>■ Dynamic Host Configuration Protocol (DHCP)</li> <li>■ Remote Authentication Dial-In User Service (RADIUS)</li> <li>■ Terminal Access Controller Access Control System (TACACS +)</li> <li>■ Layer 2 Tunneling Protocol (L2TP)</li> <li>■ Subscriber management</li> </ul>
<i>JUNOS System Event Logging Reference Guide</i>	Describes the JUNOS system logging feature and describes how to use the CLI to monitor your system's log configuration and system events.
<i>JUNOS Command Reference Guide A to M;</i> <i>JUNOS Command Reference Guide N to Z</i>	Together constitute the <i>JUNOS Command Reference Guide</i> . Contain important information about commands implemented in the system software. Use to look up: <ul style="list-style-type: none"> <li>■ Descriptions of commands and command parameters</li> <li>■ Command syntax</li> <li>■ A command's related mode</li> <li>■ Starting with JUNOS Release 7.1.0, a history of when a command, its keywords, and its variables were introduced or added</li> </ul> Use with the JUNOS configuration guides.
<i>JUNOS Comprehensive Index</i>	Provides a complete index of the JUNOS software documentation set.
<i>JUNOS Glossary</i>	Provides definitions for terms used in JUNOS technical documentation.
<b>Release Notes</b>	
<i>JUNOS Release Notes</i>	Provide the latest information about features, changes, known problems, resolved problems, and system maximum values. If the information in the <i>Release Notes</i> differs from the information found in the documentation set, follow the <i>Release Notes</i> .  Release notes are included on the corresponding software CD and are available on the Web.

## JUNOS<sup>e</sup> Configuration Guides

JUNOS<sup>e</sup> software configuration guides use a bottom-up approach to describe the relationship of layers, protocols, and interfaces in the configuration process. For more information, see *Layered Approach* in *JUNOS<sup>e</sup> System Basics Configuration Guide, Chapter 1, Planning Your Network*.

The chapters in JUNOS<sup>e</sup> software configuration guides typically include the following topics:

- Conceptual and overview information
- Information you need to know or tasks you need to perform before you begin
- Platform-specific issues you need to take into consideration
- Applicable references, such as RFCs and IETF draft documents, about the protocols and features supported by the router
- Required and optional tasks, as step-by-step procedures
- Descriptions and examples of the commands you use
- Illustrations of network topologies
- Examples of command sequences for configuration, testing, and monitoring activities
- Sample displays that result when you issue the **show** command

## Obtaining Documentation

---

To obtain the most current version of all Juniper Networks technical documentation, see the products documentation page on the Juniper Networks Web site at <http://www.juniper.net/>.

To order a documentation CD, which contains this manual, contact your sales representative.

Copies of the Management Information Bases (MIBs) available in a software release are included on the software CDs and at <http://www.juniper.net/>.

## Documentation Feedback

---

We encourage you to provide feedback, comments, and suggestions so that we can improve the documentation to better meet your needs. Send your comments to [techpubs-comments@juniper.net](mailto:techpubs-comments@juniper.net), or fill out the documentation feedback form at <http://www.juniper.net/techpubs/docbug/docbugreport.html>. If you are using e-mail, be sure to include the following information with your comments:

- Document name
- Document part number

- Page number
- Software release version

## Requesting Technical Support

---

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or JNASC support contract, or are covered under warranty, and need post-sales technical support, you can access our tools and resources online or open a case with JTAC.

- **JTAC Policies**—For a complete understanding of our JTAC procedures and policies, review the *JTAC User Guide* located at <http://www.juniper.net/customers/support/downloads/710059.pdf>
- **Product Warranties**—For product warranty information, visit <http://www.juniper.net/support/warranty/>
- **JTAC Hours of Operation**—The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

## Self-Help Online Tools and Resources

For quick and easy problem resolution, Juniper Networks has designed an online self-service portal called the Customer Support Center (CSC) that provides you with the following features:

- Find CSC offerings:  
<http://www.juniper.net/customers/support/>
- Search for known bugs:  
<http://www2.juniper.net/kb/>
- Find product documentation:  
<http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base:  
<http://kb.juniper.net/>
- Download the latest versions of software and review release notes:  
<http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications:  
<https://www.juniper.net/alerts/>
- Join and participate in the Juniper Networks Community Forum:  
<http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Manager:  
<http://www.juniper.net/cm/>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool located at <https://tools.juniper.net/SerialNumberEntitlementSearch/>



## ***Opening a Case with JTAC***

You can open a case with JTAC on the Web or by telephone.

- Use the Case Manager tool in the CSC at  
<http://www.juniper.net/cm/>
- Call 1-888-314-JTAC  
(1-888-314-5822 – toll free in the USA, Canada, and Mexico)

For international or direct-dial options in countries without toll-free numbers, visit  
<http://www.juniper.net/support/requesting-support.html>



# List of Commands, N to Z

## nas-port-type atm

---

**Description** Specifies the RADIUS NAS-Port-Type attribute (61) used for ATM interfaces. The **no** version removes the NAS-Port-Type setting.

**Syntax** nas-port-type atm { adsl-cap | adsl-dmt | idsl | sdsl | xdsl | cable | wireless-80211 | wireless-cdma | wireless-umts | wireless-1x-ev | wireless-other | iapp | *value* }

no nas-port-type atm

- adsl-cap—Asymmetric DSL, Carrierless Amplitude Phase Modulation
- adsl-dmt—Asymmetric DSL, Discrete Multi-Tone
- idsl—ISDN DSL
- sdsl—Symmetric DSL
- xdsl—DSL of unknown type
- cable—Cable
- wireless-80211—Wireless 802.11
- wireless-cdma—Wireless code division multiple access (CDMA)
- wireless-umts—Wireless universal mobile telecommunications system (UMTS)
- wireless-1x-ev—Wireless 1xEV
- wireless-other—Wireless other
- iapp—Inter Access Point Protocol (IAPP)
- *value*—Number in the range 0–65535

**Mode** AAA Profile Configuration

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

## nas-port-type ethernet

---

**Description** Specifies the RADIUS NAS-Port-Type attribute (61) used for Ethernet interfaces. The **no** version removes the NAS-Port-Type setting.

**Syntax** nas-port-type ethernet { cable | wireless-80211 | wireless-cdma | wireless-umts | wireless-1x-ev | wireless-other | iapp | *value* }

no nas-port-type ethernet

- cable—Cable
- wireless-80211—Wireless 802.11
- wireless-cdma—Wireless code division multiple access (CDMA)
- wireless-umts—Wireless universal mobile telecommunications system (UMTS)
- wireless-1x-ev—Wireless 1xEV
- wireless-other—Wireless other
- iapp—Inter Access Point Protocol (IAPP)
- *value*—Number in the range 0–65535

**Mode** AAA Profile Configuration

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

## neighbor

---

**Description** For ANCP, creates an ANCP neighbor and accesses the L2C Neighbor Configuration (config-l2c-neighbor) mode. For OSPF, configures OSPF neighbors on an NBMA network. For RIP, specifies a RIP neighbor to which the router sends unicast messages. The **no** version removes the specified neighbor configuration or, by omitting the neighbor name, all ANCP neighbor configurations (ANCP), removes the neighbor (OSPF and RIP), or restores the default values (OSPF).

**Syntax** For ANCP:

[ no ] neighbor *neighborName*

- *neighborName*—Name of the ANCP neighbor

For OSPF:

neighbor *ipAddress* [ pollinterval *seconds* | priority *number* ]

no neighbor *ipAddress* [ pollinterval | priority ]

- *ipAddress*—IP address of the neighbor's interface; this interface must itself be configured for the NBMA network type
- *number*—Router priority value of the neighbor in the range 1–4294967295; default value is 0
- *seconds*—Interval in seconds at which the neighbor is polled; should be much larger than the hello interval (per RFC 1247); in the range 0–255; default value is 120

For RIP:

[ no ] neighbor *ipAddress*

- *ipAddress*—IP address of the neighbor's interface; this interface must be defined as a passive interface with the **passive-interface** command

**Mode** Address Family Configuration (RIP), Router Configuration

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

## neighbor activate

---

**Description** Specifies a peer or peer group with which routes of the current address family are exchanged. A peer or peer group can be activated in more than one address family. By default, a peer or peer group is activated only for the IPv4 unicast address family. The address families that are actively exchanged over a BGP session are negotiated when the session is established. This command takes effect immediately. The **no** version indicates that routes of the current address family should not be exchanged with the peer or peer group. The **default** version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.

**Syntax** [ no | default ] neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } activate

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

### Related Topics

- [Configuring BGP Signaling for L2VPNs](#)
- [Configuring BGP Signaling for VPLS](#)

## neighbor advertise-map

---

**Description** Specifies a peer or peer group within the current address family to which routes specified by the first route map are advertised conditionally, depending on whether the second route map is matched by some other routes in the BGP routing table. The **no** version removes the conditions for advertising the routes to the peer or peer group. The **default** version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.

**Syntax** [ no | default ] neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* }  
advertise-map *advertiseMapName* { exist-map | non-exist-map }  
*conditionMapName* [ seq *sequenceNumber* ]

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group all the members of the peer group inherit the characteristic configured with this command
- *advertiseMapName*—Name of a route map that specifies the routes controlled by conditional advertisement; no more than 50 advertise maps can be configured per peer or peer group in an address-family
- *conditionMapName*—Name of a route map that specifies the routes that control conditional advertisement
- *sequenceNumber*—Number, in the range 1–65535, that indicates the position an advertise route map has in the list of advertise route maps configured for a particular neighbor within the same address family; if the sequence number is not specified, the position of the route map is considered to be the sum of the current largest sequence number plus five

**Mode** Address Family Configuration

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

## neighbor advertisement-interval

---

<b>Description</b>	Sets the minimum interval between the sending of BGP updates for a given prefix. The <b>no</b> version restores the default interval.
<b>Syntax</b>	<pre>neighbor { ipAddress   ipv6Address   peerGroupName } advertisement-interval seconds no neighbor { ipAddress   ipv6Address   peerGroupName } advertisement-interval [ seconds ]</pre> <ul style="list-style-type: none"> <li>■ <i>ipAddress</i>—IP address of BGP neighbor</li> <li>■ <i>ipv6Address</i>—IPv6 address of BGP neighbor</li> <li>■ <i>peerGroupName</i>—Name of a BGP peer group. If you specify a BGP peer group by using the <i>peerGroupName</i> argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.</li> <li>■ <i>seconds</i>—Interval in seconds between update messages; in the range 0–600; default value is 30 seconds for external peers and 5 seconds for internal peers</li> </ul>
<b>Mode</b>	Address Family Configuration, Router Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0. <i>ipv6Address</i> variable added in JUNOS Release 8.0.0.

## neighbor allow

---

<b>Description</b>	Configures the peer group so that it accepts inbound connections from any remote address that matches the access list. The <b>no</b> version removes the configuration.
<b>Syntax</b>	<pre>[ no ] neighbor peerGroupName allow accessListName [ max-peers maxNumberDynamicPeers ]</pre> <ul style="list-style-type: none"> <li>■ <i>peerGroupName</i>—Name of a BGP peer group</li> <li>■ <i>accessListName</i>—Name of an access list that specifies remote addresses from which BGP connections may be accepted</li> <li>■ <i>maxNumberDynamicPeers</i>—Maximum number of dynamic peers that a member of the peer group may accept</li> </ul>
<b>Mode</b>	Router Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.



## neighbor allowas-in

---

**Description** Specifies the number of times that the AS path of a received route may contain the recipient BGP speaker's AS number and still be accepted. The **no** version restores the default state, which is to reject as a loop any route whose path contains the speaker's AS number. IBGP peers in the VPNv4 address family always accept these routes, regardless of the command configuration.

**Syntax** `neighbor { ipAddress | ipv6Address | peerGroupName } allowas-in number`  
`no neighbor { ipAddress | ipv6Address | peerGroupName } allowas-in [ number ]`

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- *number*—Number in the range 1–10

**Mode** Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor as-override

---

**Description** Prevents routing loops between routers within a VPN by substituting the current router's AS number in routing tables for that of the neighboring router. The **no** version halts this substitution. The **default** version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.

**Syntax** `[ no | default ] neighbor { ipAddress | ipv6Address | peerGroupName } as-override`

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command. You cannot override the characteristic for a specific member of the peer group.

**Mode** Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor bfd-liveness-detection

---

**Description** Enables BGP to determine quickly whether a BGP neighbor is unreachable by means of a BFD protocol session to the neighbor address or to each member of the specified peer group. The **no** version disables BFD liveness detection for the neighbor or peer-group members. The **default** version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.

**Syntax** `neighbor { ipAddress | ipv6Address | peerGroupName } bfd-liveness-detection`  
`[ minimum-interval minInterval |`  
`[ minimum-receive-interval minRecInterval ]`  
`[ minimum-transmit-interval minTransInterval ] ] [ multiplier multiplierValue ]`  
`{ no | default } neighbor { ipAddress | ipv6Address | peerGroupName }`  
`bfd-liveness-detection`

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- *minInterval*—Minimum proposed transmit interval and required receive interval for BFD control packets; number in the range 100–65535 milliseconds; default value is 300 milliseconds
- *minRecInterval*—Minimum interval at which the local peer must receive BFD control packets sent by the remote peer; number in the range 100–65535 milliseconds; default value is 300 milliseconds
- *minTransInterval*—Minimum proposed interval between BFD control packets sent by the local peer; number in the range 100–65535 milliseconds; default value is 300 milliseconds
- *multiplierValue*—Detection multiplier value that the remote peer router multiplies by the local peer's negotiated transmit interval to determine the remote peer's BFD liveness detection interval; equal to the number of BFD packets that can be missed before the BFD session is declared down; number in the range 1–255; default value is 3

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced in JUNOS Release 7.2.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor capability

---

**Description** Controls advertisement of BGP capabilities to peers. Capability negotiation and advertisement of all capabilities, except the ORF capability, is enabled by default. The **no** version disables capability negotiation or prevents advertisement of the specified capability. The **default** version restores the default condition, advertising the capability.

**Syntax** For all capabilities except ORF:  
[ no | default ] neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } capability { deprecated-dynamic-capability-negotiation | dynamic-capability-negotiation | four-octet-as-numbers | negotiation | route-refresh | route-refresh-cisco }

For the ORF capability:

neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } capability orf { prefix-list | prefix-list-cisco } { send | receive | both }

{ no | default } neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } capability orf { prefix-list | prefix-list-cisco } [ send | receive | both ]

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor; because IPv6 ORF prefix lists are not supported, this variable is valid for the ORF c capability only under the IPv4 address family for advertising IPv4 routes over BGP IPv6 peers
- *peerGroupName*—Name of BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- negotiation—Determines whether the capabilities option is sent in the open message while establishing a session; if it is not sent, no capability negotiation is conducted with that peer
- deprecated-dynamic-capability-negotiation—Indicates support of negotiation of capabilities (sending new capabilities or removing previously negotiated capabilities) without performing a hard clear of the BGP session; the capability data field does not include a list of capabilities that can be dynamically negotiated
- dynamic-capability-negotiation—Indicates support of negotiation of capabilities (sending new capabilities or removing previously negotiated capabilities) without performing a hard clear of the BGP session; the capability data field includes a list of capabilities that can be dynamically negotiated
- four-octet-as-numbers—Indicates support of AS numbers and sub-AS numbers that are four octets in length, in the range 0–4294967295
- route-refresh—Indicates support of route-refresh messages that request the peer to resend its routes to the router, enabling the BGP speaker to apply modified or new policies to the routes when it receives them again

- **route-refresh-cisco**—Indicates support of Cisco-proprietary (prestandard) route-refresh messages for interoperability with older Cisco devices
- **orf**—Indicates support of cooperative route filtering to install a BGP speaker's inbound route filter as an outbound route filter on the peer
- **prefix-list**—Installs the filter (any inbound prefix list or distribute list) as an outbound prefix list
- **prefix-list-cisco**—Installs the filter (any inbound prefix list or distribute list) as an outbound Cisco proprietary prefix list
- **send**—Sends inbound route filter to the peer to install as the outbound route filter
- **receive**—Accepts inbound route filter from the peer and installs it as the outbound route filter; cannot be configured for a peer group or a peer that is a member of a peer groups
- **both**—Sends and accepts inbound route filters with the peer for installation as the outbound route filter

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor default-originate

---

**Description** Allows a BGP speaker (the local router) to send the default route 0.0.0.0/0 to a neighbor for use as a default route. When you issue this command in the route-target address family, BGP advertises the Default-RT-MEM-NLRI route (0:0:0/0). The **no** version halts sending a default route to the neighbor. The **default** version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.

**Syntax** `neighbor { ipAddress | ipv6Address | peerGroupName } default-originate`  
`[ route-map mapTag ]`  
`{ no | default } neighbor { ipAddress | ipv6Address | peerGroupName } default-originate`  
`[ route-map [ mapTag ] ]`

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command. You cannot override the characteristic for a specific member of the peer group.
- *mapTag*—Name of route map applied to modify the attributes of the default route or to filter the default route; string of up to 32 characters

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor description

---

**Description** Associates a textual description with a BGP neighbor. The **no** version removes the description.

**Syntax** neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } description text  
no neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } description

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- *text*—Up to 80 characters of text that describes the neighbor

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor distribute-list

---

**Description** Distributes BGP neighbor information as specified in an access list. The **no** version removes an entry.

Using distribute lists is one of several ways to filter BGP advertisements. You can also use route maps or use AS-path filters, as with the **ip as-path access-list** Global Configuration command and the **neighbor filter-list** command.

**Syntax** `neighbor { ipAddress | ipv6Address | peerGroupName } distribute-list  
accessListName { in | out }`

`no neighbor { ipAddress | ipv6Address | peerGroupName } distribute-list  
[ accessListName ] { in | out }`

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- *accessListName*—String of up to 32 alphanumeric characters identifying an access list
- *in*—Applies list to incoming routes (inbound policy)
- *out*—Applies list to outgoing routes (outbound policy); you cannot configure a member of a peer group to override the inherited peer group characteristic for outbound policy

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor ebgp-multihop

---

**Description** Allows BGP to accept route updates from external peers residing on networks that are not directly connected. The **no** version halts accepting such routers. The **default** version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.

**Syntax** [ no | default ] neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } ebgp-multihop [ *ttl* ]

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- *ttl*—Maximum number of hops to the peer, in the range 1–255; default value is 255

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor filter-list

---

**Description** Applies an AS path access list to advertisements inbound from or outbound to the specified neighbor, or assigns a weight to incoming routes that match the AS path access list. The **no** version stops the application of the list or assignment of the weight.

**Syntax** To apply an access list:

```
neighbor { ipAddress | ipv6Address | peerGroupName } filter-list
accessListName { in | out }
```

```
no neighbor { ipAddress | ipv6Address | peerGroupName } filter-list
[ accessListName ] { in | out }
```

To assign a weight:

```
neighbor { ipAddress | ipv6Address | peerGroupName } filter-list
accessListName weight value
```

```
no neighbor { ipAddress | ipv6Address | peerGroupName } filter-list
[ accessListName ] weight [ value ]
```

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- *accessListName*—Name of a single AS path access list; string of up to 32 characters
- in—Applies access list to incoming routes (inbound policy)
- out—Applies access list to outgoing routes (outbound policy); you cannot configure a member of a peer group to override the inherited peer group characteristic for outbound policy
- *value*—Number in the range 0–65535; assigns relative importance to incoming routes matching AS paths

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.



## neighbor graceful-restart

---

**Description** Enables the BGP graceful restart capability for the peer or peer group, which enables BGP to maintain its forwarding state during a peer restart, avoiding network-wide route flaps and interruptions in traffic forwarding. Graceful restart is enabled by default. The **no** version disables the graceful restart capability. The **default** version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.

**Syntax** [ no | default ] neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } graceful-restart

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor graceful-restart restart-time

---

**Description** Sets the time period advertised to a specific peer or peer group during which a restart is expected to be complete on this BGP speaker. If the speaker does not reestablish peering sessions within this period, the peer flushes all routes from this speaker that it marked as stale when the speaker restarted and the session went down. The **no** version restores the default value, 120 seconds.

**Syntax** `neighbor { ipAddress | ipv6Address | peerGroupName } graceful-restart restart-time seconds`  
`no neighbor { ipAddress | ipv6Address | peerGroupName } graceful-restart restart-time [ seconds ]`

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- *seconds*—Integer in the range 1–3600; default value is 120 seconds

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor graceful-restart stalepaths-time

---

**Description** For a peer or peer group, sets the time period after a peer session restart during which BGP waits for an End-of-RIB marker from the peer before flushing all stale routes from that peer. The period is measured from when the session is detected in a down state. The **no** version restores the default value, 360 seconds.

**Syntax** `neighbor { ipAddress | ipv6Address | peerGroupName } graceful-restart stalepaths-time seconds`  
`no neighbor { ipAddress | ipv6Address | peerGroupName } graceful-restart stalepaths-time [ seconds ]`

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- *seconds*—Integer in the range 1–3600; default value is 360 seconds

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor ibgp-singlehop

---

**Description** Configures an internal BGP peer to be a single-hop (non-multihop) peer. The **no** version restores the default, wherein internal peer cannot be a single hop. The **default** version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.

**Syntax** [ no | default ] neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } ibgp-singlehop

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.

**Mode** Address Family Configuration, Router Configuration

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

## neighbor lenient

---

**Description** Enables lenient behavior to make the BGP speaker more tolerant of malformed packet and finite state machine errors generated by peer, so that the speaker can attempt recovery from the error and avoid bringing down the session. The **no** version disables lenient behavior; this is the default condition.

**Syntax** [ no ] neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } lenient

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor local-as

---

**Description** Assigns a local AS number for the specified BGP peer or peer group. The **no** version restores the default value set globally for the BGP instance with the **router bgp** command.

**Syntax** `neighbor { ipAddress | ipv6Address | peerGroupName } local-as number`  
`no neighbor { ipAddress | ipv6Address | peerGroupName } local-as [ number ]`

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of the BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- *number*—Number in the range 1–4294967295; the local AS to assign to the peer

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor maximum-orf-entries

---

**Description** Sets the maximum number of ORF entries of a particular type that are accepted from the specified neighbor. The **no** version restores the default value of no limits.

**Syntax** `neighbor { ipAddress | ipv6Address } maximum-orf-entries maximum`  
`no neighbor { ipAddress | ipv6Address } maximum-orf-entries [ maximum ]`

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *maximum*—Maximum number of ORF entries in the range 0–4294967295; default value is no limit

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor maximum-prefix

---

**Description** Sets the number of prefixes that can be received from a neighbor. The **no** version removes the maximum prefix limitation.

**Syntax** neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } maximum-prefix *maximum* [ *threshold* ] [ *strict* ] [ *warning-only* ]  
no neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } maximum-prefix [ *maximum* ] [ *threshold* ] [ *strict* ] [ *warning-only* ]

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of the BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- *maximum*—Maximum number of prefixes; default value is no limit
- *threshold*—Percent of maximum at which to log a warning in the range 0–100; default value is 75
- *strict*—Checks the maximum prefix limit against all received routes rather than the default behavior of checking it only against accepted routes
- *warning-only*—Causes BGP software to log a warning, rather than reset the connection if the *maximum* or *threshold* value is exceeded

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor maximum-update-size

---

<b>Description</b>	Sets the maximum size of update messages transmitted to a BGP peer. The <b>no</b> version removes the maximum update size limitation.
<b>Syntax</b>	<p>neighbor { <i>ipAddress</i>   <i>ipv6Address</i>   <i>peerGroupName</i> } maximum-update-size <i>value</i></p> <p>no neighbor { <i>ipAddress</i>   <i>ipv6Address</i>   <i>peerGroupName</i> } maximum-update-size [ <i>value</i> ]</p> <ul style="list-style-type: none"> <li>■ <i>ipAddress</i>—IP address of BGP neighbor</li> <li>■ <i>ipv6Address</i>—IPv6 address of BGP neighbor</li> <li>■ <i>peerGroupName</i>—Name of the BGP peer group. If you specify a BGP peer group by using the <i>peerGroupName</i> argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.</li> <li>■ <i>value</i>—Maximum update size in octets in the range 256–4096; default value is 1024</li> </ul>
<b>Mode</b>	Address Family Configuration, Router Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0. <i>ipv6Address</i> variable added in JUNOS Release 8.0.0.

## neighbor next-hop-self

---

<b>Description</b>	Forces the BGP speaker to report itself as the next hop for an advertised route it advertised to a neighbor. Typically you use this command to prevent third-party next hops from being used on NBMA media such as Frame Relay. The <b>no</b> version disables the feature. The <b>default</b> version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.
<b>Syntax</b>	<p>[ no   default ] neighbor { <i>ipAddress</i>   <i>ipv6Address</i>   <i>peerGroupName</i> } next-hop-self</p> <ul style="list-style-type: none"> <li>■ <i>ipAddress</i>—IP address of BGP neighbor</li> <li>■ <i>ipv6Address</i>—IPv6 address of BGP neighbor</li> <li>■ <i>peerGroupName</i>—Name of a BGP peer group. If you specify a BGP peer group by using the <i>peerGroupName</i> argument, all the members of the peer group inherit the characteristic configured with this command. You cannot override the characteristic for a specific member of the peer group.</li> </ul>
<b>Mode</b>	Address Family Configuration, Router Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0. <i>ipv6Address</i> variable added in JUNOS Release 8.0.0.

### Related Topics

- [Configuring BGP Signaling for L2VPNs](#)
- [Configuring BGP Signaling for VPLS](#)

## neighbor next-hop-unchanged

---

**Description** Configures BGP to not modify the next hop sent to the BGP peer. Outbound route maps take precedence over this command, enabling prefixes that match the route map to be modified, regardless of this command. The **no** version reenables BGP to modify the next hop. The **default** version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.

**Syntax** [ no | default ] neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } next-hop-unchanged

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.

**Mode** Address Family Configuration

**Release Information** Command introduced in JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor passive

---

**Description** Configures the BGP speaker so that it only accepts inbound connections from, but does not initiate outbound connections to, the peer or peer group. The **no** version permits the initiation of outbound connections. The **default** version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.

**Syntax** [ no | default ] neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } passive

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.

**Mode** Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor password

---

**Description** Enables MD5 authentication on a TCP connection between two BGP peers. The **no** version disables MD5 authentication.

**Syntax** `neighbor { ipAddress | ipv6Address | peerGroupName } password [ 0 | 8 ] string`  
`no neighbor { ipAddress | ipv6Address | peerGroupName } password`

- *ipAddress*—IP address of the BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of the BGP peer group to which this neighbor belongs. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- 0—Indicates that the MD5 password is entered in unencrypted form (plaintext)
- 8—Indicates that the MD5 password is entered in encrypted form (ciphertext)
- *string*—MD5 password, an alphanumeric text string of up to 80 characters

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.



## neighbor peer-group

---

**Description** When used from Router Configuration mode without specifying an IP address, creates a BGP peer group. The **no** version removes a peer group.

When used from Router Configuration mode with an IP address or from Address Family Configuration mode, configures a BGP neighbor to be a member of a peer group. The **no** version removes a neighbor from a peer group.



**NOTE:** You cannot mix IPv4 and IPv6 peer members in a peer group. Only one type peer is allowed, IPv4 or IPv6. For example, the following error is generated if an IPv6 peer group member is added to a peer group that already has IPv4 members; that is, where the peer-group type is IPv4:

```
host1(config-router)#neighbor 1::1 peer-group hamburg
% Unable to set 'peer-group' for address family ipv4:unicast for peer 1::1
in core (IPv6 peer cannot be member of a peer-group of type IPv4)
```

**Syntax** Creating a peer group:

`neighbor peerGroupName peer-group`

`no neighbor peerGroupName [ peer-group ]`

- *peerGroupName*—Name of BGP peer group

Assigning members to a peer group:

`neighbor { ipAddress | ipv6Address } peer-group peerGroupName`

`no neighbor { ipAddress | ipv6Address } peer-group [ peerGroupName ]`

- *ipAddress*—IP address of the BGP neighbor that belongs to the peer group specified by the name
- *ipv6Address*—IPv6 address of the BGP neighbor that belongs to the peer group specified by the name
- *peerGroupName*—Name of the BGP peer group to which this neighbor belongs

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor peer-type

---

<b>Description</b>	Specifies the type for the peer group. The <b>no</b> version removes the configuration.
<b>Syntax</b>	<p>neighbor <i>peerGroupName</i> peer-type { internal   external   confederation }</p> <p>no neighbor <i>peerGroupName</i> peer-type</p> <ul style="list-style-type: none"> <li>■ <i>peerGroupName</i>—Name of a BGP peer group. If you specify a BGP peer group by using the <i>peerGroupName</i> argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.</li> <li>■ internal—Peers must be in the same AS; if confederations are employed, peers must be in the same sub-AS in the same confederation</li> <li>■ external—Peers must be in a different AS</li> <li>■ confederation—Peers must be in a different sub-AS in the same confederation; used only if confederations are employed</li> </ul>
<b>Mode</b>	Router Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## neighbor prefix-list

---

<b>Description</b>	Assigns an inbound or outbound prefix list. The <b>no</b> version removes the prefix list.
<b>Syntax</b>	<p>neighbor { <i>ipAddress</i>   <i>ipv6Address</i>   <i>peerGroupName</i> } prefix-list <i>prefixListName</i> { in   out }</p> <p>no neighbor { <i>ipAddress</i>   <i>ipv6Address</i>   <i>peerGroupName</i> } prefix-list [ <i>prefixListName</i> ] { in   out }</p> <ul style="list-style-type: none"> <li>■ <i>ipAddress</i>—IP address of BGP neighbor</li> <li>■ <i>ipv6Address</i>—IPv6 address of BGP neighbor</li> <li>■ <i>peerGroupName</i>—Name of a BGP peer group. If you specify a BGP peer group by using the <i>peerGroupName</i> argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.</li> <li>■ <i>prefixListName</i>—Name of a BGP prefix list</li> <li>■ in—Assigns prefix list to incoming routes (inbound policy)</li> <li>■ out—Assigns prefix list to outgoing routes (outbound policy); you cannot configure a member of a peer group to override the inherited peer group characteristic for outbound policy</li> </ul>
<b>Mode</b>	Address Family Configuration, Router Configuration
<b>Release Information</b>	<p>Command introduced before JUNOS Release 7.1.0.</p> <p><i>ipv6Address</i> variable added in JUNOS Release 8.0.0.</p>

## neighbor prefix-tree

---

**Description** Assigns an inbound or outbound prefix tree. The **no** version removes the prefix tree.

**Syntax** neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* }  
prefix-tree *prefixTreeName* { in | out }  
  
no neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* }  
prefix-tree [ *prefixTreeName* ] { in | out }

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor; valid only under the IPv4 address family for advertising IPv4 routes over BGP IPv6 peers
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- *prefixTreeName*—Name of a BGP prefix tree
- in—Assigns prefix tree to incoming routes (inbound policy)
- out—Assigns prefix tree to outgoing routes (outbound policy); you cannot configure a member of a peer group to override the inherited peer group characteristic for outbound policy

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor remote-as

---

**Description** Adds an entry to the BGP neighbor table. Specifying a neighbor with an AS number that matches the AS number specified in the **router bgp** command identifies the neighbor as internal to the local AS. Otherwise, the neighbor is considered external. This command takes effect immediately. The **no** version removes an entry from the table.

**Syntax** neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } remote-as *number*  
no neighbor { *ipAddress* | *ipv6Address* } [ remote-as [ *number* ] ]  
no neighbor *peerGroupName* remote-as [ *number* ]

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- *number*—Number in the range 1–4294967295; the AS to which the neighbor belongs

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

### Related Topics

- [Configuring BGP Signaling for L2VPNs](#)
- [Configuring BGP Signaling for VPLS](#)

## neighbor remove-private-as

---

**Description** Removes private AS numbers in updates sent to external peers. Private AS numbers are only in the range 64,512–65,535. The **no** version halts removing private AS numbers. The **default** version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.

**Syntax** [ no | default ] neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } remove-private-as

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command. You cannot override the characteristic for a specific member of the peer group.

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor rib-out disable

---

**Description** Disables storage of routes to the Adj-RIBs-Out table (disables rib-out) for the neighbor or peer group. Storage is disabled by default. The **no** version enables the route storage. The **default** version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.



**NOTE:** If you enable or disable rib-out for a peer or peer group and this action changes the current configuration, the peer session or all peer group sessions are automatically bounced.

**Syntax** [ no | default ] neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } rib-out disable

- *ipAddress*—IP address of BGP neighbor; you can independently enable or disable the Adj-RIBs-Out table for a peer, regardless of whether it is a member of a peer group
- *ipv6Address*—IPv6 address of BGP neighbor; you can independently enable or disable the Adj-RIBs-Out table for a peer, regardless of whether it is a member of a peer group
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, a single Adj-RIBs-Out table is established for the peer group; BGP does not enable individual Adj-RIBs-Out tables for each peer group member.

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor route-map

---

- Description** Applies a route map to incoming or outgoing routes. If an outbound route map is specified, BGP advertises only routes that match at least one section of the route map. The **no** version removes a route map.
- Syntax** `neighbor { ipAddress | ipv6Address | peerGroupName } route-map mapTag { in | out }`  
`no neighbor { ipAddress | ipv6Address | peerGroupName } route-map [ mapTag ] { in | out }`
- *ipAddress*—IP address of BGP neighbor
  - *ipv6Address*—IPv6 address of BGP neighbor
  - *peerGroupName*—Name of BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
  - *mapTag*—Name of the route map; a string of up to 32 alphanumeric characters
  - in—Applies route map to incoming routes
  - out—Applies route map to outgoing routes; you cannot configure a member of a peer group to override the inherited peer group characteristic for outbound policy
- Mode** Address Family Configuration, Router Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor route-reflector-client

---

- Description** Configures a router as a BGP route reflector and configures the specified neighbor as its client. The **no** version indicates that the neighbor is not a client. The **default** version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.
- Syntax** `[ no | default ] neighbor { ipAddress | ipv6Address | peerGroupName } route-reflector-client`
- *ipAddress*—IP address of BGP neighbor being identified as a client
  - *ipv6Address*—IPv6 address of BGP neighbor being identified as a client
  - *peerGroupName*—Name of BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command. You cannot override the characteristic for a specific member of the peer group.
- Mode** Address Family Configuration, Router Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor send-community

---

**Description** Enables a BGP speaker to send a community attribute to the peer. The **no** version causes the speaker to send only standard communities to the peer. The **default** version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.

**Syntax** [ no | default ] neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } send-community [ standard | extended | both ]

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command. You cannot override the characteristic for a specific member of the peer group.
- standard—Sends only standard communities
- extended—Sends only extended communities
- both—Sends both standard and extended communities

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor send-label

---

**Description** Configures a neighbor to distribute an MPLS label with its IPv4 and IPv6 route advertisements. This command enables BGP to dynamically negotiate SAFI 1 and SAFI 4 with this neighbor. In Router Configuration mode, the command has the same effect as if it were issued in the context of the IPv4 unicast address family. The **no** version removes the configuration.

**Syntax** [ no ] neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } send-label

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command. You cannot override the characteristic for a specific member of the peer group.

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor shutdown

---

**Description** Shuts down the specified neighbor or peer group without removing the neighbor or peer group configuration. The **no** version reenables a neighbor or peer group that was previously shut down. The **default** version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.

**Syntax** [ no | default ] neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } shutdown

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.



## neighbor site-of-origin

---

**Description** Specifies a site of origin that is added to the extended communities list in each route received from the specified peer, unless the extended communities list already includes a site of origin. When routes are advertised to the peer, routes whose extended communities list contain this site of origin are filtered out and not advertised to the peer. The **no** version removes the site of origin for the peer.

**Syntax** `neighbor { ipAddress | ipv6Address | peerGroupName } site-of-origin siteOfOrigin`  
`no neighbor { ipAddress | ipv6Address | peerGroupName } site-of-origin`

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command. You cannot override the characteristic for a specific member of the peer group.
- *siteOfOrigin*—Designator for the site of origin; in the format *AA:NN*, where any of the following is true:
  - *AA*—AS number in the range 0–65535 and *NN* is an integer in the range 0–4294967295; for example, 320:72358
  - *AA*—AS number in the range 0–4294967295 and *NN* is an integer in the range 0–65535; for example, 84511:45
  - *AA*—Dotted decimal IP address and *NN* is an integer in the range 0–65535; for example, 10.10.21.5:1256

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor soft-reconfiguration inbound

---

**Description** Initiates storage of unmodified copies of routes from the specified neighbor or all members of the specified peer group. The **no** version halts this storage. The **default** version removes the explicit configuration from the peer or peer group and reestablishes inheritance of the feature configuration.

**Syntax** [ no | default ] neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* }  
soft-reconfiguration inbound

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor timers

---

**Description** Sets keepalive and hold-time timers for the specified neighbor or peer group. Overrides values set for the router with the **timers bgp** command. The **no** version restores the default values.

**Syntax** neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } timers *keepaliveTime* *holdTime*  
no neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } timers [ *keepaliveTime* ]  
[ *holdTime* ]

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- *keepaliveTime*—Interval in seconds between keepalive messages, in the range 0–65535 seconds; default value is 30 seconds; a value of zero prevents BGP from sending keepalive messages
- *holdTime*—Period in seconds that BGP waits for keepalive messages before declaring the neighbor to be unavailable, in the range 0–65535 seconds; default value is 90 seconds; a value of zero informs BGP not to expect any keepalive messages

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor unsuppress-map

---

**Description** Restores the advertisement of routes suppressed by policy-based route flap dampening. The **no** version restores the default values.

**Syntax** neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } unsuppress-map *mapTag*  
no neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } unsuppress-map [ *mapTag* ]

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command. You cannot override the characteristic for a specific member of the peer group.
- *mapTag*—Name of the route map; a string of up to 32 alphanumeric characters

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## neighbor update-source

**Description** Allows a BGP session to use the IP address of a specific operational interface as the source address of TCP connections used by BGP. This command takes effect immediately and automatically bounces the BGP session. If you specify an interface in this command and later remove the interface, this command is also removed from the router configuration. The **no** version restores the interface assignment to the closest interface.



**NOTE:** Removing an interface that was specified in this command effectively removes this command from the router configuration as well.

**Syntax**

```
neighbor { ipAddress | ipv6Address | peerGroupName } update-source
{ interfaceType interfaceSpecifier | updateSourceAddress | updateSourceev6Address }
no neighbor { ipAddress | ipv6Address | peerGroupName } update-source
[ interfaceType interfaceSpecifier | updateSourceAddress | updateSourceev6Address ]
```

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- *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](#)
- *updateSourceAddress*—Source IP address
- *updateSourceev6Address*—Source IPv6 address

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable and *updateSourceev6Address* variable added in JUNOS Release 8.0.0.

### Related Topics

- [Configuring BGP Signaling for L2VPNs](#)

## neighbor weight

---

**Description** Assigns a weight to a neighbor connection. The **no** version removes a weight assignment. All routes learned from this neighbor will have the assigned weight initially. The route with the highest weight will be chosen as the preferred route when multiple routes are available to a particular network.

The weights assigned with the **match as-path** and **set weight route-map** commands override the weights assigned with the **neighbor weight** and **neighbor filter-list** commands.

**Syntax** `neighbor { ipAddress | ipv6Address | peerGroupName } weight value`  
`no neighbor { ipAddress | ipv6Address | peerGroupName } weight [ value ]`

- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- *value*—Number in the range 0–65535; the weight to assign

**Mode** Address Family Configuration, Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.

## net

---

**Description** Configures an IS-IS network entity title for the specified routing process. The **no** version removes a specific NET. You must specify a NET. You can add multiple manual area IDs by adding multiple NETs with the same system ID. The last NET cannot be removed.

**Syntax** [ no ] net *networkEntityTitle*

- *networkEntityTitle*—NET that specifies the area ID and the system ID for an IS-IS routing process; can be either an address or a name; in the form of: *areaID.systemID.nSelector*  
For example:

```

47.0010.0000.0000.0001.0001,1111.1111.1111,00
      area ID          system ID  N selector

```

- *areaID*—All bytes in front of the system ID; the number of bytes can vary from 1–13 bytes
- *systemID*—Always 6 bytes and cannot vary
- *nSelector*—Last byte; always 0

**Mode** Router Configuration

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

## netbios-name-server

---

**Description** Assigns a NetBIOS server to subscribers of an address pool. The **no** version removes the association between the address pool and the NetBIOS server.

**Syntax** netbios-name-server *ipAddressPrimary* [ *ipAddressSecondary* ]  
no netbios-name-server

- *ipAddressPrimary*—IP address of preferred NetBIOS server
- *ipAddressSecondary*—IP address of secondary DNS server

**Mode** DHCP Local Pool Configuration

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

## netbios-node-type

---

**Description** Specifies a NetBIOS node type. The **no** version restores the default situation, in which the node type is unspecified.

**Syntax** netbios-node-type *nodeType*  
no netbios-node-type

- *nodeType*—One of the following types of NetBIOS servers:
  - b-node—NetBIOS Broadcast node
  - p-node—NetBIOS Peer-to-Peer node
  - m-node—NetBIOS mixed node
  - h-node—NetBIOS hybrid node

**Mode** DHCP Local Pool Configuration

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

## network

---

**Description** For BGP, does one of the following:

- Configures a BGP speaker with an IPv6 or IPv4 prefix originating within its AS that it advertises to its peers if a non-BGP route to the prefix exists in the IP forwarding table. The **no** version removes the prefix.
- Originates a RT-MEM-NLRI route for the prefix that represents the route-target membership NLRI. This route is advertised to all peers that have negotiated the route-target address family. The advertisement is used by the speaker to exhibit interest in or request routes from a specific VPN that is not configured locally. The **no** version removes the prefix.

For DHCP local server, specifies IP addresses that the DHCP local server can provide from an address pool. The **no** version removes the network address and mask.

For RIP, enables RIP on a specific network (not on a range of networks). If you do not associate a network with RIP, the router cannot advertise the network in any RIP update. The **no** version disables RIP on a specific network. If you do not specify a network mask, the router applies the natural mask. Use the **ip rip** commands to configure RIP attributes on the network.

**Syntax** For BGP:

```
[ no ] network { networkNumber [ [ mask ] networkMask ] | ipv6Prefix | rtfPrefix }
[ route-map mapTag ] [ weight weight ] [ backdoor ]
```

- *networkNumber*—Prefix that BGP will advertise
- *networkMask*—Subnet mask
- *ipv6Prefix*—IPv6 prefix that BGP will advertise
- *rtfPrefix*—Prefix representing the route-target membership NLRI (RT-MEM-NLRI), in the format *asNumber:extendedCommunity/prefixLength* (for example, 320:320:524/36) where:
  - *asNumber*—AS number for origin of route target information, in the range 1–4294967295
  - *extendedCommunity*—Two-part number in the format *number1:number2* that identifies an extended community of VPNs, in the format *number1:number2*, where:
    - *number1*—Autonomous system (AS) number, in the range 1–4294967295, or an IP address
    - *number2*—Unique integer, in the range 1–4294967295; 32 bits if *number1* is a 16-bit AS number; 16 bits if *number1* is an IP address or a 32-bit AS number
  - *prefixLength*—Number that specifies the length of the route prefix, in the range 32–96



- *mapTag*—Name of the route map; a string of up to 32 alphanumeric characters; does not currently work with *rtMemNlri*
- *weight*—Number in the range 0–65535; default value is 32768; assigns an absolute weight to the network route that overrides a weight assigned by the **redistribute** command
- *backdoor*—Lowers the preference of an EBGp route to the specified prefix by setting the administrative distance to the value of an internal BGP route. Use this option to favor an IGP backdoor route over an EBGp route to a specific network. BGP does not advertise the prefix specified with this option.

For DHCP local server:

**network** *networkAddress* { *networkMask* | *prefix* }

**no network** [ *force* ]

- *networkAddress*—IP address of the network
- *networkMask*—Subnet mask for the network
- *prefix*—Network prefix
- *force*—Deletes address pool even if the pool is in use

For RIP:

[ *no* ] **network** *networkAddress* [ *networkMask* ]

- *networkAddress*—IP address of the network
- *networkMask*—Subnet mask; the command accepts either the standard mask (network 10.2.1.0 255.255.255.0) or the inverse mask (network 10.2.1.0 0.0.0.255)

**Mode** Address Family Configuration (BGP, RIP), DHCP Local Pool Configuration (for DHCP local server), Router Configuration (BGP, RIP)

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*rtMemNlri* variable added in JUNOS Release 9.0.0.  
*rtMemNlri* variable replaced by *rtfPrefix* variable in JUNOS Release 9.1.0.

## network area

---

**Description** Defines the interfaces on which OSPF runs and the area ID for those interfaces. The **no** version deletes OSPF interfaces, ranges, and areas.



**NOTE:** Before you issue this command, you must first configure one or more interfaces with an IP address that is within the range specified by *ipNet*.

**NOTE:** Create address ranges that do not overlap; you can attach only the same range of interfaces to a single area

---

**Syntax** [ no ] network *ipNet maskWildcard* area { *areald* | *arealdInt* }

- *ipNet*—Network number
- *maskWildcard*—Wild-card mask for the network number
- *areald*—OSPF area ID in IP address format
- *arealdInt*—OSPF area ID as a decimal value, in the range 0–4294967295

**Mode** Router Configuration

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

**Related Topics**

- [Configuring Routing in the Core Network for VPLS](#)

## next-address

---

**Description** Configures an IPv4 hop at the end of the MPLS explicit path. There is no **no** version.

**Syntax** next-address *ipAddress* [ [ mask ] *ipMask* ] [ loose ]

- *ipAddress*—Address of the node
- *ipMask*—[not currently used] Mask for the next adjacent address
- loose—Indicates that the node is not necessarily directly connected (adjacent) to the previous node in the path. If loose is not configured, the configuration defaults to strict. Strict indicates that the node is directly connected to the previous node.

**Mode** Explicit Path Configuration

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

## next-hop

---

**Description** Defines the IP address of the next hop for an IP policy list. The **no** version removes a next-hop rule from a policy list; the **suspend** keyword temporarily suspends the rule; the **no suspend** version resumes application of a suspended rule.

---



**NOTE:** The **next-hop** command has been replaced by the **forward next-hop** command and may be removed completely in a future release.

The SRP module Fast Ethernet port cannot be the destination of the **next-hop** command.

---

**Syntax** [ no ] [ suspend ] next-hop *address* [ classifier-group *claclName* ]  
[ precedence *precValue* ]

- *address*—IP address for the next hop
- *claclName*—In Policy List Configuration, specifies the classifier control list used to classify packets for this next-hop policy. If you do not specify a classifier group, the router selects all packets from the interface associated with this policy list for this rule.
- *precValue*—In Policy List Configuration, specifies the precedence of this rule in relation to other rules within this set

**Mode** Classifier Group Configuration, Policy List Configuration

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

### Related Topics

- [Policy Rule Precedence](#)

## next-interface

---

**Description** Defines an output interface for an IP policy list. When the *interfaceType* is a broadcast medium, specify a next hop using the **next-hop** command. The **no** version removes a next interface rule from a policy list; the **suspend** keyword temporarily suspends the rule; the **no suspend** version resumes application of a suspended rule. For IP interfaces, this command is supported only on input policies.



**NOTE:** The **next-interface** command has been replaced by the **forward interface** command and may be removed completely in a future release.

The SRP module Fast Ethernet port cannot be the destination of the **next-interface** command.

---

**Syntax** [ no ] [ suspend ] next-interface *interfaceType* *interfaceSpecifier*  
 [ next-hop *nextHop* ] [ classifier-group *claclName* ] [ precedence *precValue* ]

- *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](#)
- *nextHop*—Next-hop IP address
- *claclName*—In Policy List Configuration, specifies the classifier control list used to classify packets for this next-hop policy. If you do not specify a classifier group, the router selects all packets from the interface associated with this policy list for this rule.
- *precValue*—In Policy List Configuration, specifies the precedence of this rule in relation to other rules within this set

**Mode** Classifier Group Configuration, Policy List Configuration

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

### Related Topics

- [Policy Rule Precedence](#)

## next-parent

---

**Description** Links the current parent group to the next parent group in a hierarchy. Only external parent groups can be configured as next parent. The **no** version deletes the next parent group.

**Syntax** next-parent *parentGroupName*  
no next-parent

- *parentGroupName*—Name of the next parent group

**Mode** Parent Group Configuration

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

**Related Topics**

- [Creating a Classifier Group for a Policy List](#)

## no area

---

**Description** Removes the specified OSPF area if there are no OSPF interfaces configured in the area. This command has only a **no** version.

**Syntax** no area { *areald* | *arealdInt* }

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

**Mode** Router Configuration

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

## no boot hotfix all-releases

---

**Description** Disarms all armed hotfixes for all releases. This command has only a **no** version.



**NOTE:** See also the [boot hotfix](#) command.

---

**Syntax** no boot hotfix *hfixFilename* all-releases

- *hfixFileName*—Name of a hotfix software file (.hfx) on the local file system

**Mode** Boot

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

## no bulkstats

---

<b>Description</b>	Removes all bulkstats configurations from the router at one time. This command has only a <b>no</b> version.
<b>Syntax</b>	no bulkstats
<b>Mode</b>	Router Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## no ip interface

---

<b>Description</b>	Removes the IP configuration from the interface or subinterface and disables IP processing on the interface. This command has only a <b>no</b> version.
<b>Syntax</b>	no ip interface
<b>Mode</b>	Interface Configuration, Subinterface Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## no log filters

---

<b>Description</b>	Turns off all log filters. To turn off a specific filter, use the <b>no</b> version of the <b>log severity</b> command that you used to add the filter. This command has only a <b>no</b> version.
<b>Syntax</b>	no log filters
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## no radius client

---

<b>Description</b>	Unconfigures all RADIUS servers for the virtual router context and deletes the RADIUS client for the virtual router context. This command has only a <b>no</b> version.
<b>Syntax</b>	no radius client
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## no rtr

---

<b>Description</b>	Removes all RTR configuration information from the router. This command has only a <b>no</b> version.
<b>Syntax</b>	no rtr
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## no rtr reaction-configuration

---

<b>Description</b>	Clears all traps for all the <b>rtr reaction-configuration</b> command options. This command has only a <b>no</b> version.
<b>Syntax</b>	no rtr reaction-configuration <i>rtrIndex</i> <ul style="list-style-type: none"><li>■ <i>rtrIndex</i>—Number of the operation to be configured, in the range 1–4294967295</li></ul>
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## no service-management subscriber-session force

---

<b>Description</b>	Immediately terminates the specified subscriber session and deletes all service sessions associated with the subscriber session.
<b>Syntax</b>	no service-management subscriber-session <i>subscriberSessionId</i> force <ul style="list-style-type: none"><li>■ <i>subscriberSessionId</i>—ID of the subscriber session</li></ul>
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced in JUNOS Release 7.2.0.

## node

---

**Description** Specifies that a scheduler node be configured for each interface of the given interface type. The **no** version removes this rule from the QoS profile.

**Syntax** [ no ] *typeOfInterface* node [ group *trafficClassGroup* | scheduler-profile *schedulerProfileName* ]\*

- *typeOfInterface*—Interface types for scheduler nodes to be configured: atm, atm-vc, atm-vp, bridge, ethernet, fr-vc, ip, ip-tunnel, ipv6, l2tp-session, l2tp-tunnel, lsp, serial, server-port, svlan, vlan
- *trafficClassGroup*—Name of the traffic class group
- *schedulerProfileName*—Name of the scheduler profile
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line

**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](#)

## notification id

---

**Description** Specifies a trap notification for an event. The **no** version removes the notification.

**Syntax** notification id { mteEventSetFailure | mteTriggerFailure | mteTriggerFalling | mteTriggerRising }  
no notification [ id ]

- id—MIB object for notification use
- mteEventSetFailure—Trap to indicate an event set failure
- mteTriggerFailure—Global trap to indicate the failure of a trigger
- mteTriggerFalling—Trap to indicate a falling trigger event
- mteTriggerRising—Trap to indicate a rising trigger event

**Mode** SNMP Event Configuration

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



## nsf ietf

---

**Description** Enables the IS-IS graceful restart mechanism on the router as defined in [RFC 3847—Restart Signaling for Intermediate System to Intermediate System \(IS-IS\) \(July 2004\)](#). Graceful restart, which is also known as nonstop forwarding (NSF), allows an IS-IS router to restart with minimal routing disruption to the network. The **no** version restores the default state (disabled) for IS-IS graceful restart on the router.

**Syntax** [ no ] nsf ietf

**Mode** Router Configuration

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

## nsf interface wait

---

**Description** Specifies the maximum amount of time, in seconds, that an IS-IS process on a restarting router waits for all interfaces with IS-IS adjacencies to come up before completing the restart process. The **no** version restores the default maximum wait time, 10 seconds.

**Syntax** [ no ] nsf interface wait [ seconds ]

- *seconds*—Maximum wait time, in the range 5–120 seconds, before the IS-IS restart process is completed; default value is 10 seconds

**Mode** Router Configuration

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

## nsf t1

---

**Description** Specifies either the interval, in seconds, between IS-IS restart requests sent by a restarting router on a particular interface to neighboring IS-IS routers in the network, or the number of times the restarting router resends unacknowledged restart requests on this interface at the specified interval. The **no** version restores the default time interval, 5 seconds, or the default number of retry attempts, 1.

**Syntax** [ no ] nsf t1 { interval [ seconds ] | retry-times [ number ] }

- *seconds*—Time interval in the range 5–120 seconds between transmission of IS-IS restart requests; default value is 5 seconds
- *number*—Number of times in the range 1–3 that the router tries to resend unacknowledged restart requests; default value is 1

**Mode** Router Configuration

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

## nsf t2

---

**Description** Specifies the maximum amount of time, in seconds, that an IS-IS restarting router waits for the LSP database to synchronize. You must configure separate instances of the T2 timer for each IS-IS level at which the router operates. The **no** version restores the default T2 wait time, 30 seconds.

**Syntax** [ no ] nsf t2 { level-1 | level-2 } [ seconds ]

- level-1—Sets the T2 wait time independently for level 1 routing
- level-2—Sets the T2 wait time independently for level 2 routing
- seconds—Maximum wait time, in the range 5–120 seconds, for LSP database synchronization; default value is 30 seconds

**Mode** Router Configuration

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

## nsf t3

---

**Description** Specifies the maximum amount of time, in seconds, that the restarting router waits before setting the overload bit to indicate that the LSP database has not been synchronized and the IS-IS graceful restart operation has failed. The **no** version restores the default T3 wait time, 30 seconds.

**Syntax** [ no ] nsf t3 { manual [ seconds ] | adjacency }

- manual—Sets the T3 wait time manually to the specified number of seconds
- seconds—Maximum wait time, in the range 5–120 seconds, before the restarting router sets the overload bit; default value is 30 seconds
- adjacency—Specifies that the restarting router should obtain its T3 wait time from neighboring IS-IS routers that have active adjacencies to this router. This option sets the wait time to the minimum of the remaining times specified in the restart TLVs contained in the hello packets that the router receives from its neighbors.

**Mode** Router Configuration

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

## ntp access-group

---

**Description** Specifies the type of broadcasts that the router will accept and respond to, and specifies the servers from which the router will accept broadcasts. The **no** version enables the router to receive all NTP broadcasts on interfaces configured to receive broadcasts.



**NOTE:** The router can accept, but does not use, NTP control queries.

---

**Syntax** ntp access-group { peer | serve-only | serve | query-only } *accessListName*  
no ntp access-group { peer | serve-only | serve | query-only }

- peer—Enables the router to receive time requests, receive NTP control queries, and synchronize itself to the servers specified on the access list
- serve-only—Enables the router to receive time requests and NTP control queries from servers specified on the access list, but not to synchronize itself to the specified servers
- serve—Enables the router only to receive time requests from the servers specified on the access list
- query-only—Enables the router only to receive NTP control queries from the servers specified on the access list
- *accessListName*—Name of the access list

**Mode** Global Configuration

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

## ntp broadcast

---

**Description** Enables NTP broadcast server on a server interface to transmit NTP broadcast packets periodically. You can enable up to 100 NTP broadcast server interfaces. The **no** version prevents the interface from sending NTP broadcast packets.

**Syntax** [ no ] ntp broadcast [ version *number* ] [ *pollInterval* ]

- *number*—Integer in the range 1–4; indicates the version of the NTP software on the NTP broadcast server; default value is 3
- *pollInterval*—Integer in the range 4–17; specifies the poll interval in seconds (as a power of 2) for broadcasting NTP messages; default value is 6 (64 seconds)

**Mode** Interface Configuration

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

## ntp broadcast-client

---

**Description** Enables an interface to receive NTP broadcasts. The **no** version prevents an interface from receiving NTP broadcasts.

**Syntax** [ no ] ntp broadcast-client

**Mode** Interface Configuration

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

## ntp broadcast-delay

---

**Description** Sets the estimated round-trip delay between the broadcast NTP server and the router. The **no** version restores the round-trip delay to the default value, 3000 microseconds.

**Syntax** ntp broadcast-delay *delayTime*  
no ntp broadcast-delay

- *delayTime*—Value in the range 0–999999 microseconds

**Mode** Global Configuration

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

## ntp disable

---

<b>Description</b>	Disables NTP on an interface. The <b>no</b> version enables NTP on an interface. The default setting is enable.
<b>Syntax</b>	[ no ] ntp disable
<b>Mode</b>	Interface Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## ntp enable

---

<b>Description</b>	Enables NTP services on the router and attaches the NTP client to the current virtual router. The <b>no</b> version disables reception of NTP packets on the router and removes the association between NTP and the virtual router. The default setting is disable.
<b>Syntax</b>	[ no ] ntp enable
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## ntp master

---

<b>Description</b>	Specifies the stratum number of a virtual router you configured as an NTP server. By default, if the router is configured as an NTP server, the stratum number is set to the stratum number of the master plus one. The <b>no</b> version restores the default stratum number.
--------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



**NOTE:** Although you can specify a stratum number of 1, the router does not support stratum 1 service. The router can synchronize only with an NTP server, and not directly with an atomic clock or a radio clock.

---

<b>Syntax</b>	[ no ] ntp master [ <i>stratumNumber</i> ] <ul style="list-style-type: none"><li>■ <i>stratumNumber</i>—Number, in the range 1–15, that indicates how many hops the NTP server is from an accurate time source, such as a radio clock or atomic clock. Stratum <i>n</i> servers are <i>n</i> hops from an accurate time source; default value is 8</li></ul>
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## ntp server

---

<b>Description</b>	Specifies an NTP server for time synchronization. The <b>source</b> option for this command overrides the <b>ntp source</b> command. The <b>no</b> version terminates NTP communications between this server and the interface.
<b>Syntax</b>	<pre>ntp server <i>ipAddress</i> [ <i>version number</i> ] [ <i>prefer</i> ] [ <i>source interfaceType interfaceSpecifier</i> ] no ntp server <i>ipAddress</i></pre> <ul style="list-style-type: none"> <li>■ <i>ipAddress</i>—IP address of the NTP server</li> <li>■ <i>number</i>—Value from 1 to 4; indicates the version of the NTP software on the server</li> <li>■ <i>prefer</i>—Indicates that this server is the first choice for time synchronization</li> <li>■ <i>source</i>—Directs responses from the NTP server to a specific interface on the router; overrides the <b>ntp source</b> command</li> <li>■ <i>interfaceType</i>—Interface type; see <a href="#">Interface Types and Specifiers</a> in <i>About This Guide</i></li> <li>■ <i>interfaceSpecifier</i>—Particular interface; format varies according to interface type; see <a href="#">Interface Types and Specifiers</a> in <i>About This Guide</i></li> </ul>
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## ntp server enable

---

<b>Description</b>	Enables a virtual router to act as an NTP server. The <b>no</b> version prevents a virtual router from acting as an NTP server.
<b>Syntax</b>	<pre>[ no ] ntp server enable</pre>
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## ntp source

---

**Description** Directs responses from all NTP servers to a specific interface. Using the **source** option with the **ntp server** command overrides the **ntp source** command. The **no** version restores the default situation in which servers reply to the interface from which the NTP request was sent.

**Syntax** ntp source *interfaceType interfaceSpecifier*  
no ntp source

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

**Mode** Global Configuration

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

## oam ais-rdi

---

**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.

---

**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

---

**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

---

**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

---

**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

---

**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

---

**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

---

**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

---

**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

---

**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

---

**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

---

**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

---

**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

---

**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

---

**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

---

**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

---

**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.

---

**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

---

**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

---

**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

---

<b>Description</b>	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 <b>no</b> version stops the test that is running.
<b>Syntax</b>	<pre>path pathChannel { ds1   e1 } tributaryIdentifier bert pattern pattern interval time [ unframed ] no path pathChannel { ds1   e1 } tributaryIdentifier 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>tributaryIdentifier</i>—Identifier for the tributary. See description for the <b>path ds1 e1</b> command.</li><li>■ <i>pattern</i>—One of the following test patterns:<ul style="list-style-type: none"><li>■ 2<sup>11</sup>—Pseudorandom test pattern, 2,047 bits long</li><li>■ 2<sup>15</sup>—Pseudorandom test pattern, 32,767 bits long</li><li>■ 2<sup>20</sup>-O153—Pseudorandom test pattern, 1,048,575 bits long</li></ul></li><li>■ <i>time</i>—Duration of the test, in the range 1–1440 minutes</li><li>■ <i>unframed</i>—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.</li></ul>
<b>Mode</b>	Controller Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## path ds1|e1 channel-group description

---

<b>Description</b>	Assigns a text description or an alias to a DS1 (T1) or an E1 channel group for channelized SONET and SDH interfaces. Use the <b>show controllers sonet</b> command to display the text description. The <b>no</b> version removes the description or alias.
<b>Syntax</b>	<pre>path pathChannel { ds1   e1 } tributaryIdentifier channel-group channelGroupNumber description name no path pathChannel { ds1   e1 } tributaryIdentifier channel-group channelGroupNumber description</pre> <ul style="list-style-type: none"><li>■ <i>pathChannel</i>—Number, in the range 1–2147483648, that identifies the path</li><li>■ <i>tributaryIdentifier</i>—Identifier for the tributary; see the <b>path ds1 e1</b> command description for details</li><li>■ <i>channelGroupNumber</i>—Either a fractional T1 interface in the range 1–24 or a fractional E1 interface in the range 1–31</li><li>■ <i>name</i>—Text string or alias of up to 80 characters for the DS1 or E1 channel group for channelized SONET and SDH interfaces</li></ul>
<b>Mode</b>	Controller Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## path ds1|e1 channel-group shutdown

---

**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

---

**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

---

**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 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

---

- 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

---

- 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

---

**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

<b>Description</b>	Configures a loopback at the DS1/E1 over SONET/SDH VT layer on channelized SONET and SDH interfaces. The <b>no</b> version turns off the loopback.
<b>Syntax</b>	<pre>path pathChannel { ds1   e1 } tributaryIdentifier loopback { local   network { line   payload } }</pre> <pre>no path pathChannel { ds1   e1 } tributaryIdentifier loopback</pre> <pre>path pathChannel ds1 tributaryIdentifier loopback remote { line fdl { ansi   bellcore }   payload [ fdl ] [ ansi ] }</pre> <pre>no path pathChannel { ds1   e1 } tributaryIdentifier loopback remote</pre> <ul style="list-style-type: none"> <li>■ <i>pathChannel</i>—Number, in the range 1–2147483648, that identifies the path</li> <li>■ <i>tributaryIdentifier</i>—Identifier for the tributary. See description for the <b>path ds1 e1</b> command.</li> <li>■ <i>local</i>—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.</li> <li>■ <i>network { line   payload }</i>—Specify the <b>line</b> 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 <b>payload</b> 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.</li> <li>■ <i>remote line fdl ansi</i> (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 <b>ansi</b> keyword to enable the remote line FDL ANSI bit loopback on the T1 channel, according to the ANSI T1.403 specification.</li> <li>■ <i>remote line fdl bellcore</i> (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 <b>bellcore</b> keyword to enable the remote line FDL Bellcore bit loopback on the T1 channel, according to the Bellcore TR-TSY-000312 specification.</li> <li>■ <i>remote payload [ fdl ] [ ansi ]</i> (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 <b>fdl</b> and <b>ansi</b>, but it is not necessary.</li> </ul>



**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

---

<b>Description</b>	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 <b>no</b> version stops the router from sending the specified FDL message or all FDL messages.
<b>Syntax</b>	<pre>[ no ] path <i>pathChannel</i> ds1 <i>tributaryIdentifier</i> fdl transmit { path-id   idle-signal   test-signal }</pre> <pre>no path <i>pathChannel</i> ds1 <i>tributaryIdentifier</i> fdl transmit</pre> <ul style="list-style-type: none"> <li>■ <i>pathChannel</i>—Number, in the range 1–2147483648, that identifies the path</li> <li>■ <i>tributaryIdentifier</i>—Identifier for the tributary. See description for the <b>path ds1 e1</b> command.</li> <li>■ path-id—Transmits a path identification message every second; default value is disabled</li> <li>■ idle-signal—Transmits an idle signal message every second; default value is disabled</li> <li>■ test-signal—Transmits a test signal message every second; default value is disabled</li> </ul>
<b>Mode</b>	Controller Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## path ds1 remote-loopback

---

<b>Description</b>	Enables acceptance of remote loopback requests at the DS1/E1 over SONET/SDH VT layer on channelized SONET and SDH interfaces. The <b>no</b> version restores the factory default value, which is to reject remote loopback requests.
<b>Syntax</b>	<pre>[ no ] path <i>pathChannel</i> ds1 <i>tributaryIdentifier</i> remote-loopback</pre> <ul style="list-style-type: none"> <li>■ <i>pathChannel</i>—Number, in the range 1–2147483648, that identifies the path</li> <li>■ <i>tributaryIdentifier</i>—Identifier for the tributary. See description for the <b>path ds1 e1</b> command.</li> </ul>
<b>Mode</b>	Controller Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## path ds3

---

**Description** 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 **no** version deletes a path.

**Syntax** `path pathChannel ds3 ds3Channel { [ channelized ] | unchannelized }`  
`no path pathChannel ds3 ds3Channel`

- *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 bert

---

**Description** Enables bit error rate tests using the specified pattern for a DS3 signal. This command applies to a DS3 over channelized SONET interface. The **no** version stops the test that is running.

**Syntax** `path pathChannel ds3 ds3Channel bert pattern pattern interval time`  
`no path pathChannel ds3 ds3Channel bert`

- *pathChannel*—Number, in the range 1–2147483648, that identifies the path
- *ds3Channel*—Number, in the range 1–3, that identifies the DS3 channel
- *pattern*—One of the following test patterns:
  - 0s—Repetitive test pattern of all zeros, 00000...
  - 1s—Repetitive test pattern of all ones, 11111...
  - 2^9—Pseudorandom test pattern, 511 bits long
  - 2^11—Pseudorandom test pattern, 2047 bits long
  - 2^15—Pseudorandom test pattern, 32,767 bits long
  - 2^20—Pseudorandom test pattern, 1,048,575 bits long
  - 2^20-QRSS—Pseudorandom QRSS test pattern, 1,048,575 bits long
  - 2^23—Pseudorandom test pattern, 8,388,607 bits long
  - alt-0-1—Repetitive alternating test pattern of zeros and ones, 01010101...
- *time*—Duration of the test, in the range 1–1440 minutes

**Mode** Controller Configuration

**Release Information** 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

---

<b>Description</b>	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 <b>no</b> version restores the default value, line.
<b>Syntax</b>	<pre>path pathChannel ds3 ds3Channel t1 t1Channel clock source { line   internal { module   chassis } }</pre> <pre>no path pathChannel ds3 ds3Channel t1 t1Channel clock source</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>t1Channel</i>—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</li> <li>■ <i>line</i>—Interface transmits data from a clock recovered from the line's receive data stream</li> <li>■ <i>internal</i>—Interface transmits data using its internal clock. You must specify one of the following for internal clocking: <ul style="list-style-type: none"> <li>■ <i>module</i>—Internal clock is from the line module itself</li> <li>■ <i>chassis</i>—Internal clock is from the configured system clock</li> </ul> </li> </ul>
<b>Mode</b>	Controller Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## path ds3 t1 description

---

<b>Description</b>	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 <b>show controllers sonet</b> command to display the text description. The <b>no</b> version removes the description or alias.
<b>Syntax</b>	<pre>path pathChannel ds3 ds3Channel t1 t1Channel [ /subchannel ] description name no path pathChannel ds3 ds3Channel t1 t1Channel [ /subchannel ] description name</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>t1Channel</i>—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</li> <li>■ <i>subchannel</i>—Fractional T1 interface in the range 1–24</li> <li>■ <i>name</i>—Text string or alias of up to 80 characters for the T1 channel group or subchannel on a T3 over channelized SONET/SDH interface</li> </ul>
<b>Mode</b>	Controller Configuration
<b>Release Information</b>	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

---

<b>Description</b>	Specifies trace messages to check for connectivity between the router and the SONET/SDH device at the other end of the line. The <b>no</b> version restores the default situation, in which all characters of the trace message are zeros.
<b>Syntax</b>	<p>For channelized OCx/STMx interfaces:</p> <pre>[ no ] path <i>pathChannel</i> overhead j1 { msg   exp-msg } [ <i>message</i> ]</pre> <p>For unchannelized OCx/STMx interfaces:</p> <pre>[ no ] path overhead j1 { msg   exp-msg } [ <i>message</i> ]</pre> <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>msg</i>—Specifies that the message is one that the router sends</li> <li>■ <i>exp-msg</i>—Specifies that the message is one that the router expects to receive</li> <li>■ <i>message</i>—Text of the message; the maximum is 15 characters for SDH mode and 62 characters for SONET mode</li> </ul>
<b>Mode</b>	Controller Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## path shutdown

---

<b>Description</b>	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 <b>no</b> version restarts the path.
<b>Syntax</b>	<p>For channelized OCx/STMx interfaces:</p> <pre>[ no ] path <i>pathChannel</i> shutdown</pre> <p>For unchannelized OCx/STMx interfaces:</p> <pre>[ no ] path shutdown</pre> <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> </ul>
<b>Mode</b>	Controller Configuration
<b>Release Information</b>	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>	<p>For channelized OCx/STMx interfaces:</p> <pre>path <i>pathChannel</i> trigger delay msec <i>delayTime</i></pre> <pre>no path <i>pathChannel</i> trigger delay</pre> <p>For unchannelized OCx/STMx interfaces:</p> <pre>path trigger delay msec <i>delayTime</i></pre> <pre>no path trigger delay</pre> <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>	<pre>peak-burst size { millisecond <i>milliseconds</i> }</pre> <pre>no peak-burst</pre> <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 }</pre> <pre>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 ]</pre> <pre>[ transmit-delay delayVal ] [ ttl ttValue ] [ data-size dataSize ]</pre> <pre>[ data-pattern { ones   zeros   random   hex-data hexData } ]</pre> <pre>[ source { interface interfaceType interfaceSpecifier   address sourceAddr } ]</pre> <pre>[ sweep-sizes sweepMin sweepMax [ sweep-interval sweepInt ] ]</pre> <pre>[ extended [ tos tosVal ] [ set-dont-fragment-bit ] [ set-router-alert ]</pre> <pre>[ { loose-source-route   strict-source-route } [ srtAddrs ]* ]</pre> <pre>[ record-route numRoutes ] [ timestamp numTstamps ]</pre> <pre>[ interface interfaceType Interfacespecifier ] ]</pre> <pre>ping ipv6 [ vrf vrfName ] destination [ packetCount ] [ timeout timeOutVal ]</pre> <pre>[ transmit-delay delayVal ] [ hop-limit hopLimit ] [ data-size dataSize ]</pre> <pre>[ data-pattern { ones   zeros   random   hex-data hexData } ]</pre> <pre>[ source { interface interfaceType interfaceSpecifier   address sourceAddr } ]</pre> <pre>[ sweep-sizes sweepMin sweepMax [ sweep-interval sweepInt ] ]</pre> <pre>[ 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 pingThe 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 *startIp* *endIp* *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*
- *startIp*—First IP address within the 127.0.0.0/8 destination range
- *endIp*—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 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

---

**Description** Sets the type of framing for a POS interface. There is no **no** version.

**Syntax** pos framing { sdh | sonet }

- sdh—Uses SDH framing format
- sonet—Uses SONET framing format (the default)

**Mode** Interface Configuration

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

## pos scramble-atm

---

**Description** 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 **no** version disables scrambling on the POS interface.

**Syntax** [ no ] pos scramble-atm

**Mode** Interface Configuration

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

## ppp aaa-profile

---

**Description** Maps an AAA profile to static and dynamic, multilink and nonmultilink PPP interfaces. The **no** version removes the AAA profile assignment to the PPP interface.

**Syntax** ppp aaa-profile *profileName*  
no ppp aaa-profile

- *profileName*—Name of the AAA profile; 32 characters maximum

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

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

## ppp authentication

---

<b>Description</b>	Requests authentication from a PPP peer router. The <b>no</b> version removes the authentication requirement.
<b>Syntax</b>	<pre>ppp authentication [ virtual-router <i>vrName</i> ] { <i>authProtocol</i> }</pre> <pre>no ppp authentication</pre> <ul style="list-style-type: none"> <li>■ <i>vrName</i>—Name of a virtual router to be used as the authentication virtual router</li> <li>■ <i>authProtocol</i>—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 <ul style="list-style-type: none"> <li>■ eap—Specifies EAP authentication protocol</li> <li>■ chap—Specifies CHAP authentication protocol</li> <li>■ pap—Specifies PAP authentication protocol</li> </ul> </li> </ul>
<b>Mode</b>	Interface Configuration, Profile Configuration, Subinterface Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0. <b>eap</b> keyword added in JUNOS Release 7.3.0.

## ppp chap-challenge-length

---

<b>Description</b>	Modifies the length of the CHAP challenge by specifying the minimum and maximum allowable length. The <b>no</b> 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.

<b>Syntax</b>	<pre>ppp chap-challenge-length <i>minLength</i> <i>maxLength</i></pre> <pre>no ppp chap-challenge-length</pre> <ul style="list-style-type: none"> <li>■ <i>minLength</i>—Minimum length of the CHAP challenge in bytes, in the range 8–63; default value is 16 bytes</li> <li>■ <i>maxLength</i>—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</li> </ul>
<b>Mode</b>	Interface Configuration, Profile Configuration, Subinterface Configuration
<b>Release Information</b>	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 } no pppoe</pre> <ul style="list-style-type: none"><li>■ <b>permit</b>—Specifies that the subscriber interface associated with the bridge group or VPLS instance forwards PPPoE packets</li><li>■ <b>deny</b>—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 <i>string</i> 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

---

<b>Description</b>	Sets up the router to offer to set up a session, even if the router has insufficient resources to establish a session. The <b>no</b> version disables this feature, and is the default setting.
<b>Syntax</b>	[ no ] pppoe always-offer
<b>Mode</b>	Profile Configuration, Subinterface Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## pppoe auto-configure

---

<b>Description</b>	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 <b>no</b> version terminates dynamic creation of PPPoE subinterfaces on the static PPPoE major interface.
<b>Syntax</b>	pppoe auto-configure [ lockout-time { <i>minValue</i> <i>maxValue</i>   none } ] no pppoe auto-configure <ul style="list-style-type: none"> <li>■ <i>minValue</i>—Minimum lockout time, in the range 1–86400 seconds (24 hours)</li> <li>■ <i>maxValue</i>—Maximum lockout time, in the range 1–86400 seconds (24 hours)</li> <li>■ 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</li> </ul>
<b>Mode</b>	Interface Configuration, Subinterface Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0. <b>lockout-time</b> keyword, <i>minValue</i> variable, <i>maxValue</i> variable, and <b>none</b> keyword added in JUNOS Release 7.2.0.

## pppoe clear lockout 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 lockout 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

---

<b>Description</b>	Sets up the router to prevent a client from establishing more than one session using the same MAC address. The <b>no</b> version disables this feature, and is the default setting.
<b>Syntax</b>	[ no ] pppoe duplicate-protection
<b>Mode</b>	Profile Configuration, Subinterface Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## pppoe log pppoeControlPacket

---

<b>Description</b>	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 <b>no</b> version disables the logging.
<b>Syntax</b>	[ no ] pppoe log pppoeControlPacket
<b>Mode</b>	Profile Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## pppoe motm

---

<b>Description</b>	Causes the PPPoE application to send a PADM message of the minute message. 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 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.
<b>Syntax</b>	pppoe motm <i>string</i> no pppoe motm <ul style="list-style-type: none"> <li>■ <i>string</i>—Message sent</li> </ul>
<b>Mode</b>	Interface Configuration, Privileged Exec, Profile Configuration
<b>Release Information</b>	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 <ul style="list-style-type: none"><li>■ <i>url</i>—URL string sent</li></ul>
<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 <ul style="list-style-type: none"><li>■ <i>tunnelPreference</i>—Tunnel preference, in the range 0–2000; 0 is the highest preference</li></ul>
<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.
  - qos-byte-adjustment—Specifies the cell byte-adjustment application, which enables you to adjust the shaping rate to account for different layer 2 encapsulations in ADSL configurations. 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-frame-byte-adjustment—Specifies the frame byte-adjustment application, which enables you to shape traffic based on frames for VDSL configurations. If you have configured the QoS shaping mode as frame, the system adjusts the shaping rate based on bytes within frames.
  - 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 to Adjust Cell Shaping Rates for ADSL Traffic
- Configuring a Parameter Definition to Adjust Frame Shaping Rates for VDSL Traffic on page 295
- 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.

**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 JUNOS Release 7.1.0.

### Related Topics

- Configuring the QoS Shaping Mode for ATM Interfaces
- Configuring the QoS Shaping Mode for Ethernet Interfaces

## 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 JUNOS 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
- `downstream-calculated-qos-rate`—Includes RADIUS attribute 26-141, Downstream-Calculated-Qos-Rate
- `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
- upstream-calculated-qos-rate—Includes RADIUS attribute 26-142, Upstream-Calculated-Qos-Rate

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.  
**downstream-calculated-qos-rate** and **upstream-calculated-qos-rate** attributes added in JUNOS Release 9.1.0.



## 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/adaptor/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* ]  
[ adaptor *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* ]  
[ adaptor *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 adaptor 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

---

**Description** Specifies a member link of a LAG bundle as redundant. The **no** version disables the redundant status of the member link or disables the specified redundancy setting for the member link.

**Syntax** To specify a member interface with optional failover timeout and packet sampling settings:  
`[ no ] redundant-port interfaceType interfaceSpecifier [ [ failover timeout failoverTime ] [ packet-sampling [ delay delayTime ] ] ]`

To specify a member interface with optional auto-reversion, transmitter, and failover timeout settings:

`[ no ] redundant-port interfaceType interfaceSpecifier [ [ auto-revert ] [ transmitter { on | off } ] [ failover timeout failoverTime ] ]`

- *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*
- *failoverTime*—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)
- packet-sampling—Enables packet sampling to determine a failed port
- *delayTime*—Minimum time difference between redundant and active port samples, in the range 100–10000 milliseconds (ms)
- auto-revert—Specifies that the failed port automatically resumes as active
- on—Specifies the transmitter is enabled when port is in redundant mode
- off—Specifies the transmitter is disabled when port is in redundant mode

**Mode** Global Configuration

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

## redundant-port force-failover

---

**Description** Specifies a member link of a LAG bundle to fail over when more than one active member link exists. There is no **no** version.

**Syntax** `redundant-port interfaceType interfaceSpecifier [ force-failover ]`

- *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*
- force-failover—Forces the specified port to fail over

**Mode** Global Configuration

**Release Information** 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

---

**Description** Sets the request payload data size. The **no** version restores the default value.

**Syntax** request-data-size *requestSizeValue*  
no request-data-size

- *requestSizeValue*—Size of the data in bytes in the request packet's payload; default value is 1 byte

**Mode** RTR Configuration

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

## reserve

---

**Description** For DHCP local server clients, reserves an IP address for a specific MAC address. The **no** version removes the reservation.

**Syntax** reserve *ipAddress* *macAddress*  
no reserve *ipAddress*

- *ipAddress*—IP address to reserve
- *macAddress*—MAC address for which the IP address is reserved.

**Mode** DHCP Local Pool Configuration

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

## resource

---

**Description** Specifies the total number of triggers that the virtual router allows. The **no** version returns the resource level to its default (50).

**Syntax** resource *resourceValue*  
no resource

- *resourceValue*—Total number of triggers, in the range 1–1000, that the virtual router allows.

**Mode** SNMP Server Event Manager Configuration

**Release Information** 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), 0–13 (ERX-14xx models), 0–5 (E120 router), and 0–16 (E320 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 1–2; for the E120 router, a number in the range 0–5; for the E320 router, a number in the range 0–16
- *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* | *frame-relay* | *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 frame-relay—Specifies that the router uses legacy (pre-RFC 4619) Frame Relay pseudowire type value for signaling and encapsulation. Enables a router running JUNOS software that supports the pseudowire type value defined in RFC 4619, Encapsulation methods for transport of Frame Relay over MPLS Networks, to interoperate with a router that uses the legacy (pre-RFC 4619) pseudowire type value. This option is available on serial or POS interfaces for Frame Relay layer 2 circuits. It is not supported on E120 and E320 routers.
- 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.  
**frame-relay** keywords added in JUNOS Release 9.1.0.

#### 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 for L2VPNs
- Configuring BGP Signaling for VPLS

## 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.
<b>Related Topics</b>	<ul style="list-style-type: none"> <li>■ Configuring Routing in the Core Network for VPLS</li> </ul>

## 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>	[ no ] router rip
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## rtr

---

<b>Description</b>	Sets the number of the RTR operation to be configured and accesses the RTR Configuration mode. The <b>no</b> version removes all configuration information for a specified RTR operation.
<b>Syntax</b>	[ no ] rtr <i>rtrIndex</i> <ul style="list-style-type: none"><li>■ <i>rtrIndex</i>—Number of the operation to be configured, in the range 1–4294967295; there is no default</li></ul>
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## rtr reaction-configuration

---

<b>Description</b>	This command has only a <b>no</b> version. See the <b>no rtr reaction-configuration</b> command for a complete description and syntax.
--------------------	----------------------------------------------------------------------------------------------------------------------------------------

## rtr reaction-configuration action-type

---

<b>Description</b>	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 <b>no</b> version. See the <b>no rtr reaction-configuration</b> command.
<b>Syntax</b>	rtr reaction-configuration <i>rtrIndex</i> [ action-type <i>actionType</i> ] <ul style="list-style-type: none"><li>■ <i>rtrIndex</i>—Number of the operation to be configured, in the range 1–4294967295</li><li>■ <i>actionType</i>—One of the following types:<ul style="list-style-type: none"><li>■ none—No action; selecting this option clears all traps for the given operation</li><li>■ trapOnly—Trap only action; this is the default; enabled events trigger the trap</li></ul></li></ul>
<b>Mode</b>	Global Configuration
<b>Release Information</b>	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.

## sample

---

<b>Description</b>	Specifies the MIB object that you want to sample for the trigger that you are configuring. The <b>no</b> version removes the MIB object from the trigger.
<b>Syntax</b>	sample value-id <i>mibId</i> no sample <ul style="list-style-type: none"> <li>■ <i>mibId</i>—Object ID for the MIB object that you want to sample, for example, 1.3.6.1.2.1.60.1.2.1.1.7</li> </ul>
<b>Mode</b>	SNMP Server Event Manager Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## samples-of-history-kept

---

<b>Description</b>	Sets the number of entries kept in the history table for each RTR operation. The <b>no</b> version restores the default value.
<b>Syntax</b>	samples-of-history-kept <i>samples</i> no samples-of-history-kept <ul style="list-style-type: none"> <li>■ <i>samples</i>—Number of entries for each RTR index in the history table; default value is 16 for a pathEcho type and 1 for an echo type</li> </ul>
<b>Mode</b>	RTR Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

## scheduler-profile

---

<b>Description</b>	Configures a scheduler profile. The router supports up to 1000 scheduler profiles. The <b>no</b> version deletes the scheduler profile.
<b>Syntax</b>	[ no ] scheduler-profile <i>schedulerProfileName</i> <ul style="list-style-type: none"> <li>■ <i>schedulerProfileName</i>—Name of the scheduler profile</li> </ul>
<b>Mode</b>	Global Configuration
<b>Release Information</b>	Command introduced before JUNOS Release 7.1.0.

### Related Topics

- [Configuring a Scheduler Hierarchy](#)
- [Configuring a Scheduler Profile for a Scheduler Node or Queue](#)
- [Configuring a Basic Parameter Definition for QoS Administrators](#)

## scramble

---

**Description** Enables cell scrambling on a T3 Frame interface. The **no** version disables cell scrambling on the interface. If you issue this command, be sure to issue the **dsu mode** and **dsu bandwidth** commands. Otherwise, the interface may drop packets unexpectedly.

**Syntax** [ no ] scramble

**Mode** Controller Configuration

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

## sdh

---

**Description** Specifies that the interface supports SDH. The **no** version restores SONET operation on this interface.

**Syntax** [ no ] sdh

**Mode** Controller Configuration

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

## secret

---

**Description** Adds a secret to a user entry in the local user database. The new secret replaces an existing secret or password. The **no** version deletes the secret (or password) from the user entry in the local user database.

**Syntax** secret [ *encryptionType* ] *secretText*  
no secret

- *encryptionType*—one of the following:
  - 0—Unencrypted secret (the default)
  - 5—MD5-encrypted secret
- *secretText*—Character string that specifies the secret. The string can contain any alphanumeric character, including spaces, up to 64 characters. Secrets are case sensitive.

**Mode** Local User Configuration

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

## secure ip classifier-list

---

- Description** Creates or modifies a secure classifier control list. Use the **not** keyword to deny traffic for a specific protocol, source address, or destination address. Use the **any** keyword to allow traffic to any source or destination address. The **no** version removes the classifier control list.
- Syntax**
- ```
secure ip classifier-list classifierName [ traffic-class trafficClassName ]
[ color { green | yellow | red } ] [ user-packet-class userPacketClassValue ]
[ source-route-class routeClassValue ] [ destination-route-class routeClassValue ]
[ local { true | false } ] [ not ] { protocol }
[ not ] { sourceAddress sourceMask | host sourceHostAddress | any } [ sourceQualifier ]
[ not ] { destinationAddress destinationMask | host destinationHostAddress | any }
[ destinationQualifier ] [ tcpQualifier ] [ ip-flags ipFlags ]
[ ip-frag-offset { eq 0 | eq 1 | gt 1 } ]
[ precedence precNum | dsField dsFieldNum | tos tosNum ]

no secure ip classifier-list classifierName [ classifierNumber ]
```
- *classifierName*—Name of the classifier control list entry
  - *trafficClassName*—Name of the traffic class to match
  - *green*—Matches packet color to green, indicating a low drop preference
  - *yellow*—Matches packet color to yellow, indicating a medium drop preference
  - *red*—Matches packet color to red, indicating a high drop preference
  - *userPacketClassValue*—User packet value to match; in the range 0–15
  - *routeClassValue*—Value of the route-class; in the range 0–255
  - *local*—Specifies traffic destined for this interface
    - *true*—Matches packets that are locally destined
    - *false*—Matches packets that are not locally destined
  - *not*—Matches any except the immediately following protocol or address
  - *protocol*—Protocol name (IGMP, IP, TCP, or UDP) or number (in the range 0–255) to match
  - *sourceAddress*—Source address to match
  - *sourceMask*—Wild-card mask to apply to the source address
  - *host*—Matches source or destination address as a host
  - *sourceHostAddress*—Source host address to match
  - *any*—Matches any source or destination address
  - *sourceQualifier*—For UDP or TCP protocols, one of the following protocol-specific classifier parameters. See *JUNOS Policy Management Configuration Guide, Chapter 2, Creating Classifier Control Lists for Policies*, for details.
    - *portOperator*—One of the following Boolean operator keywords: **lt** (less than), **gt** (greater than), **eq** (equal to), **ne** (not equal), or **range** (range of port numbers)
    - *range*—Single port number or a range of port numbers

- *destinationAddress*—Destination address to match
- *destinationMask*—Wild-card mask to apply to the destination address
- *destinationHostAddress*—Destination host address to match
- *destinationQualifier*—One of the following protocol-specific classifier parameters for destination TCP or UDP ports, ICMP code and type, or IGMP type. The *portOperator* and port range are used with TCP and UDP. The *icmpType*, *icmpCode*, and *igmpType* parameters are used with ICMP and IGMP.
  - *portOperator*—one of the following Boolean operator keywords: **lt** (less than), **gt** (greater than), **eq** (equal to), or **ne** (not equal), or **range** (range of port numbers) (TCP and UDP only)
  - *range*—Single port number or a range of port numbers
  - *icmpType*—ICMP message type (ICMP only)
  - *icmpCode*—ICMP message code (ICMP only)
  - *igmpType*—IGMP message type (IGMP only)
- *tcpQualifier*—TCP flags classification parameters
- *tcpFlag*—For TCP only; a logic equation that specifies flag bit values; ! means logical NOT and & means logical AND; use any of the following flag names:
  - *ack*—0x10
  - *fin*—0x01
  - *push*—0x08
  - *rst*—0x04
  - *syn*—0x02
  - *urgent*—0x20
- *ipFlags*—Logic equation that specifies flag bit values; ! means logical NOT and & means logical AND; use any of the following flag names:
  - *dont-fragment*—0x02
  - *more-fragments*—0x01
  - *reserved*—0x04
- *ip-frag-offset*—Matches the specified IP fragmentation offset; use any of the following:
  - *eq 0*—Equals 0
  - *eq 1*—Equals 1
  - *gt 1*—Greater than 1

- *precNum*—Upper three bits of the ToS byte; in the range 0–7
- *dsFieldNum*—Upper six bits of the ToS byte; in the range 0–63
- *tosNum*—Whole eight bits of the ToS byte; in the range 0–255
- *classifierNumber*—Index of the classifier control list entry to be deleted

**Mode** Global Configuration

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

**Related Topics**

- Configuring CLI-Based Mirroring

## secure ip policy-list

---

**Description** Creates or modifies a secure IP policy list. Enters Policy List Configuration mode, enabling you to specify the parameters of the secure IP policy list. If you enter Policy List Configuration mode and then type **exit** without specifying any parameters, the router creates a policy list with a mirror disable rule. Attaching this policy list to an interface results in no packet mirroring. The **no** version removes the specified policy list.

**Syntax** [ no ] secure ip policy-list *policyName*

- *policyName*—Name of the secure IP policy list

**Mode** Global Configuration

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

**Related Topics**

- Configuring CLI-Based Mirroring

## secure l2tp policy-list

---

**Description** Creates or modifies a secure L2TP policy list. Enters Policy List Configuration mode, enabling you to specify the parameters of the secure L2TP policy list. If you enter Policy List Configuration mode and then type **exit** without specifying any parameters, the router creates a policy list with a mirror disable rule. Attaching this policy list to an interface results in no packet mirroring. The **no** version removes the specified policy list.

**Syntax** [ no ] secure l2tp policy-list *policyName*

- *policyName*—Name of the secure L2TP policy list

**Mode** Global Configuration

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

**Related Topics**

- Configuring CLI-Based Mirroring



## send

---

**Description** Sends a message to one or more terminals. If you begin the message on the same line as the command, the first character is a delimiter; you must end the message with the same delimiter. If you begin the message on another line, you must enter Ctrl + z to end the message. There is no **no** version.

**Syntax** send { \* | *absoluteLineNumber* | console *consoleLineNumber* | vty *vtyLineNumber* }  
[ *message* ]

- \*—Sends the message to all terminals
- *absoluteLineNumber*—Line number of a terminal to which the message is sent
- *consoleLineNumber*—Line number of a console to which the message is sent
- *vtyLineNumber*—Line number of a vty to which the message is sent
- *message*—Text of message to send; a string of up to 1023 alphanumeric characters

**Mode** Privileged Exec

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

## send-more-specific-routes-disable

---

**Description** Specifies that RIP does not send a more-specific route if it has a less-specific route with any metric. The **no** version restores the default condition, wherein RIP always sends a more-specific route even if a less-specific route with a metric is available.

**Syntax** [ no ] send-more-specific-routes-disable

**Mode** Address Family Configuration, Router Configuration

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

## send version

---

**Description** Restricts the RIP version that the router can send on a remote-neighbor interface. The **no** version sets the remote-neighbor interface back to the default value, sending only RIP version 1.

**Syntax** [ no ] send 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.

## serial description

---

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

**Syntax** serial description *name*  
no serial description

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

**Mode** Interface Configuration

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

## server-address

---

**Description** Sets the DHCP server address that is sent to DHCP clients. The **no** version removes server address.

**Syntax** server-address *address*  
no server-address [ *address* ]

- *address*—DHCP server address

**Mode** DHCP Local Pool Configuration

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

## server-name

---

**Description** Specifies the hostname expected from the L2TP LNS when you set up a tunnel. The **no** version removes the server name.

**Syntax** server-name *serverName*  
no server-name

- *serverName*—Hostname; can be up to 64 characters in length (no spaces)

**Mode** Domain Map Tunnel Configuration, Tunnel Group Tunnel Configuration

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

## service

---

**Description** Adds a specific service name tag to a PPPoE service name table, or modifies the default action for the empty service name tag. For the empty service name tag, you can specify that an AC, such as an E-series router, should ignore (drop), rather than respond to (terminate), all PADI requests from the client containing an empty service name tag. For specific (nonempty) service names, the default action, terminate, is always used. The **no** version restores the default action, terminate, for an empty service name tag, or removes the specified nonempty service name tag from the PPPoE service name table.

**Syntax** service { empty-service-name action *actionValue* | *serviceName* }  
no service { empty-service-name | *serviceName* }

- empty-service-name—Specifies an empty service name tag of zero length, indicating that any service is acceptable; always uses the default action, terminate
- *actionValue*—One of the following actions for the empty service name tag:
  - drop—Specifies that the AC should ignore all PADI requests containing an empty service name tag and not respond with a PPPoE Active Discovery Offer (PADO) packet
  - terminate—Specifies that the AC should respond to a PADI request by sending a PADO packet; this is the default action
- *serviceName*—Name of a nonempty service name tag that specifies a custom value, such as an ISP name or class of service; string of up to 31 alphanumeric characters

**Mode** PPPoE Service Name Table Configuration

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

## service ctrl-x-reboot

---

**Description** Enables the Ctrl + x key combination to reboot the router at all times, except that the key combination has no effect if you are accessing the router through a Telnet session. The **no** version restores the default condition, disabled.

**Syntax** [ no ] service ctrl-x-reboot

**Mode** Global Configuration

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

## service-description

---

**Description** Provides a description that is associated with the AAA profile. The description can be used for RADIUS authentication and accounting. The **no** version negates the command.

**Syntax** `service-description serviceDescription`  
`no service-description`

- *serviceDescription*—Description of the service; maximum of 64 characters

**Mode** AAA Profile Configuration

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

## service dhcp-external

---

**Description** Enables the DHCP external server. The **no** version disables the DHCP external server and does not save the previous settings.

**Syntax** `[ no ] service dhcp-external`

**Mode** Global Configuration

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

## service dhcp-local

---

**Description** Enables the DHCP local server. In standalone mode, the **authenticate** keyword enables AAA-based authentication for incoming DHCP clients. The **no** version disables the DHCP local server and does not save the previous settings.

**Syntax** `[ no ] service dhcp-local [ equal-access | standalone [ authenticate ] ]`

- *equal-access*—Enables the DHCP local server to work with the SDX (formerly SSC) or HTTP local server for non-PPP equal access, the default option
- *standalone*—Configures the router as a DHCP local server
- *authenticate*—Enables AAA-based authentication of incoming DHCP clients

**Mode** Global Configuration

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

## service dhcpv6-local

---

**Description** Enables the DHCPv6 local server. The **no** version disables the DHCPv6 local server.

**Syntax** [ no ] service dhcpv6-local

**Mode** Global Configuration

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

## service-management install

---

**Description** Installs the specified Service Manager definition. The **no** version removes the specified definition.

**Syntax** [ no ] service-management install *fileName*.mac

- *fileName*—Name of the service definition macro file, including the .mac extension

**Mode** Global Configuration

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

## service-management owner-session

---

**Description** Activates subscriber service sessions based on the specified owner and owner-generated ID. The **no** version gracefully removes the specified service session for the specified owner session.

Privileged Exec mode creates a dynamic subscriber service session that is deleted after a router reboot. Global Configuration mode creates a persistent service session.

**Syntax** [ no ] service-management owner-session *ownerName* *ownerId*  
service-session *serviceName* [ service-session-profile *profileName* ]

- *ownerName*—Name of the owner for the owner session; AAA for RADIUS-based subscribers
- *ownerId*—Unique ID that is generated by the owner; Acct-Session-ID for AAA subscriber sessions
- *serviceName*—Name of the service session to use
- *profileName*—Name of the service session profile to use for the service session

**Mode** Global Configuration, Privileged Exec

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

## service-management service-session-profile

---

**Description** Creates a new Service Manager service session profile or specifies the name of an existing service session profile, then enters Service Session Profile Configuration mode. The **no** version removes the service session profile.

**Syntax** [ no ] service-management service-session-profile *profileName*

- *profileName*—Name of the service session profile

**Mode** Global Configuration

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

## service-management subscriber-session

---

**Description** Activates a subscriber session for the specified subscriber. The **no** version gracefully removes the subscriber session and all service sessions associated with this subscriber session.

Privileged Exec mode creates a dynamic subscriber session that is deleted after a router reboot. Global Configuration mode creates a persistent subscriber session.



**NOTE:** Always activate at least one service session for a subscriber session. The ability to create a subscriber session without a service session (by omitting the **service-session** keyword) is not currently supported.

**Syntax** [ no ] service-management subscriber-session *subscriberName*  
interface *interfaceType* *interfaceSpecifier*

- *subscriberName*—Name of the subscriber for this subscriber session
- *interfaceType*—Interface type; see *Interface Types and Specifiers* in *About This Guide*
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*

**Mode** Global Configuration, Privileged Exec

**Release Information** Command introduced in JUNOS Release 7.2.0.  
Privileged Exec mode added in JUNOS Release 8.0.0.

## service-management subscriber-session service-session

---

**Description** Activates a subscriber session and service session for the specified subscriber. The **no** version gracefully removes all service sessions or the specified service session.

Privileged Exec mode creates a dynamic subscriber session that is deleted after a router reboot. Global Configuration mode creates a persistent subscriber session.

**Syntax** [ no ] service-management subscriber-session *subscriberName*  
interface *interfaceType* *interfaceSpecifier* service-session *serviceName* |  
[ service-session-profile *profileName* ]

- *subscriberName*—Name of the subscriber for this subscriber session
- *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*
- *serviceName*—Name of the service session to use for this subscriber session
- *profileName*—Name of the service session profile to use for this service session

**Mode** Global Configuration, Privileged Exec

**Release Information** Command introduced in JUNOS Release 7.2.0.  
Privileged Exec mode added in JUNOS Release 8.0.0.

## service manual-commit

---

**Description** Stops the router from automatically saving configuration changes to nonvolatile storage. Places the router into Manual Commit mode; this mode has no effect on the CLI prompt. Causes an immediate save of configuration data not yet committed to nonvolatile storage. If you issue this command while high availability is initializing, the CLI notifies you of the state and requests that you try again later. The **no** version returns the E-series router to Automatic Commit mode (with no effect on the CLI prompt).

**Syntax** [ no ] service manual-commit

**Mode** Global Configuration

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

## service password-encryption

---

**Description** Directs the router to encrypt passwords that are saved in the configuration file. The command should be used as a simple cipher to prevent unauthorized users from viewing passwords. The **no** version removes the encryption assignment.

**Syntax** [ no ] service password-encryption

**Mode** Global Configuration

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

## service show-config

---

**Description** Formats **show configuration** command output. The **no** version reverts the show configuration command format to its default (format 1).

**Syntax** service show-config format { 1 | 2 }  
no service show-config format

- 1—Format of the original **show configuration** command output
- 2—Format enhancement to the **show configuration** command that can significantly reduce the amount of time it takes to generate and display output for configurations that contain three or more virtual routers and a large number of interfaces

**Mode** Global Configuration

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

## service timestamps

---

**Description** Formats timestamps associated with log messages. The **no** version removes timestamps from log messages.

**Syntax** service timestamps log datetime [ show-timezone [ localtime ] ]  
no service timestamps [ log ]

- log—Indicates that a timestamp will appear on log messages
- datetime—Displays the date and time
- show-timezone—Displays the time zone
- localtime—Displays the timestamp in local time

**Mode** Global Configuration

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



## service unattended-password-recovery

---

**Description** Allows you to delete all passwords and secrets from the console without being physically present at the router. When executed, this command changes the behavior of the **erase secrets** command, which will not take any parameters and will not be available through a vty session. The **no** version reverts **erase secrets** to factory default settings.

**Syntax** [ no ] service unattended-password-recovery

**Mode** Global Configuration

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

## session-timeout

---

**Description** Defines the ANCP session timeout value (in seconds). The **no** version reverts the session timeout to its default setting (25 seconds).

**Syntax** [ no ] session-timeout *timeOutValue*

- *timeOutValue*—Session timeout in seconds, in the range 1–25; default value is 25 seconds

**Mode** L2C Configuration

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

## set

---

**Description** Performs an SNMP set operation under certain event conditions. The **no** version removes the set operation.

**Syntax** set object  
{ context-name *contextName* [ wildcard ] | id *mibId* | value *objectValue* }  
no set [ object { context-name | id | value } ]

- *contextName*—Context name of the MIB object SNMP agent
- *wildcard*—Specifies the context name as a wildcard
- *mibId*—MIB object ID that you want to set; for example, 1.3.6.1.2.1.60.1.2.1.1.7
- *objectValue*—Value to which you want to set the configured MIB object

**Mode** SNMP Event Manager Configuration

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

## set admission-bandwidth

---

**Description** Sets a specific multicast bandwidth for admission control or defines the bandwidth as adaptive (automatically sensed). The **no** version removes the set clause from a route map.

**Syntax** set admission-bandwidth { *bandwidthValue* | adaptive }  
 no set admission-bandwidth

- *bandwidthValue*—Number in the range 0–4294967259 kilobits per second used for admission control
- adaptive—Defines the admission bandwidth as being automatically sensed

**Mode** Route Map Configuration

**Release Information** Command introduced in JUNOS Release 7.1.0.  
**adaptive** keyword added in JUNOS Release 7.2.0.

## set as-path prepend

---

**Description** Prepends one or more AS numbers or a list of AS numbers to the AS path for BGP routes. The **no** version removes the set clause from a route map.

**Syntax** set as-path prepend { list *listName* | *asPathNumber* [ *asPathNumber* ]\* }  
 no set as-path prepend

- *listName*—Name of a list of AS path numbers; string of up to 32 characters
- *asPathNumber*—Number, in the range 1–65535, that appends the string following the keyword **prepend** to the AS path of the route that is matched by the route map. Applies to outbound BGP route maps.
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line

**Mode** Route Map Configuration

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

## set automatic-tag

---

**Description** Automatically computes the tag value. The **no** version removes the set clause from a route map.

**Syntax** [ no ] set automatic-tag

**Mode** Route Map Configuration

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

## set comm-list delete

---

**Description** Removes communities specified by the community list from the community attribute of routes matching the route map. The **no** version removes the set clause from a route map.

**Syntax** set comm-list { *communityList* | *regularExpression* } delete  
no set comm-list

- *communityList*—Community list identifier; a string of up to 32 characters
- *regularExpression*—Regular expression that matches the community

**Mode** Route Map Configuration

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

## set community

---

**Description** Sets the BGP community attribute to one or more community numbers or a list of community numbers. The **no** version removes the set clause from a route map.

**Syntax** `set community { list communityListName [ additive ] | none }`  
`set community { communityNumber | knownCommunity | asCommunNumber }`  
`[ communityNumber | knownCommunity | asCommunNumber ]* [ additive ]`  
`no set community`

- *communityListName*—Name of a community; a string of up to 32 characters
- *additive*—Adds the community number to the community list
- *none*—Removes the community attribute
- *communityNumber*—Number, in the range 1–4294967295, that specifies the community number
- *knownCommunity*—Any of the following well-known communities; the Internet community is not an option:
  - *local-as*—Prevents advertisement outside of the local AS
  - *no-advertise*—Prevents advertisement to any peer
  - *no export*—Prevents advertisement beyond the BGP confederation boundary
- *asCommunNumber*—AS community number in the format *AA:NN*:
  - *AA*—Number, in the range 1–65535, that identifies an AS
  - *NN*—Number, in the range 1–65535, that uniquely identifies a community within an AS
- *\**—Indicates that one or more parameters can be repeated multiple times in a list in the command line

**Mode** Route Map Configuration

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

## set dampening

---

**Description** Enables route flap dampening and optionally specifies dampening parameters for routes passing through the route map. The **no** version removes the set clause from a route map.

**Syntax** set dampening *halfLife reuse suppress maxSuppressTime [ halfLifeUnreachable ]*  
no set dampening

- *halfLife*—Half-life period in minutes, in the range 1–45; default value is 10. When a BGP route has been assigned a penalty, the penalty is decreased by half after each half-life period. Each time a route flaps, the router configured for route flap dampening assigns the route a penalty. Penalties are cumulative. BGP stores the penalty for all reachable and unreachable routes that have experienced recent flaps.
- *reuse*—Reuse limit in the range 1–20000; default value is 750. As the penalty for a flapping route decreases and falls below this reuse limit, the route is unsuppressed. That is, the route is added back to the BGP table and used for forwarding.
- *suppress*—Suppress limit in the range 1–20000; default value is 2000; a route is suppressed when its penalty exceeds this limit
- *maxSuppressTime*—Maximum suppression time in minutes, in the range 1–255; default value is 60; maximum amount of time a route can be suppressed
- *halfLifeUnreachable*—Alternate half-life period in minutes for unreachable routes; a number in the range 1–45; default value is 20. If you do not specify this value, the router uses the same half-life period for both reachable and unreachable routes.

**Mode** Route Map Configuration

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

## set dhcp relay

**Description** When used without any optional keywords, creates and enables DHCP relay in the current virtual router independent of any DHCP servers.

When used with optional keywords, adds a new DHCP/BOOTP server and specifies that the E-series router is either a DHCP relay or DHCP relay proxy between the DHCP client and DHCP server. Optionally, configures the DHCP relay agent, including specifying the DHCP relay agent information (option 82) that is included in all packets forwarded to the DHCP server.

If you issue the **set dhcp relay** command when a local server has been configured, the local server is deactivated.

The **no** version used without other keywords deletes the DHCP relay agent and its configuration from the virtual route. The **no** version used with optional keywords removes the specified server or disables the specified relay agent configuration.



**NOTE:** The **set dhcp relay agent** command, when used to configure option 82 suboptions, is a legacy command, which JUNOS software continues to support to provide backward-compatibility for existing scripts. We recommend that you use the **dhcp relay agent sub-option** command for new option 82 suboption configurations.

**Syntax** To create the DHCP relay independent of any DHCP servers and to explicitly delete the DHCP server

```
[ no ] set dhcp relay
```

To create and disable the DHCP relay for a specific DHCP server

```
set dhcp relay { dhcpServerAddress [ proxy ] | agent [ circuit-ID-only | remote-ID-only ] |  
inhibit-access-route-creation | discard-access-routes  
{ interfaceType interfaceSpecifier | all } }
```

```
no set dhcp relay { dhcpServerAddress | agent | inhibit-access-route-creation }
```

- *dhcpServerAddress*—IP address of the DHCP server
- *proxy*—Specifies that the router is a DHCP relay proxy between the DHCP client and DHCP server; if omitted, the router functions as a DHCP server
- *agent*—Adds the agent information suboptions (circuit-ID and remote-ID) to every packet the router relays from a DHCP client to a DHCP server
- *circuit-ID-only*—Specifies circuit ID suboption (suboption 1) only
- *remote-ID-only*—Specifies remote-ID suboption (suboption 2) only
- *inhibit-access-route-creation*—Specifies that access routes are not installed
- *discard-access-routes*—Removes existing access routes from the routing table and from NVS

- *interfaceType*—Interface type whose access routes should be discarded; 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*
- *all*—Removes all existing access routes

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
Command used without any keywords introduced in JUNOS Release 8.2.0.

## set dhcp relay agent sub-option

**Description** Configures DHCP relay and DHCP relay proxy to add values into the DHCP relay agent information option (option 82) of the packets sent to a DHCP server. The **no** version restores the default configuration, in which the specified values are not relayed to the DHCP server.



**NOTE:** We recommend that you use this command for new option 82 suboption configurations. However, JUNOS software continues to support the **set dhcp relay agent** command, with option 82 suboptions, to provide backward-compatibility for existing scripts.

**Syntax** set dhcp relay agent sub-option { circuit-id | remote-id | vendor-specific  
{ layer2-circuit-id | user-packet-class } }

no set dhcp relay agent sub-option { circuit-id | remote-id | vendor-specific  
[ layer2-circuit-id | user-packet-class ] }

- *circuit-id*—Specifies the Agent Circuit ID suboption (suboption 1)
- *remote-id*—Specifies the Agent Remote ID suboption (suboption 2)
- *vendor-specific*—Specifies the Vendor-Specific suboption (suboption 9)
- *layer2-circuit-id*—Specifies the SVLAN ID or VLAN ID or both for Ethernet interfaces or the VPI/VCI for ATM 1483 interfaces
- *user-packet-class*—Specifies the user packet class, whose value is configured by the JUNOS software layer 2 policy application

**Mode** Global Configuration

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

## set dhcp relay assign-giaddr-source-ip

---

**Description** Configures DHCP relay and DHCP relay proxy to assign the gateway IP address (giaddr) to the source IP address of traffic they send to DHCP servers. The **no** version restores the default, in which the DHCP relay and DHCP relay proxy do not assign the giaddr to the source IP address.

**Syntax** [ no ] set dhcp relay assign-giaddr-source-ip

**Mode** Global Configuration

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

## set dhcp relay broadcast-flag-replies

---

**Description** Configures DHCP relay and DHCP relay proxy to use the setting of the broadcast flag in the DHCP request packet to control how DHCP Offer reply packets and ACK and NAK reply packets are transmitted to DHCP clients during the discovery process. If the broadcast flag is set in the request packet, DHCP relay and DHCP relay proxy broadcast DHCP reply packets to clients. If the broadcast flag is not set in the request packet, DHCP relay and DHCP relay proxy use the layer 2 unicast transmission method to send DHCP reply packets using the client's layer 2 (MAC) address and layer 3 (IP) unicast address. The **no** version causes the router not to use the broadcast flag setting and restores the default behavior, which broadcasts DHCP Offer reply packets and ACK and NAK reply packets to all clients during the discovery process.



**NOTE:** The **set dhcp relay broadcast-flag-replies** command and the **set dhcp relay layer2-unicast-replies** command are mutually exclusive. If you attempt to issue the **set dhcp relay broadcast-flag-replies** command when the **set dhcp relay layer2-unicast-replies** command is already in effect, the operation fails and the router displays an error.

**Syntax** [ no ] set dhcp relay broadcast-flag-replies

**Mode** Global Configuration

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



## set dhcp relay giaddr-selects-interface

---

**Description** Configures DHCP relay to use information in the giaddr in the DHCP ACK packets that are generated by the server and destined for the DHCP client. The DHCP server uses this information to determine the primary interface that is used to optionally build dynamic subscriber interfaces.

The **no** version restores the default that builds dynamic subscriber interfaces on the IP interface on which DHCP client discover packets are received.

**Syntax** [ no ] set dhcp relay giaddr-selects-interface

**Mode** Global Configuration

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

## set dhcp relay layer2-unicast-replies

---

**Description** Configures DHCP relay and DHCP relay proxy to use the optional layer 2 unicast and layer 3 broadcast transmission method to transmit DHCP Offer reply packets and ACK reply packets to DHCP clients during the discovery process. The **no** version restores the default method that broadcasts DHCP Offer reply packets and ACK reply packets to all DHCP clients during the discovery process.



**NOTE:** The **set dhcp relay layer2-unicast-replies** command and the **set dhcp relay broadcast-flag-replies** command are mutually exclusive. If you attempt to issue the **set dhcp relay layer2-unicast-replies** command when the **set dhcp relay broadcast-flag-replies** command is already in effect, the operation fails and the router displays an error.

**Syntax** [ no ] set dhcp relay layer2-unicast-replies

**Mode** Global Configuration

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

## set dhcp relay options

---

**Description** Configures the relay agent option 82 information that the router adds to DHCP packets before it relays the packets to the DHCP server. You can add either the E-series hostname or the virtual router name to the front of the Circuit-Id field. You cannot add both hostname and virtual router name. The last option specified is the one in use. You can also strip the subinterface ID from the Interface-Id field. The **no** version returns to the default, in which no information is added to the Circuit-Id field and/or the subinterface ID is not stripped from the interface string.

**Syntax** set dhcp relay options { hostname | vrname | exclude-subinterface-id }  
no set dhcp relay options [ hostname | vrname | exclude-subinterface-id ]

- hostname—Adds the router's hostname to the front of the Circuit-Id field; the hostname is separated from the circuit information by a colon
- vrname—Adds the router's virtual router name to the front of the Circuit-Id field; the virtual router name is separated from the circuit information by a colon
- exclude-subinterface-id—Strips the subinterface ID from the Interface-Id field

**Mode** Global Configuration

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

## set dhcp relay override

---

**Description** Configures DHCP relay to override the relay agent option 82 or giaddr values in packets destined for a DHCP server. The **no** version returns to the default, in which the option 82 or giaddr value is not overridden.

**Syntax** [ no ] set dhcp relay override { agent-option | giaddr }

- agent-option—Overrides the option 82 information
- giaddr—Overrides giaddr

**Mode** Global Configuration

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

## set dhcp relay preserve-trusted-client-option

---

**Description** Configures DHCP relay and DHCP relay proxy to prevent option 82 information from being stripped from packets destined for a trusted client. The **no** version restores the default, in which the option 82 information is stripped from the packets.

**Syntax** [ no ] set dhcp relay preserve-trusted-client-option

**Mode** Global Configuration

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

## set dhcp relay proxy send-first-offer

---

**Description** Configures the DHCP relay proxy to immediately send the first DHCP offer it receives from any DHCP server to the DHCP client. The **no** version restores the default value, in which DHCP relay proxy sends the single most appropriate address offer it receives from multiple DHCP servers.

**Syntax** [ no ] set dhcp relay proxy send-first-offer

**Mode** Global Configuration

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

## set dhcp relay proxy timeout

---

**Description** Sets the time that the DHCP relay proxy waits for a renewal message from the DHCP client after a reboot or switchover occurs. The **no** version restores the default value.

**Syntax** set dhcp relay proxy timeout *hours*  
no set dhcp relay proxy timeout

- *hours*—Number of hours for the timeout, in the range 1–168 (1 hour to 7 days); default value is 72 hours

**Mode** Global Configuration

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

## set dhcp relay trust-all

---

**Description** Enables the DHCP relay trust-all method. When the trust-all method is enabled, the DHCP relay processes packets that are destined for a DHCP server as if they are from trusted sources. The **no** version restores the default, which disables the trust-all method.

**Syntax** [ no ] set dhcp relay trust-all

**Mode** Global Configuration

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

## set dhcp vendor-option

---

**Description** Configures vendor-option strings that control DHCP client traffic. Creates DHCP vendor-option servers by configuring DHCP relay to match DHCP option 60 strings and to specify the action the router takes when it receives DHCP option 60 strings. The **no** version disables the setting.

**Syntax** To set the default action to take when the option 60 string does not match a configured vendor-option string:  
`[ no ] set dhcp vendor-option default [ drop | local-server | proxy-client | relay address | relay-server-list ]`

To set the action to take when the option 60 string matches a configured vendor-option string:  
`[ no ] set dhcp vendor-option { equals | starts-with } string [ local-server | relay address ]`

- `drop`—Discards packets
- `local-server`—Forwards packets to the DHCP local server
- `proxy-client`—Forwards packets to the DHCP proxy client server
- `address`—IP address of the vendor-option server to which packets are forwarded
- `relay-server-list`—Forwards packets to all non-vendor option DHCP servers. The relay-server-list consists of all non-vendor option servers. Non-vendor option servers are those servers that are configured with the **set dhcp relay** command but not with the **set dhcp vendor-option** command.
- `equals`—Configures a string that must be matched exactly for option 60 processing
- `starts-with`—Configures the string that is matched from left-to-right for option 60 processing
- `string`—Option 60 string to match; up to 254 hexadecimal characters

**Mode** Global Configuration

**Release Information** Command introduced in JUNOS Release 8.2.0.

## set distance

---

**Description** Configures an administrative distance to apply to routes that match the route map. The **no** version removes the set clause from a route map.

---



**NOTE:** Setting a distance in a route map is useful only when it is set on a route being installed into the routing table. Distance is used to establish preference between routes to the same prefix to identify the best route to that prefix. Setting distance in any other circumstance has no effect.

---

**Syntax** set distance *distance*  
no set distance

- *distance*—Administrative distance in the range 0–255

**Mode** Route Map Configuration

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

## set extcommunity

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Sets the BGP extended communities attribute. The <b>no</b> version removes the set clause from a route map.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Syntax</b>              | <pre>set extcommunity { rt <i>extCommValue</i> [ <i>extCommValue</i> ]* [ additive ] }   { soo <i>extCommValue</i> }</pre> <pre>no set extcommunity</pre> <ul style="list-style-type: none"> <li>■ <b>rt</b>—Specifies a route-target extended community, which consists of one or more routers that can receive a set of routes advertised by BGP that carry the extended-community attribute</li> <li>■ <b>soo</b>—Specifies a site-of-origin extended community, which consists of one or more routers that inject into BGP a set of routes that carry the extended-community attribute</li> <li>■ <b><i>extCommValue</i></b>—Number identifying the extended community in one of the following formats: <ul style="list-style-type: none"> <li>■ <i>AS:nn</i>—Autonomous system number, in the range 1–65535, followed by an integer in the range 1–4294967295; for example, 320:72358</li> <li>■ <i>AS:nn</i>—Autonomous system number, in the range 1–4294967295 followed by an integer in the range 1–65535; for example, 84511:45</li> <li>■ <i>ipAddress:nn</i>—Dotted decimal IP address followed by an integer in the range 1–65535; for example, 10.10.21.5:1256</li> </ul> </li> <li>■ <b>*</b>—Indicates that one or more parameters can be repeated multiple times in a list in the command line</li> <li>■ <b>additive</b>—Adds the specified extended communities to any previously configured for the attribute; if omitted, the specified extended communities replace any previously configured for the attribute</li> </ul> |
| <b>Mode</b>                | Route Map Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## set ip interface-profile

---

|                            |                                                                                                                                                                                                         |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Specifies a dynamic IP interface profile that is used in the route map. The <b>no</b> version removes the interface profile from the route map.                                                         |
| <b>Syntax</b>              | <pre>set ip interface-profile <i>profileName</i></pre> <pre>no set ip interface-profile</pre> <ul style="list-style-type: none"> <li>■ <b><i>profileName</i></b>—Name of the dynamic profile</li> </ul> |
| <b>Mode</b>                | Route Map Configuration                                                                                                                                                                                 |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                          |

## set ip next-hop

---

**Description** Indicates where to send packets that pass a match clause of a route map for policy routing. The **no** version removes the set clause from a route map.



Beginning with JUNOS Release 7.1.0, this command is not supported for route maps used by the **table-map** command.

---

**Syntax** set ip next-hop { *ipAddress* | interface *interfaceType* *interfaceSpecifier* | *peerAddress* }  
no set ip next-hop [ *ipAddress* | *peerAddress* ]

- *ipAddress*—IP address of next hop to which packets are sent; does not need to be an adjacent router
- *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*
- *peerAddress*—On outbound route maps, disables the next hop-calculation by setting the next hop to the IP address of the BGP speaker; on inbound route maps, overrides any third-party next-hop configuration by setting the next hop to the IP address of the peer

**Mode** Route Map Configuration

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

## set ip service-profile

---

**Description** Specifies the name of a subscriber's service profile that is used in the route map. The **no** version removes the service profile from the route map.

**Syntax** set ip service-profile *profileName*  
no set ip service-profile

- *profileName*—Name of service profile

**Mode** Route Map Configuration

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

## set ip source-prefix

---

**Description** Specifies a source address range that will be inserted into a specific interface and the action to take with the range. The **no** version removes the source address range from the route map.

**Syntax** [ no ] set ip source-prefix *ipAddress ipMask* { deny | primary }

- *ipAddress*—IP address for the range
- *ipMask*—IP address mask for the range
- deny—Drops the addresses that appear in the source address range
- primary—Associates the source prefix with the primary IP interface

**Mode** Route Map Configuration

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

## set ipv6 next-hop

---

**Description** Indicates where to send packets that pass a match clause of a route map for IPv6 policy routing. The **no** version removes the set clause from a route map.

**Syntax** [ no ] set ipv6 next-hop *ipv6Address* [ *localAddress* ]

- *ipv6Address*—IPv6 address of next hop to which you want to send packets; does not need to be an adjacent router
- *localAddress*—IP address of the specific interface

**Mode** Route Map Configuration

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



## set level

---

**Description** Specifies where to import routes when all of a route map's match criteria are met. The **no** version removes the set clause from a route map.

**Syntax** set level *atLevel*  
no set level

- *atLevel*—Specifies one of the following levels:
  - level-1—Imports routes into a level 1 area
  - level-1-2—Imports routes into a level 1 and a level 2 area
  - level-2—Imports routes into a level 2 subdomain
  - stub-area—Imports routes into an OSPF NSSA area
  - backbone—Imports routes into an OSPF backbone area

**Mode** Route Map Configuration

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

## set local-preference

---

**Description** Specifies a preference value for the AS path. The **no** version removes the set clause from a route map.

**Syntax** set local-preference *value*  
no set local-preference

- *value*—Preference number, in the range 0–4294967295

**Mode** Route Map Configuration

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

## set metric

---

**Description** Modifies the metric value (for BGP, the MED) for a route that matches the route map by applying a relative or absolute metric. The **no** version removes the set clause from a route map.



**NOTE:** You cannot have an absolute and a relative metric within the same route map sequence. Issuing either command overrides any previously configured metric in the route map.

---

**Syntax** `set metric [ +relValue | -relValue | absValue ]`

`no set metric`

- `+` —Specifies that the value is added to the metric for routes matching the route map; immediately precedes the metric value with no intervening space
- `-` —Specifies that the value is subtracted from the metric for routes matching the route map; immediately precedes the metric value with no intervening space
- *relValue*—Number, in the range 0–4294967295
- *absValue*—Number, in the range 0–4294967295

**Mode** Route Map Configuration

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

## set metric-type

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Sets the metric type for the destination routing protocol. The <b>no</b> version removes the set clause from a route map.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Syntax</b>              | <pre>set metric-type <i>atMetric</i> no set metric-type</pre> <ul style="list-style-type: none"><li>■ <i>atMetric</i>—Specifies the metric type from the following choices:<br/>For BGP:<ul style="list-style-type: none"><li>■ external—Reverts to the normal BGP rules for propagating the MED; this is the BGP default</li><li>■ internal—Sets the MED of a received route that is being propagated to an external peer equal to the IGP cost of the indirect next hop</li></ul>For IS-IS:<ul style="list-style-type: none"><li>■ external—Only the metric of the route itself is considered for comparison</li><li>■ 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</li></ul>For OSPF:<ul style="list-style-type: none"><li>■ 1—Cost of the external routes is equal to the sum of all internal costs and the external cost</li><li>■ 2—Cost of the external routes is equal to the external cost alone; this is the OSPF default</li></ul></li></ul> |
| <b>Mode</b>                | Route Map Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## set mpls-label

---

|                            |                                                                                                                                     |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Configures BGP to advertise prefixes that match the route map as labeled prefixes. The <b>no</b> version removes the configuration. |
| <b>Syntax</b>              | <pre>[ no ] set mpls-label</pre>                                                                                                    |
| <b>Mode</b>                | Route Map Configuration                                                                                                             |
| <b>Release Information</b> | Command introduced in JUNOS Release 7.1.0.                                                                                          |

## set origin

---

**Description** Sets the BGP origin of an advertised route. The **no** version removes the set clause from a route map.

**Syntax** set origin *atOrigin*  
no set origin

- *atOrigin*—Specifies the origin from the following choices:
  - *egp*—Remote exterior gateway protocol
  - *igp*—Local interior gateway protocol
  - *incomplete*—Origin unknown

**Mode** Route Map Configuration

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

## set-overload-bit

---

**Description** Sets the overload bit, indicating to other IS-IS routers not to use this router as an intermediate hop in their SPF calculations. The **no** version restores the default value, clearing the overload bit.

**Syntax** [ no ] set-overload-bit [ on-startup *seconds* | on-startup wait-for-bgp [ *bgpSeconds* ] ]

- *on-startup*—Sets the overload bit only after a system reload; prevents other routers from routing through this router before it is fully operational
- *seconds*—Period after the reload during which the overload bit is set, in the range 5–86400 seconds; the overload bit is cleared when the period expires
- *wait-for-bgp*—Specifies that the overload bit is not cleared until BGP has completed convergence
- *bgpSeconds*—Maximum period to wait for BGP to converge, in the range 5–86400 seconds with a default value of 600 seconds; the overload bit is cleared when the period expires

**Mode** Router Configuration

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

## set priority

---

**Description** Configures a priority value for the <S, G> data stream. Dynamic multicast admission control enables only prioritized groups to join the interface after the configured priority limit is reached on the physical port. The system records the priority when a new <S, G> entry is created. The **no** version removes the priority value.

**Syntax** set priority *priorityValue*  
no set priority

- *priorityValue*—Priority value for the <S, G> data stream; the default is 0

**Mode** Route Map Configuration

**Release Information** Command introduced in JUNOS Release 8.2.0.

## set qos-bandwidth

---

**Description** Sets a multicast bandwidth for QoS adjustment or defines the bandwidth as adaptive (automatically sensed). The **no** version removes the set clause from a route map.

**Syntax** set qos-bandwidth { *bandwidthValue* | adaptive }  
no set qos-bandwidth

- *bandwidthValue*—Number, in the range 0–4294967259 kilobits per second, used for QoS adjustment
- *adaptive*—Defines the QoS bandwidth as being automatically sensed

**Mode** Route Map Configuration

**Release Information** Command introduced in JUNOS Release 7.1.0.  
**adaptive** keyword added in JUNOS Release 7.2.0.

## set route-class

---

**Description** Sets the route class attribute for a route map. The **no** version deletes the route class attribute.

**Syntax** set route-class *routeClass*  
no set route-class

- *routeClass*—Value in the range 0–255

**Mode** Route Map Configuration

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

## set route-type

---

**Description** Sets routes of the specified type. The **no** version removes the set clause from a route map.

**Syntax** set route-type { internal | internal-intra | internal-inter | external }  
no set route-type

- internal—Internal route (including OSPF intra-area and interarea)
- internal-intra—Intra-area route
- internal-inter—Interarea route
- external—External route (BGP and OSPF type 1/2)

**Mode** Route Map Configuration

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

## set tag

---

**Description** Sets the tag value of the destination routing protocol. The **no** version removes the set clause from a route map.

**Syntax** set tag *tagValue*  
no set tag

- *tagValue*—Preference number, in the range 0–4294967295

**Mode** Route Map Configuration

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

## set threshold

---

**Description** Configures a threshold value for multicast VPN applications. The **no** version removes the threshold value.

**Syntax** set threshold *thresholdValue*  
no set threshold

- *thresholdValue*—Threshold value for multicast VPN applications

**Mode** Global Configuration

**Release Information** Command introduced in JUNOS Release 8.2.0.

## set weight

---

**Description** Specifies the BGP weight for the routing table. Overrides the weights assigned by using the **neighbor weight** and **neighbor filter-list** commands. The **no** version removes the set clause from a route map.

**Syntax** [ no ] set weight *value*  
no set weight

- *value*—Weight value in the range 0–4294967295

**Mode** Route Map Configuration

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

## shadow-node

---

**Description** Specifies that a shadow node be configured for each interface of the given interface type. The **no** version removes this rule from the QoS profile.

**Syntax** [ no ] *typeOfInterface* shadow-node [ group *trafficClassGroup* | scheduler-profile *schedulerProfileName* ]\*

- *typeOfInterface*—Interface types for shadow nodes to be configured: atm, atm-vc, atm-vp, bridge, ethernet, fr-vc, ip, ip-tunnel, ipv6, l2tp-session, l2tp-tunnel, lsp, serial, server-port, svlan, vlan
- *trafficClassGroup*—Name of the traffic-class group
- *schedulerProfileName*—Name of the scheduler profile
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line

**Mode** QoS Profile Configuration

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

**Related Topics**

- [Configuring Shadow Nodes](#)

## shaping-rate

---

**Description** Sets the shaping rate and burst size. The **no** version deletes the shaping rate.

**Syntax** `shaping-rate shapingRate [ operator operandValue ]* [ bps | kbps ]`  
`[ burst burstSize [ milliseconds | bytes ] ]`  
`shaping-rate operandValue [ operator operandValue ]* [ bps | kbps ]`  
`no shaping-rate`

- *shapingRate*—Constant shaping rate in bits per second; in the range 1000–10000000000 (1 Kbps–1000 Kbps)
- *operator*—Mathematical function
- *operandValue*—Input for the operator; can be a QoS parameter definition name or an integer
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *bps*—Specifies shaping rate in bits per second
- *kbps*—Specifies shaping rate in kilobits per second
- *burstSize*—Number, in the range 0–522240 (0–510 KB); 0 enables the router to select an applicable default value
- *milliseconds*—Specifies burst size in milliseconds
- *bytes*—Specifies burst size in bytes

**Mode** Scheduler Profile Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**milliseconds** and **bytes** keywords added in JUNOS Release 7.1.0.  
**bps** and **kbps** keywords added in JUNOS Release 8.0.0.

### Related Topics

- Configuring Rate Shaping for a Scheduler Node or Queue
- Configuring Port Shaping
- Configuring a Basic Parameter Definition for QoS Administrators



## shared-shaping-constituent

---

**Description** Sets the attributes of implicit and explicit shared-shaping constituents and specifies explicit shared-shaping constituents. Constituents default to priority with a priority value of 8. Priority constituents are ordered before weighted constituents. The **no** version deletes the attributes or explicit constituent.

**Syntax** shared-shaping-constituent [ priority [ *priorityValue* ] | weight [ *weightValue* ] ]  
no shared-shaping-constituent

- *priorityValue*—Value, in the range 1–8, that specifies the order in which the constituent can claim bandwidth from among all priority constituents; a lower value correlates to a higher claim; 8 is the default value
- *weightValue*—Value, in the range 1–31, that specifies the order in which the constituent can claim bandwidth from among all weighted constituents; a lower value correlates to a higher claim; 8 is the default value

**Mode** Scheduler Profile Configuration

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

### Related Topics

- Configuring Implicit Constituents for Simple or Compound Shared Shaping
- Configuring Explicit Constituents for Simple or Compound Shared Shaping

## shared-shaping-rate

---

**Description** Sets the shared-shaping rate and burst size for the logical interface. This command must appear in the scheduler profile for either the best-effort queue or the best-effort scheduler node. The **no** version deletes the shared-shaping rate.

**Syntax** shared-shaping-rate *sharedShapingRate* [ *operator operandValue* ]\* [ bps | kbps ]  
[ burst *burstSize* [ milliseconds | bytes ] ] { simple | compound | auto }  
[ explicit-constituents ]

shared-shaping-rate *operandValue* [ *operator operandValue* ]\* [ bps | kbps ]  
[ burst *burstSize* [ milliseconds | bytes ] ] { simple | compound | auto }  
[ explicit-constituents ]

no shared-shaping-rate

- *sharedShapingRate*—Constant shared-shaping rate in bits per second; in the range 1000–10000000000 (1 Kbps–1000 Kbps)
- *operator*—Mathematical function
- *operandValue*—Input for the operator; can be a QoS parameter definition name or an integer
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line

- **bps**—Specifies shared-shaping rate in bits per second
- **kbps**—Specifies shared-shaping rate in kilobits per second
- **burstSize**—Number, in the range 0–522240 (0–510 KB); 0 enables the router to select an applicable default value
- **milliseconds**—Specifies burst size in milliseconds
- **bytes**—Specifies burst size in bytes
- **simple**—Specifies the simple form of shared shaping, which does not manage voice and video traffic, but shapes data queue rates to the value of the shared rate minus the combined voice and video traffic rate
- **auto**—Specifies that the router automatically selects the type of shared shaping depending on the module; compound is selected only for line modules that support it, and simple is selected for all other line modules; this is the default mode
- **compound**—Specifies the compound form of shared shaping, which actively shapes voice and video traffic so that the shared rate cannot be exceeded, and shapes data queue rates to the value of the shared rate minus the combined voice and video traffic rate; requires special hardware
- **explicit-constituents**—Overrides automatic selection of compound shared-shaping constituents and enables you to explicitly specify constituents and bandwidth allocation; generates an error message and has no effect when applied to modules that do not support compound shared shaping

**Mode** Scheduler Profile Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*operator* and *operandValue* variables added in JUNOS Release 7.1.0.  
**milliseconds** and **bytes** keywords added in JUNOS Release 7.1.0.  
**bps** and **kbps** keywords added in JUNOS Release 8.0.0.

#### Related Topics

- [Configuring Simple Shared Shaping](#)
- [Configuring Compound Shared Shaping](#)
- [Configuring Implicit Constituents for Simple or Compound Shared Shaping](#)
- [Configuring Explicit Constituents for Simple or Compound Shared Shaping](#)
- [Configuring a Basic Parameter Definition for QoS Administrators](#)

## show aaa accounting

---

**Description** Displays AAA accounting configuration information, including the destinations where broadcast and duplicate accounting records are sent.

**Syntax** show aaa accounting [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa accounting default

---

**Description** Displays the AAA accounting method used for the particular type of subscriber.

**Syntax** show aaa accounting { *subscriberType* } default [ *filter* ]  
■ *subscriberType*—Specifies the type of subscriber:  
■ atm1483—ATM 1483 subscribers  
■ ip—IP subscriber management interfaces  
■ ipsec—IPSec subscribers  
■ ppp—PPP subscribers  
■ radius-relay—RADIUS relay subscriber  
■ tunnel—Tunnel subscribers  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa accounting interval

---

**Description** Displays information about the user and service accounting interval.

**Syntax** show aaa accounting interval [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa accounting vr-group

---

**Description** Displays the name of a particular virtual router group or the names of all virtual router groups configured on the router. Virtual router groups contain a list of virtual routers to which AAA broadcast accounting information can be sent.

**Syntax** show aaa accounting vr-group [ *vrGroupName* ] [ *filter* ]

- *vrGroupName*—Name of a specific virtual router group; a string of up to 32 characters; if omitted, names of all virtual router groups are displayed
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa authentication default

---

**Description** Displays the AAA authentication method list used for the particular type of subscriber.

**Syntax** show aaa authentication { *subscriberType* } default [ *filter* ]

- *subscriberType*—Specifies the type of subscriber:
  - atm1483—ATM 1483 subscribers
  - ip—IP subscriber management interfaces
  - ipsec—IPSec subscribers
  - ppp—PPP subscribers
  - radius-relay—RADIUS relay subscriber
  - tunnel—Tunnel subscribers
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa delimiters

---

**Description** Displays the domain name and realm name delimiters, parse order, and parse direction configured on the router.

**Syntax** show aaa delimiters [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa domain-map

---

**Description** Displays the mapping between user domains and virtual routers. The display includes a tunnel group if one is assigned to the domain map.

**Syntax** show aaa domain-map [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa duplicate-address-check

---

**Description** Configures AAA to query the routing table for duplicate address assignment before granting access.

**Syntax** show aaa duplicate-address-check [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa intf-desc-format

---

**Description** Displays whether the router includes or excludes the subinterface number and adapter in the interface description that the router passes to RADIUS for inclusion in the NAS-Port-Id attribute

**Syntax** show aaa intf-desc-format

**Description** Privileged Exec

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

## show aaa model

---

**Description** Displays AAA model.

**Syntax** show aaa model [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa name-servers

---

**Description** Displays the IP addresses of the primary and secondary DNS and WINS name servers.

**Syntax** show aaa name-servers [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa profile

---

**Description** Displays AAA profile names and the actions associated with each specified AAA profile name.

**Syntax** show aaa profile [ *brief* | name *profileName* ] [ *filter* ]

- *brief*—Displays the status and number of configured VCs for all ATM interfaces configured in the router
- *profileName*—Name of the profile you want to display
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa qos downstream-rate

---

**Description** Displays whether the QoS downstream rate application is enabled to use downstream rates obtained from the Actual-Data-Rate-Downstream [26-30] DSL Forum VSA.

**Syntax** show aaa qos downstream-rate

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring the AAA Downstream Rate for QoS

## show aaa route-download

---

**Description** Displays AAA route download statistics.

**Syntax** show aaa route-download [ statistics [ delta ] ] [ filter ]

- delta—Displays baselined statistics
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa route-download routes

---

**Description** Displays information about AAA downloaded routes.

**Syntax** show aaa route-download routes [ vrfName ] [ detail ] [ filter ]

- vrfName—Name of a virtual routing and forwarding instance to display
- detail—Displays detailed information about downloaded routes
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa route-download routes global

---

**Description** Displays information about AAA downloaded routes for all virtual routers and VRFs.

**Syntax** show aaa route-download routes global [ start startString ] [ detail ] [ filter ]

- startString—String that specifies the first router context to display in the output; a maximum of 32 alphanumeric characters
- detail—Displays detailed information about the downloaded routes
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa service accounting interval

---

**Description** Displays the default accounting interval used by the Service Manager application for RADIUS-initiated services associated with users attached to this virtual router.

**Syntax** show aaa service accounting interval [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa statistics

---

**Description** Displays the authentication and authorization statistics.

**Syntax** show aaa statistics [ *delta* ] [ *filter* ]

- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa subscriber per-port-limit

---

**Description** Displays the number of active subscribers on each interface.

**Syntax** show aaa subscriber per-port-limit [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa subscriber per-vr-limit

---

**Description** Displays the number of active subscribers on each virtual router.

**Syntax** show aaa subscriber per-vr-limit [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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



## show aaa timeout

---

**Description** Displays information about the idle and session timeouts.

**Syntax** show aaa timeout [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa tunnel-group

---

**Description** Displays currently configured tunnel groups.

**Syntax** show aaa tunnel-group [ *tunnelGroupName* ] [ *filter* ]  
■ *tunnelGroupName*—Name of the tunnel group  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa tunnel-parameters

---

**Description** Displays default tunnel parameters that are configured for tunnel definitions.

**Syntax** show aaa tunnel-parameters [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show aaa user accounting interval

---

**Description** Displays the default accounting interval for users attached to this virtual router.

**Syntax** show aaa user accounting interval [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show access-list

---

**Description** Displays access list information about the access list specified.

**Syntax** show [ ip ] access-list [ *accessListName* ] [ detail ] [ *filter* ]

- *accessListName*—Name of the access list
- detail—Displays detailed information about the access list
- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

## show adjustment-factor

---

**Description** Displays the configured QoS adjustment factor that is applied to the ANCP-reported downstream and upstream data rate for all DSL line types or for the specified DSL line types.

**Syntax** show adjustment-factor [ adsl1 | adsl2 | adsl2+ | vdsl | vdsl2 | sds ]

- *dslType*—Type of DSL line for which the QoS adjustment rate is displayed: **adsl1**, **adsl2**, **adsl2 +**, **vdsl**, **vdsl2**, or **sds**

**Mode** L2C Configuration

**Release Information** Command introduced in JUNOS Release 9.1.0.

## show aps

---

**Description** Displays information about APS/MSP interfaces or groups from APS-capable controllers in the system.

**Syntax** show aps [ all [ group [ *groupName* ] ] ]

- all—Displays information from all APS/MSP groups
- *groupName*—Name of the APS/MSP group

**Mode** Privileged Exec

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

## show arp

---

**Description** Displays information about the Address Resolution Protocol cache.

**Syntax** show [ ip ] arp [ vrfName ] [ ipAddress ] [ interfaceType interfaceSpecifier ] [ all ] [ filter ]

- vrfName—Name of the VRF
- ipAddress—IP address of the ARP entry
- 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*
- all—Displays all ARP entries
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show atm aal5 interface

---

**Description** Displays configuration information about an ATM AAL5 interface.

**Syntax** show atm aal5 interface atm interfaceSpecifier [ filter ]

- interfaceSpecifier—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show atm atm1483

---

**Description** Displays whether or not the router is set up to export ATM 1483 subinterface descriptions to line modules.

**Syntax** show atm atm1483

**Mode** Privileged Exec, User Exec

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

## show atm bulk-config

---

**Description** Displays information, including base profile assignments and overriding profile assignments, for the bulk-configured VC ranges on an ATM AAL5 interface. You can display information for all VC ranges on the router, for all VC ranges on a particular ATM AAL5 interface, or for the VC range associated with a particular bulk configuration name.

**Syntax** `show atm bulk-config [ atm interfaceSpecifier ] [name bulkConfigName ] [ override ] [ filter ]`

- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *bulkConfigName*—Name associated with a VC range on the ATM AAL5 interface, as specified in the **atm bulk-config** command
- *override*—Displays information only about each overriding profile assignment configured for a specific ATM PVC within a bulk-configured VC subrange; when you use the **override** keyword, information about base profile assignments is not displayed
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show atm interface

---

**Description** Displays configuration information about an ATM interface or a brief description of all ATM (major) interfaces configured in the router.

**Syntax** `show atm interface {atm interfaceSpecifier | brief } [ delta ] [ filter ]`

- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *brief*—Displays the status and number of configured VCs for all ATM interfaces configured in the router
- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Monitoring the QoS Configuration of ATM Interfaces
- Monitoring the Policy Configuration of ATM Subinterfaces

## show atm map

---

**Description** Displays the list of all configured ATM static maps to remote hosts on an ATM network.

**Syntax** show atm map [ *mapName* ] [ *brief* ] [ *filter* ]

- *mapName*—Name of the map list
- *brief*—Displays information in a condensed format
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show atm mcpt-timers

---

**Description** Displays the current systemwide values configured on the router for the three ATM Martini cell packing timers.

**Syntax** show atm mcpt-timers [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Configuring an MPLS Pseudowire with VCC Cell Relay Encapsulation
- Monitoring ATM Martini Cell Packing Timers for Layer 2 Services over MPLS

## show atm oam

---

**Description** Displays F4 OAM statistics.

**Syntax** `show atm oam interfaceSpecifier [ vpi ] [ segment | end-to-end ] [ filter ]`

- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *vpi*—Virtual path identifier
- *segment*—Displays information about segment F4 OAM circuits
- *end-to-end*—Displays information about end-to-end F4 OAM circuits
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show atm ping

---

**Description** Displays a summary of the results (number of ping cells sent, number of ping cells received, success rate) of the ping operation. These results are overwritten when a new ATM ping is invoked for the circuit. If you do not specify any of the options, the command shows ping entries for the entire router.

**Syntax** `show atm ping [atm interfaceSpecifier [ vpi vci ] ] [ filter ]`

- *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
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show atm subinterface

---

**Description** Displays the current state of all ATM subinterfaces that you specify.

**Syntax** show atm subinterface  
[ summary | atm *interfaceSpecifier* | summary atm *interfaceSpecifier* |  
status *operatingStatus* ] [ *filter* ]

- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- summary—Specifies that summary information is displayed
- status—Displays information only for the ATM subinterfaces with the specified operating status
- *operatingStatus*—One of the following operating states:
  - dormant
  - dormantLockout
  - down
  - lowerLayerDown
  - notPresent
  - up
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Configuring an MPLS Pseudowire with VCC Cell Relay Encapsulation
- Monitoring ATM Subinterfaces for Layer 2 Services over MPLS

**show atm vc**

---

**Description** Displays a summary of all configured ATM virtual circuits (VCs) and reserved VC ranges.

**Syntax** `show atm vc [ atm interfaceSpecifier ] { [ vpi vpi ] [ category categoryType ] [ status statusType ] | reserved } [ filter ]`

- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *vpi*—Virtual path identifier
- *categoryType*—One of the following service categories for which VCs are displayed:
  - cbr
  - nrt-vbr
  - rt-vbr
  - ubr
  - ubr-pc
- *statusType*—Status of VC to be displayed, up or down
- reserved—Displays only a summary of all reserved VC ranges on the router, including those reserved for use by dynamic ATM 1483 subinterfaces and by MPLS
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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



## show atm vc atm

---

**Description** Displays OAM statistics on a VC. You can specify the circuit to display by entering the VCD, or by using the **vpi-vci** keyword and specifying the VPI and VCI. You can also specify the circuit to display by entering the description configured for the ATM 1483 subinterface on which the VC resides.

**Syntax** `show atm vc { description | atm interfaceSpecifier { vcd | vpi-vci vpi vci } } [ delta ] [ filter ]`

- *description*—Text string or alias assigned to the ATM 1483 subinterface (with the **atm atm1483 description** command) on which the VC resides; up to 255 characters
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *vcd*—VCD identifying the VC
- *vpi*—Virtual path identifier
- *vci*—Virtual circuit identifier
- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show atm vc-class

---

**Description** Displays the names of all VC classes configured on the router, or, when issued with a VC class name, displays detailed information about the attributes configured in the specified VC class.

**Syntax** `show atm vc-class [ vcClassName [ include-defaults ] ] [ filter ]`

- *vcClassName*—Name of the VC class configured with the **vc-class atm** command
- *include-defaults*—Includes commands that set default values for various parameters
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show atm vp

---

- Description** Displays detailed statistics for a specific ATM virtual path (VP) configured on the router.
- Syntax** `show atm vp atm interfaceSpecifier vpi [ delta ] [ filter ]`
- *interfaceSpecifier*—ATM interface specifier; see *Interface Types and Specifiers* in *About This Guide*
  - *vpi*—Virtual path identifier
  - *delta*—Displays baselined statistics
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced in JUNOS Release 7.1.0.

## show atm vp-description

---

- Description** Displays descriptions configured for virtual paths (VPs) on an ATM interface. You can display all VP descriptions configured on the router, all VP descriptions configured for a particular interface, or the VP description configured for a particular VPI.
- Syntax** `show atm vp-description [ interfaceSpecifier [ vpi ] ] [ filter ]`
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
  - *vpi*—Virtual path identifier number, in the range 0–255
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

## show atm vp-tunnel

---

- Description** Displays a summary of all configured ATM virtual path tunnels.
- Syntax** `show atm vp-tunnel [ interfaceSpecifier ] [ filter ]`
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

## show bandwidth oversubscription

---

**Description** Displays the bandwidth oversubscription status.

**Syntax** show bandwidth oversubscription [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show bfd session

---

**Description** Displays Bidirectional Forwarding Detection (BFD) protocol session information.

**Syntax** show bfd session [ *address* [ *ipAddress* | *ipv6Address* ] ] [ *detail* ] [ *filter* ]

- *ipAddress*—IPv4 address of the session
- *ipv6Address*—IPv6 address of the session
- *detail*—Displays detailed information about the BFD session
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show bgp ipv6

---

**Description** Displays filtered information about a specified network, or all networks, in the IPv6 BGP routing table. Only those fields that you specify are displayed, except that the prefix field is always displayed. Default fields can be set with the **default-fields route** command.

**Syntax** To display information about networks in address families other than the route-target address family:

```
show bgp ipv6 [ unicast | multicast | vpnv6 all | vpnv6 vrf vrfName ]  
ipv6Prefix [ longer-prefixes ] [ fields { fieldOptions } ] [ filter ]
```

To display information about networks in only the route-target address family:

```
show bgp ipv6 route-target signaling { rtfPrefix [ longer-prefixes ] | rtfAddress }  
[ fields { fieldOptions } ] [ filter ]
```

- **unicast**—Specifies the IPv6 unicast address family and routing table; the default option
- **multicast**—Specifies the IPv6 multicast address family and routing table
- **vpn6 all**—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- **vpn6 vrf *vrfName***—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- ***ipv6Prefix***—Prefix that defines the IPv6 network that you want to filter
- **longer-prefixes**—Displays all routes with a prefix that is equal to or more specific than the specified prefix
- **route-target signaling**—Specifies the route-target address family
- ***rtfPrefix***—Prefix representing the route-target membership NLRI (RT-MEM-NLRI), in the format *asNumber:extendedCommunity/prefixLength* (for example, 320:320:524/36) where:
  - ***asNumber***—AS number for origin of route target information, in the range 1–4294967295
  - ***extendedCommunity***—Two-part number in the format *number1:number2* that identifies an extended community of VPNs, in the format *number1:number2*, where:
    - ***number1***—Autonomous system (AS) number, in the range 1–4294967295, or an IP address
    - ***number2***—Unique integer, in the range 1–4294967295; 32 bits if *number1* is a 16-bit AS number; 16 bits if *number1* is an IP address or a 32-bit AS number
  - ***prefixLength***—Number that specifies the length of the route prefix, in the range 32–96
- ***rtfAddress***—*rtfPrefix* with a prefix length of 96; representing the route-target membership NLRI (RT-MEM-NLRI), in the format *asNumber:extendedCommunity* (for example, 320:320:524 or 320:50.2.3.4:524)
- **fields**—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- ***fieldOptions***—Fields to be displayed, in the format *all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]\**
  - **all**—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - **afi**—Address family identifier
  - **aggregator**—AS number and IP address of aggregator
  - **as-path**—AS path through which this route has been advertised
  - **atomic-aggregate**—Whether the atomic aggregate attribute is present

- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords and *rtMemNlri* variable added in JUNOS Release 8.2.0.  
*rtMemNlri* variable replaced by two variables, *rtfAddress* and *rtfPrefix*, in JUNOS Release 9.1.0.

## show bgp ipv6 advertised-routes

**Description** Displays IPv6 BGP routes advertised to the specified BGP peer or peer group.

**Syntax** To display routes advertised to a neighbor or peer group in all address families or a particular address family other than the route-target address family:

```
show bgp ipv6 [ unicast | multicast | vpnv6 all | vpnv6 vrf vrfName ]
{ neighbors { ipAddress | ipv6Address } | peer-group peerGroupName }
advertised-routes [ ipv6Prefix [ longer-prefixes ] ]
[ fields { fieldOptions } ] [ delta ] [ filter ]
```

To display routes advertised to a neighbor or peer group in only the route-target address family:

```
show bgp ipv6 route-target signaling
{ neighbors { ipAddress | ipv6Address } | peer-group peerGroupName }
advertised-routes [ fields { fieldOptions } ] [ delta ] [ filter ]
```

To display routes advertised to the specified peer group for all VPN address families or for a particular VPN address family; optionally after the application of route-target filters advertised by the specified member of the peer group:

```
show bgp ipv6 [ vpnv6 all | vpnv6 vrf vrfName | l2vpn [ all ] | route-target signaling ]
peer-group peerGroupName advertised-routes
[ route-target-filter neighbor { ipRtfnbrAddress | ipv6RtfnbrAddress } ]
[ fields { fieldOptions } ] [ delta ] [ filter ]
```

- unicast—Specifies the IPv6 unicast address family and routing table; the default option
- multicast—Specifies the IPv6 multicast address family and routing table
- vpnv6 all—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- vpnv6 vrf *vrfName*—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- *ipAddress*—IP address of the IPv6 BGP neighbor
- *ipv6Address*—IPv6 address of the IPv6 BGP neighbor
- *peerGroupName*—Name of the IPv6 BGP peer group
- *ipv6Prefix*—Prefix that defines the IPv6 network that you want to filter
- longer-prefixes—Displays all routes with a prefix that is equal to or more specific than the specified prefix
- route-target signaling—Specifies the route-target address family
- l2vpn—Displays information for only the L2VPN address family
- all—Optional keyword; has no effect
- route-target-filter neighbor—Displays routes actually advertised to the specified peer group member (neighbor); which routes are advertised is determined by the application of the route-target filter received from that neighbor to routes in the peer group's Adj-RIBs-Out table
- *ipRtfnbrAddress*—IP address of a peer group member that has advertised route-target membership filtering information

- *ipv6RtfNbrAddress*—IPv6 address of a peer group member that has advertised route-target membership filtering information
- *fields*—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- *fieldOptions*—Fields to be displayed, in the format  
all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]\*

For peers, all described options are available. For peer groups, all options are available except the following:

best | imported | intro | next-hop-cost | peer | peer-type | stale | weight

- all—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
- afi—Address family identifier
- aggregator—AS number and IP address of aggregator
- as-path—AS path through which this route has been advertised
- atomic-aggregate—Whether the atomic aggregate attribute is present
- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers

- `peer`—IP address of BGP peer from which route was learned
- `peer-type`—Type of BGP peer: internal, external, or confederation
- `rd`—Route distinguisher
- `safi`—Subsequent address family identifier
- `stale`—Route that has gone stale due to peer restart
- `unknown-types`—Attribute codes for unknown path attributes
- `weight`—Weight of the route
- `*`—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- `delta`—Displays baselined statistics
- `filter`—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
`ipv6Address` variable added in JUNOS Release 8.0.0.  
**route-target signaling** and **route-target-filter neighbor** keywords and `ipRtNbrAddress` and `ipv6RtNbrAddress` variables added in JUNOS Release 8.2.0.

## show bgp ipv6 aggregate-address

---

**Description** Displays information about IPv6 BGP aggregate addresses.

**Syntax** `show bgp ipv6 [ unicast | multicast | vpnv6 all | vpnv6 vrf vrfName ]  
aggregate-address [ ipv6Prefix ] [ filter ]`

- `unicast`—Specifies the IPv6 unicast address family and routing table; the default option
- `multicast`—Specifies the IPv6 multicast address family and routing table
- `vpnv6 all`—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- `vpnv6 vrf vrfName`—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- `ipv6Prefix`—Aggregate IPv6 prefix
- `filter`—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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



## show bgp ipv6 community

---

**Description** Displays routes that belong to the specified BGP community.

**Syntax** `show bgp ipv6`  
`[ unicast | multicast | vpnv6 all | vpnv6 vrf vrfName | route-target signaling ] community`  
`{ communityNumber | local-as | no-advertise | no-export }`  
`[ communityNumber | local-as | no-advertise | no-export ]*`  
`[ exact-match ] [ fields { fieldOptions } ] [ filter ]`

- `unicast`—Specifies the IPv6 unicast address family and routing table; the default option
- `multicast`—Specifies the IPv6 multicast address family and routing table
- `vpnv6 all`—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- `vpnv6 vrf vrfName`—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- `route-target signaling`—Specifies the route-target address family
- `communityNumber`—Filters routes according to this community number, specified either as a number in the range 1–4294967295 or in *AA:NN* format (autonomous system number:community number); displays only routes that are members of the specified community
- `local-as`—Displays only routes belonging to the local AS community
- `no-advertise`—Displays only routes belonging to the no-advertise community
- `no-export`—Displays only routes belonging to the no-export community
- `*`—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- `exact-match`—Displays only routes that have exactly the specified communities
- `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- `fieldOptions`—Fields to be displayed, in the format  
`all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters |`  
`communities | extended-communities | imported | intro | in-label | loc-pref |`  
`med | next-hop | next-hop-cost | origin | originator-id | out-label | peer |`  
`peer-type | rd | safi | stale | unknown-types | weight ]*`
  - `all`—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - `afi`—Address family identifier
  - `aggregator`—AS number and IP address of aggregator
  - `as-path`—AS path through which this route has been advertised
  - `atomic-aggregate`—Whether the atomic aggregate attribute is present

- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## show bgp ipv6 community-list

---

**Description** Displays routes that belong to the BGP community specified by the community list.

**Syntax** show bgp ipv6

[ unicast | multicast | vpnv6 all | vpnv6 vrf *vrfName* | route-target signaling ]  
community-list *communityListName* [ exact-match ] [ fields { *fieldOptions* } ] [ *filter* ]

- unicast—Specifies the IPv6 unicast address family and routing table; the default option
- multicast—Specifies the IPv6 multicast address family and routing table
- vpnv6 all—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- vpnv6 vrf *vrfName*—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- route-target signaling—Specifies the route-target address family
- *communityListName*—Filters routes according to community list; displays only routes that are members of a community on the specified list
- exact-match—Displays only routes that have exactly the specified communities
- fields—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- *fieldOptions*—Fields to be displayed, in the format  
all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters |  
communities | extended-communities | imported | intro | in-label | loc-pref |  
med | next-hop | next-hop-cost | origin | originator-id | out-label | peer |  
peer-type | rd | safi | stale | unknown-types | weight ]\*
  - all—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - afi—Address family identifier
  - aggregator—AS number and IP address of aggregator
  - as-path—AS path through which this route has been advertised
  - atomic-aggregate—Whether the atomic aggregate attribute is present

- **best**—Whether this is the best route for the prefix
- **clusters**—List of cluster IDs through which the route has been advertised
- **communities**—Community number associated with the route
- **extended-communities**—Extended community
- **imported**—Whether the route was imported
- **intro**—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- **in-label**—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- **loc-pref**—Local preference for the route
- **med**—Multiexit discriminator for the route
- **next-hop**—IP address of the next router that is used when forwarding a packet to the destination network
- **next-hop-cost**—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- **origin**—Origin of the route
- **originator-id**—Router ID of the router in the local AS that originated the route
- **out-label**—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- **peer**—IP address of BGP peer from which route was learned
- **peer-type**—Type of BGP peer: internal, external, or confederation
- **rd**—Route distinguisher
- **safi**—Subsequent address family identifier
- **stale**—Route that has gone stale due to peer restart
- **unknown-types**—Attribute codes for unknown path attributes
- **weight**—Weight of the route
- **\***—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- **filter**—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## show bgp ipv6 dampened-paths

---

**Description** Displays information about dampened IPv6 BGP routes.

**Syntax** `show bgp ipv6`  
`[ unicast | multicast | vpnv6 all | vpnv6 vrf vrfName | route-target signaling ]`  
`dampened-paths [ fields { fieldOptions } ] [ filter ]`

- `unicast`—Specifies the IPv6 unicast address family and routing table; the default option
- `multicast`—Specifies the IPv6 multicast address family and routing table
- `vpnv6 all`—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- `vpnv6 vrf vrfName`—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- `route-target signaling`—Specifies the route-target address family
- `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- `fieldOptions`—Fields to be displayed, in the format  
`all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters |`  
`communities | extended-communities | imported | intro | in-label | loc-pref |`  
`med | next-hop | next-hop-cost | origin | originator-id | out-label | peer |`  
`peer-type | rd | safi | stale | unknown-types | weight ]*`
  - `all`—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - `afi`—Address family identifier
  - `aggregator`—AS number and IP address of aggregator
  - `as-path`—AS path through which this route has been advertised
  - `atomic-aggregate`—Whether the atomic aggregate attribute is present

- **best**—Whether this is the best route for the prefix
- **clusters**—List of cluster IDs through which the route has been advertised
- **communities**—Community number associated with the route
- **extended-communities**—Extended community
- **imported**—Whether the route was imported
- **intro**—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- **in-label**—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- **loc-pref**—Local preference for the route
- **med**—Multiexit discriminator for the route
- **next-hop**—IP address of the next router that is used when forwarding a packet to the destination network
- **next-hop-cost**—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- **origin**—Origin of the route
- **originator-id**—Router ID of the router in the local AS that originated the route
- **out-label**—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- **peer**—IP address of BGP peer from which route was learned
- **peer-type**—Type of BGP peer: internal, external, or confederation
- **rd**—Route distinguisher
- **safi**—Subsequent address family identifier
- **stale**—Route that has gone stale due to peer restart
- **unknown-types**—Attribute codes for unknown path attributes
- **weight**—Weight of the route
- **\***—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- **filter**—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## show bgp ipv6 filter-list

---

**Description** Displays all routes whose AS path matches the specified AS path access list.

**Syntax** `show bgp ipv6`  
`[ unicast | multicast | vpnv6 all | vpnv6 vrf vrfName | route-target signaling ]`  
`filter-list asPathAccessListName [ fields { fieldOptions } ] [ filter ]`

- `unicast`—Specifies the IPv6 unicast address family and routing table; the default option
- `multicast`—Specifies the IPv6 multicast address family and routing table
- `vpnv6 all`—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- `vpnv6 vrf vrfName`—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- `route-target signaling`—Specifies the route-target address family
- `asPathAccessListName`—Name of AS path access list to filter routes; displays only routes that have AS paths matching the specified list
- `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- `fieldOptions`—Fields to be displayed, in the format  
`all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]*`
  - `all`—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - `afi`—Address family identifier
  - `aggregator`—AS number and IP address of aggregator
  - `as-path`—AS path through which this route has been advertised
  - `atomic-aggregate`—Whether the atomic aggregate attribute is present

- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.



## show bgp ipv6 flap-statistics

---

**Description** Displays IPv6 BGP flap statistics.

**Syntax** To display IPv6 BGP flap statistics for any case other than for the route-target address family:

```
show bgp ipv6 [ unicast | multicast | vpnv6 all | vpnv6 vrf vrfName ]  
flap-statistics [ ipv6Prefix ] [ filter ]
```

To display IPv6 BGP flap statistics for the route-target address family:

```
show bgp ipv6 route-target signaling flap-statistics [ rtfPrefix | rtfAddress ] [ filter ]
```

- **unicast**—Specifies the IPv6 unicast address family and routing table; the default option
- **multicast**—Specifies the IPv6 multicast address family and routing table
- **vpnv6 all**—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- **vpnv6 vrf *vrfName***—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- ***ipv6Prefix***—IPv6 prefix for which you want information displayed. If no prefix is specified, the fields are displayed for all networks.
- **route-target signaling**—Specifies the route-target address family
- ***rtfPrefix***—Prefix representing the route-target membership NLRI (RT-MEM-NLRI), in the format *asNumber:extendedCommunity/prefixLength* (for example, 320:320:524/36) where:
  - ***asNumber***—AS number for origin of route target information, in the range 1–4294967295
  - ***extendedCommunity***—Two-part number in the format *number1:number2* that identifies an extended community of VPNs, in the format *number1:number2*, where:
    - ***number1***—Autonomous system (AS) number, in the range 1–4294967295, or an IP address
    - ***number2***—Unique integer, in the range 1–4294967295; 32 bits if *number1* is a 16-bit AS number; 16 bits if *number1* is an IP address or a 32-bit AS number
  - ***prefixLength***—Number that specifies the length of the route prefix, in the range 32–96
- ***rtfAddress***—*rtfPrefix* with a prefix length of 96; representing the route-target membership NLRI (RT-MEM-NLRI), in the format *asNumber:extendedCommunity* (for example, 320:320:524 or 320:50.2.3.4:524)
- ***filter***—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

**route-target signaling** keywords and *rtMemNlri* variable added in JUNOS Release 8.2.0.

*rtMemNlri* variable replaced by two variables, *rtfAddress* and *rtfPrefix*, in JUNOS Release 9.1.0.

## show bgp ipv6 inconsistent-as

---

**Description** Displays information only about routes with inconsistent AS paths.

**Syntax** `show bgp ipv6`  
`[ unicast | multicast | vpnv6 all | vpnv6 vrf vrfName | route-target signaling ]`  
`inconsistent-as [ fields { fieldOptions } ] [ filter ]`

- `unicast`—Specifies the IPv6 unicast address family and routing table; the default option
- `multicast`—Specifies the IPv6 multicast address family and routing table
- `vpnv6 all`—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- `vpnv6 vrf vrfName`—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- `route-target signaling`—Specifies the route-target address family
- `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- `fieldOptions`—Fields to be displayed, in the format  
`all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters |`  
`communities | extended-communities | imported | intro | in-label | loc-pref |`  
`med | next-hop | next-hop-cost | origin | originator-id | out-label | peer |`  
`peer-type | rd | safi | stale | unknown-types | weight ]*`
  - `all`—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - `afi`—Address family identifier
  - `aggregator`—AS number and IP address of aggregator
  - `as-path`—AS path through which this route has been advertised
  - `atomic-aggregate`—Whether the atomic aggregate attribute is present
  - `best`—Whether this is the best route for the prefix
  - `clusters`—List of cluster IDs through which the route has been advertised
  - `communities`—Community number associated with the route
  - `extended-communities`—Extended community
  - `imported`—Whether the route was imported
  - `intro`—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
  - `in-label`—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
  - `loc-pref`—Local preference for the route

- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## show bgp ipv6 neighbors

---

**Description** Displays information about BGP neighbors.

**Syntax** show bgp ipv6  
 [ unicast | multicast | vpnv6 all | vpnv6 vrf *vrfName* | route-target signaling ]  
 neighbors [ *ipAddress* | *ipv6Address* ] [ delta ] [ *filter* ]

- unicast—Specifies the IPv6 unicast address family and routing table; the default option
- multicast—Specifies the IPv6 multicast address family and routing table
- vpnv6 all—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- vpnv6 vrf *vrfName*—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- route-target signaling—Specifies the route-target address family
- *ipAddress*—IP address of a neighbor whose routes the router has learned
- *ipv6Address*—IPv6 address of a neighbor whose routes the router has learned
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## show bgp ipv6 neighbors dampened-routes

---

**Description** Displays information about IPv6 BGP routes with a dampening history for the specified BGP neighbor.

**Syntax** `show bgp ipv6`  
`[ unicast | multicast | vpnv6 all | vpnv6 vrf vrfName | route-target signaling ]`  
`neighbors { ipAddress | ipv6Address } dampened-routes [ fields { fieldOptions } ]`  
`[ delta ] [ filter ]`

- `unicast`—Specifies the IPv6 unicast address family and routing table; the default option
- `multicast`—Specifies the IPv6 multicast address family and routing table
- `vpnv6 all`—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- `vpnv6 vrf vrfName`—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- `route-target signaling`—Specifies the route-target address family
- *ipAddress*—IP address of a neighbor whose routes the router has learned
- *ipv6Address*—IPv6 address of a neighbor whose routes the router has learned
- `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- *fieldOptions*—Fields to be displayed, in the format  
`all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]*`
  - `all`—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - *afi*—Address family identifier
  - `aggregator`—AS number and IP address of aggregator
  - `as-path`—AS path through which this route has been advertised
  - `atomic-aggregate`—Whether the atomic aggregate attribute is present

- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## show bgp ipv6 neighbors paths

---

**Description** Displays IPv6 BGP path information for the specified BGP neighbor.

**Syntax** show bgp ipv6  
[ unicast | multicast | vpnv6 all | vpnv6 vrf *vrfName* | route-target signaling ]  
neighbors { *ipAddress* | *ipv6Address* } paths [ *pathExpression* ] [ *filter* ]

- unicast—Specifies the IPv6 unicast address family and routing table; the default option
- multicast—Specifies the IPv6 multicast address family and routing table
- vpnv6 all—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- vpnv6 vrf *vrfName*—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- route-target signaling—Specifies the route-target address family
- *ipAddress*—IP address of a neighbor whose routes the router has learned
- *ipv6Address*—IPv6 address of a neighbor whose routes the router has learned
- *pathExpression*—See the **show ip bgp regexp** command for descriptions
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## show bgp ipv6 neighbors received-routes

---

**Description** Displays IPv6 BGP routes originating from the specified BGP neighbor before inbound policy is applied.

**Syntax** `show bgp ipv6`  
`[ unicast | multicast | vpnv6 all | vpnv6 vrf vrfName | route-target signaling ]`  
`neighbors { ipAddress | ipv6Address } received-routes [ fields { fieldOptions } ]`  
`[ delta ] [ filter ]`

- **unicast**—Specifies the IPv6 unicast address family and routing table; the default option
- **multicast**—Specifies the IPv6 multicast address family and routing table
- **vpnv6 all**—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- **vpnv6 vrf *vrfName***—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- **route-target signaling**—Specifies the route-target address family
- ***ipAddress***—IP address of a neighbor whose routes the router has learned
- ***ipv6Address***—IPv6 address of a neighbor whose routes the router has learned
- **fields**—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- ***fieldOptions***—Fields to be displayed, in the format  
`all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]*`
  - **all**—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - **afi**—Address family identifier
  - **aggregator**—AS number and IP address of aggregator
  - **as-path**—AS path through which this route has been advertised
  - **atomic-aggregate**—Whether the atomic aggregate attribute is present
  - **best**—Whether this is the best route for the prefix
  - **clusters**—List of cluster IDs through which the route has been advertised
  - **communities**—Community number associated with the route
  - **extended-communities**—Extended community
  - **imported**—Whether the route was imported



- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## show bgp ipv6 neighbors routes

---

**Description** Displays IPv6 BGP routes originating from the specified BGP neighbor after inbound policy is applied.

**Syntax** `show bgp ipv6`  
`[ unicast | multicast | vpnv6 all | vpnv6 vrf vrfName | route-target signaling ]`  
`neighbors { ipAddress | ipv6Address } routes [ fields { fieldOptions } ] [ delta ] [ filter ]`

- `unicast`—Specifies the IPv6 unicast address family and routing table; the default option
- `multicast`—Specifies the IPv6 multicast address family and routing table
- `vpnv6 all`—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- `vpnv6 vrf vrfName`—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- `route-target signaling`—Specifies the route-target address family
- `ipAddress`—IP address of a neighbor whose routes the router has learned
- `ipv6Address`—IPv6 address of a neighbor whose routes the router has learned
- `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- `fieldOptions`—Fields to be displayed, in the format  
`all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]*`
  - `all`—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - `afi`—Address family identifier
  - `aggregator`—AS number and IP address of aggregator
  - `as-path`—AS path through which this route has been advertised
  - `atomic-aggregate`—Whether the atomic aggregate attribute is present
  - `best`—Whether this is the best route for the prefix
  - `clusters`—List of cluster IDs through which the route has been advertised
  - `communities`—Community number associated with the route
  - `extended-communities`—Extended community
  - `imported`—Whether the route was imported
  - `intro`—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
  - `in-label`—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
  - `loc-pref`—Local preference for the route
  - `med`—Multiexit discriminator for the route

- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- delta—Displays baselined statistics
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## show bgp ipv6 network

---

**Description** Displays information about a potentially originated prefix that was configured with the **network** command.

**Syntax** To display information about a prefix configured for all address families or for a specific address family other than the route-target address family:  

```
show bgp ipv6 [ unicast | multicast | vpnv6 all | vpnv6 vrf vrfName ]
network [ ipv6Prefix ] [ filter ]
```

To display information about a prefix configured for the route-target address family:  

```
show bgp ipv6 route-target signaling network [ rtfPrefix ] [ filter ]
```

- **unicast**—Specifies the IPv6 unicast address family and routing table; the default option
- **multicast**—Specifies the IPv6 multicast address family and routing table
- **vpn6 all**—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- **vpn6 vrf *vrfName***—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- ***ipv6Prefix***—Prefix that defines the IPv6 network that you want to filter
- **route-target signaling**—Displays information for only the route-target address family
- ***rtfPrefix***—Prefix representing the route-target membership NLRI (RT-MEM-NLRI), in the format *asNumber:extendedCommunity/prefixLength* (for example, 320:320:524/36) where:
  - ***asNumber***—AS number for origin of route target information, in the range 1–4294967295
  - ***extendedCommunity***—Two-part number in the format *number1:number2* that identifies an extended community of VPNs, in the format *number1:number2*, where:
    - ***number1***—Autonomous system (AS) number, in the range 1–4294967295, or an IP address
    - ***number2***—Unique integer, in the range 1–4294967295; 32 bits if *number1* is a 16-bit AS number; 16 bits if *number1* is an IP address or a 32-bit AS number
  - ***prefixLength***—Number that specifies the length of the route prefix, in the range 32–96
- ***filter***—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords and *rtMemNlri* variable added in JUNOS Release 9.0.0.  
*rtMemNlri* variable replaced by *rtfPrefix* variable in JUNOS Release 9.1.0.

## show bgp ipv6 next-hops

---

**Description** Displays information about IPv6 BGP next hops.

**Syntax** show bgp ipv6  
[ unicast | multicast | vpnv6 all | vpnv6 vrf *vrfName* | route-target signaling ]  
next-hops [ *ipv6Address* ] [ *filter* ]

- unicast—Specifies the IPv6 unicast address family and routing table; the default option
- multicast—Specifies the IPv6 multicast address family and routing table
- vpnv6 all—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- vpnv6 vrf *vrfName*—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- route-target signaling—Specifies the route-target address family
- *ipv6Address*—Information only for this indirect next hop
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## show bgp ipv6 paths

---

**Description** Displays information about IPv6 BGP AS paths.

**Syntax** show bgp ipv6  
[ unicast | multicast | vpnv6 all | vpnv6 vrf *vrfName* | route-target signaling ]  
paths [ *pathExpression* ] [ *filter* ]

- unicast—Specifies the IPv6 unicast address family and routing table; the default option
- multicast—Specifies the IPv6 multicast address family and routing table
- vpnv6 all—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- vpnv6 vrf *vrfName*—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- route-target signaling—Specifies the route-target address family
- *pathExpression*—See the **show ip bgp regexp** command for descriptions
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## show bgp ipv6 peer-group

---

**Description** Displays information about BGP peer groups.

**Syntax** show bgp ipv6  
 [ unicast | multicast | vpnv6 all | vpnv6 vrf *vrfName* | route-target signaling ]  
 peer-group [ *peerGroupName* ] [ *filter* ]

- unicast—Specifies the IPv6 unicast address family and routing table; the default option
- multicast—Specifies the IPv6 multicast address family and routing table
- vpnv6 all—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- vpnv6 vrf *vrfName*—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- route-target signaling—Specifies the route-target address family
- *peerGroupName*—Name of the BGP peer group
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## show bgp ipv6 quote-regexp

---

- Description** Displays information about IPv6 BGP routes whose AS path matches the specified regular expression. Regular expressions match numbers for which the specified path is a substring—for example, if you specify *20*, *200* matches because *20* is a substring of *200*. You can disallow substring matching by using the underscore (`_`) metacharacter to constrain matching to the specified pattern; for example, *\_20\_*. You can use output filtering on the display.
- Syntax** `show bgp ipv6`  
`[ unicast | multicast | vpnv6 all | vpnv6 vrf vrfName | route-target signaling ]`  
`quote-regexp pathExpression [ fields { fieldOptions } ] [ filter ]`
- `unicast`—Specifies the IPv6 unicast address family and routing table; the default option
  - `multicast`—Specifies the IPv6 multicast address family and routing table
  - `vpnv6 all`—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
  - `vpnv6 vrf vrfName`—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
  - `route-target signaling`—Specifies the route-target address family
  - `quote-regexp`—Indicates that only a single element is matched
  - *pathExpression*—See the **show ip bgp regexp** command for descriptions
  - `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
  - *fieldOptions*—Fields to be displayed, in the format  
`all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]*`
    - `all`—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
    - `afi`—Address family identifier
    - `aggregator`—AS number and IP address of aggregator
    - `as-path`—AS path through which this route has been advertised
    - `atomic-aggregate`—Whether the atomic aggregate attribute is present

- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.



## show bgp ipv6 regexp

---

- Description** Displays information about IPv6 BGP routes whose AS path matches one or more specified regular expressions. Regular expressions match numbers for which the specified path is a substring—for example, if you specify *20*, *200* matches because *20* is a substring of *200*. You can disallow substring matching by using the underscore (`_`) metacharacter to constrain matching to the specified pattern; for example, *\_20\_*. You can use output filtering on the display.
- Syntax** `show bgp ipv6`  
`[ unicast | multicast | vpnv6 all | vpnv6 vrf vrfName | route-target signaling ]`  
`regexp pathExpression [ fields { fieldOptions } ] [ filter ]`
- `unicast`—Specifies the IPv6 unicast address family and routing table; the default option
  - `multicast`—Specifies the IPv6 multicast address family and routing table
  - `vpnv6 all`—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
  - `vpnv6 vrf vrfName`—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
  - `route-target signaling`—Specifies the route-target address family
  - `regexp`—Indicates that multiple elements can be matched
  - *pathExpression*—See the **show ip bgp regexp** command for descriptions
  - `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
  - *fieldOptions*—Fields to be displayed, in the format  
`all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]*`
    - `all`—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
    - `afi`—Address family identifier
    - `aggregator`—AS number and IP address of aggregator
    - `as-path`—AS path through which this route has been advertised
    - `atomic-aggregate`—Whether the atomic aggregate attribute is present

- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## show bgp ipv6 summary

---

**Description** Displays filtered information about the status of all BGP connections. Only those fields that you specify are displayed, except that the prefix field is always displayed. Default fields can be set with the **default-fields peer** command.

**Syntax** `show bgp ipv6`  
`[ unicast | multicast | vpnv6 all | vpnv6 vrf vrfName | route-target signaling ]`  
`summary [ fields { fieldOptions } ] [ delta ] [ filter ]`

- `unicast`—Specifies the IPv6 unicast address family and routing table; the default option
- `multicast`—Specifies the IPv6 multicast address family and routing table
- `vpnv6 all`—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- `vpnv6 vrf vrfName`—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- `route-target signaling`—Displays information for only the route-target address family
- `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- `fieldOptions`—Fields to be displayed, in the format  
`all | [ dynamic | intro | last-reset-reason | messages-received | messages-sent | more-in-queue | peer-type | prefixes-received | remote-as | rib-version | send-queue-length | state | times-up | up-down-time | updates-received | updates-sent ]*`
  - `dynamic` —Nature of peer, dynamic or not
  - `intro`—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
  - `last-reset-reason`—Reason for most recent reset
  - `messages-received`—Total number of messages received from the peer
  - `messages-sent`—Total number of messages sent to the peer
  - `more-in-queue`—Status indicating whether any messages are waiting to be sent to this peer
  - `peer-type`—Type of BGP peer: internal, external, or confederation
  - `prefixes-received`—Number of unique prefixes received from the peer
  - `remote-as`—Remote AS number of the peer
  - `rib-version`—Last RIB version queued to be sent to this peer
  - `send-queue-length`—Number of messages queued to be sent to this peer
  - `state`—State of the BGP session

- times-up—Number of times the session has been established
- up-down-time—How long the session has been up or down
- updates-received—Number of update messages received from the peer
- updates-sent—Number of update messages sent to the peer
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## show boot

---

**Description** Displays the configuration and router settings that are used at startup.

**Syntax** show boot [ *filter* ]

- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

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

## show bridge1483 interface

---

**Description** Displays configuration and status information for all bridged Ethernet interfaces currently configured on the router. Alternatively, you can use the **summary** keyword to display only brief summary information for all bridged Ethernet interfaces.

**Syntax** show bridge1483 interface [ atm *interfaceSpecifier* ] [ *filter* ]

To display summary information:  
 show bridge1483 interface summary

- atm—Specifies ATM interfaces
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers in About This Guide*
- *filter*—See *Filtering show Commands in About This Guide*
- summary—Displays only the total number of bridged Ethernet interfaces currently configured on the router

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**atm** keyword and *interfaceSpecifier* variable added in JUNOS Release 7.2.0.

## show bridge

---

**Description** Displays configuration and statistics information for the specified bridge group or VPLS instance.

**Syntax** show bridge { *bridgeGroupName* | *vplsName* } [ all [ delta ] ] [ *filter* ]

- *bridgeGroupName*—Name of a bridge group specified with the **bridge** command
- *vplsName*—Name of a VPLS instance created with the **bridge vpls transport-virtual-router** command
- all—Displays address table and statistics information for each network interface assigned to the bridge group or VPLS instance
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*vplsName* variable added in JUNOS Release 7.1.0.

### Related Topics

- Monitoring VPLS Configuration and Statistics for a Specific VPLS Instance

## show bridge groups

---

**Description** Displays configuration information for all bridge groups and VPLS instances currently configured on the router.

**Syntax** show bridge groups [ details ] [ *filter* ]

- details—Displays configuration settings for each bridge group or VPLS instance on the router; if you omit this keyword, the router displays only the names of each bridge group or VPLS instance
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Monitoring VPLS Configuration and Statistics for all VPLS Instances

## show bridge interface

---

**Description** Displays configuration, statistics, and status information for a specified network interface that belongs to a bridge group or to a VPLS instance, or for all interfaces that belong to a bridge group or to a VPLS instance.

When you use the **show bridge interface** command to display information for all interfaces in a VPLS instance, the router displays information about the network interfaces that belong to the VPLS instance and about the VPLS virtual core interface, which represents all the MPLS tunnels from the router to the remote VPLS edge (VE) devices.

**Syntax** To display information about a specified network interface that belongs to a bridge group or to a VPLS instance:

**show bridge interface** *interfaceType interfaceSpecifier* [ *delta* ] [ *filter* ]

- *interfaceType*—One of the following interface types listed in *Interface Types and Specifiers* in *About This Guide*
  - atm
  - fastEthernet
  - gigabitEthernet
  - tenGigabitEthernet
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

To display information about all interfaces that belong to a bridge group or to a VPLS instance, including the VPLS virtual core interface for a VPLS instance:

**show bridge** { *bridgeGroupName* | *vplsName* } **interface** [ *brief* | *delta* ] [ *filter* ]

- *bridgeGroupName*—Name of a bridge group specified with the **bridge** command
- *vplsName*—Name of a VPLS instance created with the **bridge vpls transport-virtual-router** command
- *brief*—Displays the type, specifier, associated port number, and operational status for each interface
- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*vplsName* variable added in JUNOS Release 7.1.0.

### Related Topics

- Monitoring Configuration, Statistics, and Status for VPLS Network Interfaces

## show bridge interface vpls

---

**Description** Displays configuration, statistics, and status information for a VPLS instance on the VPLS virtual core interface, which represents all the MPLS tunnels from the router to the remote VPLS edge (VE) devices.

**Syntax** `show bridge interface vpls vplsName [ delta ] [ filter ]`

- *vplsName*—Name of a VPLS instance created with the **bridge vpls transport-virtual-router** command
- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring Configuration, Statistics, and Status for VPLS Core Interfaces

## show bridge port

---

**Description** Displays configuration, statistics, and status information for ports (interfaces) associated with a bridge group or VPLS instance.

**Syntax** `show bridge { bridgeGroupName | vplsName } port [ portNumber ] [ brief | delta ] [ filter ]`

- *bridgeGroupName*—Name of a bridge group specified with the **bridge** command
- *vplsName*—Name of a VPLS instance created with the **bridge vpls transport-virtual-router** command
- *portNumber*—Port number for which you want to display information; if you omit the port number, the router displays information for all ports that belong to the bridge group or to the VPLS instance
- *brief*—Displays the port number, interface type, interface specifier, and operational status for each port that belongs to the bridge group or to the VPLS instance
- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*vplsName* variable added in JUNOS Release 7.1.0.

**Related Topics**

- Monitoring Configuration, Statistics, and Status for VPLS Ports

## show bridge table

---

- Description** Displays information about the entries in the MAC address table for the specified bridge group or VPLS instance. You can display information only for static entries, only for dynamic entries, or for both static and dynamic entries.
- Syntax** `show bridge { bridgeGroupName | vplsName } table [ static | dynamic ] [ filter ]`
- *bridgeGroupName*—Name of a bridge group specified with the **bridge** command
  - *vplsName*—Name of a VPLS instance created with the **bridge vpls transport-virtual-router** command
  - *static*—Displays information for only static (nonlearned) entries in the MAC address table
  - *dynamic*—Displays information for only dynamic (learned) entries in the MAC address table
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.  
*vplsName* variable added in JUNOS Release 7.1.0.

### Related Topics

- Monitoring MAC Address Entries for a Specific VPLS Instance

## show bulkstats

---

- Description** Displays bulkstats statistical information.
- Syntax** `show bulkstats [ brief ] [ filter ]`
- *brief*—Displays a brief description for each collector type
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

## show bulkstats collector description

---

- Description** Displays the collector's file description.
- Syntax** `show bulkstats collector description [ filter ]`
- *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.



## show bulkstats collector interval

---

**Description** Displays the time for which the router transfers data to the receivers.

**Syntax** show bulkstats collector interval [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show bulkstats collector max-size

---

**Description** Displays the maximum size of the bulkstats file.

**Syntax** show bulkstats collector max-size [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show bulkstats collector transfer-mode

---

**Description** Displays the way in which the router transfers data to the receivers.

**Syntax** show bulkstats collector transfer-mode [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show bulkstats interface-type

---

**Description** Displays information about the collection of statistical data for the particular interface type (for example, ATM).

**Syntax** show bulkstats interface-type [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show bulkstats receiver

---

**Description** Displays the configuration of the receiver's remote files.

**Syntax** show bulkstats receiver [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show bulkstats schema

---

**Description** Displays data on the selected schema.

**Syntax** show bulkstats schema [ *filter* ]

- *filter*—if-stack or if-stats; see *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show bulkstats statistics

---

**Description** Displays information about statistics counters.

**Syntax** show bulkstats statistics [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show bulkstats traps

---

**Description** Displays information about bulkstats traps.

**Syntax** show bulkstats traps [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show bulkstats virtual-routers

---

**Description** Displays information about bulkstats router groups.

**Syntax** show bulkstats virtual-routers

- virtual-routers—Name or unique index number that contains from one to the maximum number of routers supported in the system

**Mode** Privileged Exec, User Exec

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

## show cac

---

**Description** Displays global call admission control configuration.

**Syntax** show cac [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show cac interface

---

**Description** Displays all interfaces on which TE bandwidth accounting is configured, or information only for the specified interface.

**Syntax** show cac interface [ *brief* | *interfaceType interfaceSpecifier* ] [ *filter* ]

- *brief*—Displays summary information about the interface
- *interfaceType*—Interface type; see *Interface Types and Specifiers* in *About This Guide*
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show classifier-list

---

**Description** Displays information about classifier control lists.

**Syntax** `show classifier-list [ classifierName [ classifierNumber ] ] [ brief | detailed ] [ filter ]`

- *classifierName*—Name of classifier control list
- *classifierNumber*—Number associated with a classifier control list entry
- *brief*—Displays information in a condensed format
- *detailed*—Displays detailed information
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring Classifier Control Lists

## show clns

---

**Description** Displays information about the CLNS network.

**Syntax** `show clns [ es-neighbors | is-neighbors ] [ interfaceType interfaceSpecifier ] [ detail ] [ filter ]`

- *es-neighbors*—Displays IS-IS related information for IS-IS end-system adjacencies. Neighbor entries are sorted according to the area in which they are located.
- *is-neighbors*—Displays IS-IS related information for IS-IS intermediate-system adjacencies. Neighbor entries are sorted according to the area in which they are located.
- *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*
- *detail*—Displays area addresses and IP addresses; if not specified, a summary display is provided
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show clns interface

---

**Description** Lists the Connectionless Network Service information about each interface.

**Syntax** show clns interface [ *interfaceType interfaceSpecifier* ] [ *brief* ] [ *filter* ]

- *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*
- *brief*—Displays summary information about the interface or all interfaces
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**brief** keyword added in JUNOS Release 8.0.0.

## show clns neighbors

---

**Description** Displays both ES and IS neighbors.

**Syntax** show clns neighbors [ *interfaceType interfaceSpecifier* ] [ *detail* ] [ *filter* ]

- *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*
- *detail*—When specified, the area addresses advertised by the neighbor in the hello messages are displayed; otherwise, a summary display is provided
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show clns protocol

---

**Description** Lists the protocol-specific information for each IS-IS routing process in the router.

**Syntax** show clns protocol [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show cns traffic

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays IS-IS protocol statistics globally for the router or for only a specified interface.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Syntax</b>              | <pre>show cns traffic [ <i>interfaceType interfaceSpecifier</i> ] [ <i>detail</i> ] [ <i>delta</i> ] [ <i>filter</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>detail</i>—Displays detailed statistics; statistics for hello packets, CSNPs, and PSNPs are displayed only when an interface is also specified</li> <li>■ <i>delta</i>—Displays baselined statistics</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## show clock

---

|                            |                                                                                                                                                                                                                                                                                                  |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays the router's clock source.                                                                                                                                                                                                                                                              |
| <b>Syntax</b>              | <pre>show clock [ <i>detail</i> ] [ <i>filter</i> ]</pre> <ul style="list-style-type: none"> <li>■ <i>detail</i>—Provides expanded information about the clock settings, rather than a summary</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                       |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                   |

## show color-mark-profile

---

|                            |                                                                                                                                                                                                                                                                                        |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays color mark profile entries.                                                                                                                                                                                                                                                   |
| <b>Syntax</b>              | <pre>show color-mark-profile <i>colorMarkProfileName</i> [ <i>filter</i> ]</pre> <ul style="list-style-type: none"> <li>■ <i>colorMarkProfileName</i>—Name of the color mark profile</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                             |
| <b>Release Information</b> | Command introduced in JUNOS Release 7.2.0.                                                                                                                                                                                                                                             |
| <b>Related Topics</b>      | <ul style="list-style-type: none"> <li>■ Monitoring Color-Mark Profiles</li> </ul>                                                                                                                                                                                                     |

## show columns

---

**Description** Displays configuration information of bridged Ethernet over ATM, IP over ATM, PPP, or PPPoE static and dynamic interface columns. It is designed to categorize interface subscribers into PPP, PPPoE, bridged, or routed.

**Syntax** show columns

**Mode** Privileged Exec, User Exec

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

## show configuration

---

**Description** Displays the current (running) configuration of the router, a specified virtual router, a specified interface, or a specified category of router settings. You can create a configuration script from this output by saving it as a file with the .scr extension. This command was formerly documented as **show config**; that abbreviation is still supported.

**Syntax** show configuration [ interface *interfaceType* *interfaceSpecifier* ] |  
[ category *categoryName* [ *categoryName* ]\* ] [ virtual-router *routerName* ]  
[ [ exclude-category interface *interfaceType* ]\* ] [ include-defaults ] [ *filter* ]

- *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*
- *categoryName*—Name of the category or subcategory of router settings; first *categoryName* variable in the syntax represents the category; repeated *categoryName* variables represent subcategories of the category
- *routerName*—Name of the virtual router
- exclude-category—Excludes information associated with a particular type of interface
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- include-defaults—Includes commands that set default values for various parameters
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show control-plane policer

---

**Description** Displays control plane information for a specified protocol or for all protocols.

**Syntax** show control-plane policer protocol *protocolValue*

- *protocolValue*—Name of the protocol

**Mode** Privileged Exec, User Exec

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

**Related Topics**

- Monitoring Control Plane Policer Information

## show controllers e3

---

**Description** Displays information about E3 controller interfaces.

**Syntax** show controllers e3 [ brief | { *interfaceSpecifier* [ brief | all | summary ] | serial [ *interfaceSpecifier* ] } ] [ *filter* ]

- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- brief—Abbreviated display of E3 controller information
- all—Detailed display of all available E3 controller information
- summary—Displays link status summary
- serial—Displays information about serial interfaces
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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



## show controllers sonet

---

**Description** Displays the statistics or the configuration for the different layers of channelized SONET and SDH interfaces.

**Syntax** `show controllers sonet { [ brief ] | interfaceSpecifier [ :controllerSpecifier ]  
{ [ configuration ] | layerType [ interval | total [ delta ] ] |  
controllerType [ interval ] | all [ total [ delta ] ] } } [ filter ]`

- *brief*—Displays a summary of information about all controllers
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *controllerSpecifier*—One of the following:
  - For a section or line, there is no *controllerSpecifier*
  - For a path, the number of the path
  - For a tributary, specified in the format  
*pathChannel* [ *lpathPayload* ] [ *ltributaryGroup* ] [ *ltributaryNumber* ]
  - For an E1 or a DS1 controller, specified in the format  
*pathChannel* [ *lpathPayload* ] [ *ltributaryGroup* ] [ *ltributaryNumber* ]  
[ *lchannelGroup* ]
  - For a DS3 controller, specified in the format  
*pathChannel* *ds3-channel-number* [ *ds1-channel-number* ]  
[ *subchannelNumber* ]
    - *pathChannel*—Number of the path
    - *pathPayload*—Number of the payload within the path. In SONET mode, *pathPayload* is always 1. In SDH mode, *pathPayload* is the number of the TUG-3 group.
    - *tributaryGroup*—Number of the tributary group within the path. In SONET mode, *tributary group* is the number of the VT group. In SDH mode, tributary group is the number of the TUG-2 group.
    - *tributaryNumber*—Number of the tributary within the group. In SONET mode, *tributaryNumber* is the number of the VT. In SDH mode, *tributaryNumber* is the number of the TUG-1 group or tributary unit.
    - *channelGroup*—Number of the channel group
    - *ds3-channel-number*—Number of the ds3 channel
    - *ds1-channel-number*—Number of the ds1 channel in the range 1–28
    - *subchannelNumber*—Number of the subchannel in the range 1–24

- **configuration**—Displays the configuration of each controller at the specified level and above
- **layerType**—Type of SONET/SDH layer
  - **section**—Section layer of an interface
  - **line**—Line layer of an interface
  - **path**—SONET or SDH path
- **interval**—Number of 15-minute intervals over which the router monitors information; a value in the range 1–96; default value is the current interval, number 1
- **controllerType**—Type of interface or channel
  - **tributary**—SONET or SDH virtual tributary
  - **e1**—E1 channel over SDH virtual tributary
  - **ds1**—T1 channel over SONET/SDH virtual tributary
  - **ds3**—T3 over channelized SONET interface
  - **t1**—T1 channel on T3 over channelized SONET interface
- **total**—Displays the MIB statistics for all intervals
- **delta**—Displays baselined statistics for all intervals
- **all**—Shows statistics for all time intervals, rather than statistics for selected time intervals
- **filter**—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show controllers sonet remote

---

**Description** Displays information about the statistics on the remote device when MDL is configured on a T3 over channelized SONET interface or FDL is configured on either a T1 channel on a T3 over channelized SONET interface or a T1 over SONET/SDH interface.

**Syntax** show controllers sonet { *interfaceSpecifier* [ *:controllerSpecifier* ] remote [ all ] } [ *filter* ]

- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *controllerSpecifier*—One of the following:
  - For a section or line, there is no *controllerSpecifier*
  - For a T3 over channelized SONET interface, specified in the format *pathChannel ds3-channel-number* [ *ds1-channel-number* ] [ *subchannelNumber* ]
  - For a T1 over SONET/SDH interface, specified in the format *pathChannel* [ */pathPayload* ] [ */tributaryGroup* ] [ */tributaryNumber* ] [ */channelGroup* ]
    - *pathChannel*—Number of the path
    - *pathPayload*—Number of the payload within the path. In SONET mode, *pathPayload* is always 1. In SDH mode, *pathPayload* is the number of the TUG-3 group.
    - *tributaryGroup*—Number of the tributary group within the path. In SONET mode, *tributary group* is the number of the VT group. In SDH mode, tributary group is the number of the TUG-2 group.
    - *tributaryNumber*—Number of the tributary within the group. In SONET mode, *tributaryNumber* is the number of the VT. In SDH mode, *tributaryNumber* is the number of the TUG-1 group or tributary unit.
    - *channelGroup*—Number of the channel group
    - *ds3-channel-number*—Number of the ds3 channel
    - *ds1-channel-number*—Number of the ds1 channel in the range 1–28
    - *subchannelNumber*—Number of the subchannel in the range 1–24
- all—Shows statistics for all time intervals, rather than statistics for selected time intervals
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show controllers t1

---

**Description** Displays information about the T1 controller interfaces.

**Syntax** `show controllers t1 [ brief | { { fractional | serial } [ interfaceSpecifier ] | interfaceSpecifier [ brief | all | summary ] } ] [ filter ]`

- `fractional`—Displays information about T1 fractional interfaces
- `serial`—Displays information about T1 serial interfaces
- `interfaceSpecifier`—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- `brief` —Abbreviated display of T1 controller information
- `all`—Shows statistics for all time intervals, rather than statistics for selected time intervals
- `summary`—Displays link status summary
- `filter`—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show controllers t3

---

**Description** Displays information about the T3 controller interfaces.

**Syntax** `show controllers t3 [ brief | { interfaceSpecifier [ brief | all | summary ] | { ft1 | serial } [ interfaceSpecifier ] } ] [ filter ]`

- `interfaceSpecifier`—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- `brief`—Abbreviated display of T3 controller information
- `all`—Shows statistics for all time intervals, rather than statistics for selected time intervals
- `summary`—Displays link status summary
- `ft1`—Displays information about fractional T1 subchannels
- `serial`—Displays information about serial interfaces
- `filter`—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show controllers t3 remote

---

- Description** Displays information about the statistics on the remote device when MDL is configured on a T3 interface or FDL is configured on a T1 channel.
- Syntax** `show controllers t3 interfaceSpecifier remote [ all ] [ filter ]`
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
  - *all*—Shows statistics for all time intervals, rather than statistics for selected time intervals
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

## show cops info

---

- Description** Displays information about SDX (formerly SSC) sessions and about the COPS layer created for SDX sessions.
- Syntax** `show cops info [ filter ]`
- *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

## show cops statistics

---

- Description** Displays statistics about SDX (formerly SSC) sessions.
- Syntax** `show cops statistics [ delta ] [ filter ]`
- *delta*—Displays baselined statistics
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced in JUNOS Release 7.1.0.

## show dhcp binding

**Description** Displays DHCP client binding information.



**NOTE:** This command replaces the deprecated **show ip dhcp-external binding**, **show ip dhcp-external binding-id**, and **show ip dhcp-local binding** commands, which may be removed completely in a future release.

**Syntax** To display information for all bindings:  
 show dhcp binding [ external | local | relay-proxy ] [ detail ] [ filter ]

To display information for a specific binding:  
 show dhcp binding *binding-id*

- external—Displays DHCP external server bindings
- local—Displays DHCP local server bindings
- relay-proxy—Displays DHCP relay proxy bindings
- detail—Shows detailed information for the specified DHCP bindings
- *binding-id*—Specific DHCP binding ID
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring DHCP Binding Information

## show dhcp relay

**Description** Displays DHCP relay configuration information and IP addresses of configured DHCP servers.

**Syntax** show dhcp relay [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring DHCP Relay Configuration Information

## show dhcp relay proxy statistics

---

**Description** Displays the statistics of the configured DHCP relay proxy.

**Syntax** show dhcp relay proxy statistics [ delta ] [ filter ]

- delta—Displays baselined statistics
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring DHCP Server and DHCP Relay Agent Statistics

## show dhcp relay statistics

---

**Description** Displays statistics that are common to both DHCP relay and DHCP relay proxy, and also to display DHCP server statistics for DHCP relay only.

**Syntax** show dhcp relay statistics [ detail ] [ delta ] [ filter ]

- statistics—Displays statistics for the DHCP relay
- detail—Displays a subset of statistics on a per-DHCP server basis
- delta—Displays baselined statistics
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring DHCP Relay Statistics

## show dhcp server

---

**Description** Displays the IP address(es) and statistics of the configured DHCP server.

**Syntax** show dhcp server [ statistics [ delta ] ] [ filter ]

- server—DHCP Proxy Client configuration
- statistics—Displays statistics for the DHCP server or relay agent
- delta—Displays baselined statistics
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring DHCP Server and DHCP Relay Agent Statistics

## show dhcp summary

---

**Description** Displays the currently configured DHCP applications and indicates whether they are active.

**Syntax** show dhcp summary

**Mode** Privileged Exec

**Release Information** Command introduced in JUNOS Release 8.2.0.

**Related Topics**

- Monitoring Status of DHCP Applications



## show dhcp vendor-option

---

**Description** Displays configuration and action information for the DHCP vendor-option feature.

**Syntax** show dhcp vendor-option [ default | vendor-option-relay-server *ServerAddress* ]

- default—Displays where DHCP client packets that do not match a configured vendor-string are sent by default
- vendor-option-relay-server—Displays DHCP string matches that are sent to the specified vendor-option server
- *ServerAddress*—IP address of the DHCP vendor-option server

**Mode** Privileged Exec

**Release Information** Command introduced in JUNOS Release 8.2.0.

**Related Topics**

- Monitoring DHCP Option 60 Information

## show dos-protection-group

---

**Description** Displays information about denial of service (DoS) protection groups.

**Syntax** show dos-protection-group *groupName* rates slot *slotNumber* [ *filter* ] ]

- *groupName*—Name of the DoS protection group
- rate—Calculated values for the minimum rate, maximum rate, minimum burst, and maximum burst
- *slotNumber*—Number of the slot
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show drop-profile

---

**Description** Displays information about the drop profile.

**Syntax** show drop-profile [ *dropProfileName* ] [ brief | references ] [ *filter* ]

- *dropProfileName*—Name for the drop profile
- brief —Displays information in a condensed format
- references—Displays QoS profiles which reference the drop profile
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring Drop Profiles for RED and WRED

## show dvmrp destination profile

---

**Description** Displays the configuration and status of a destination profile for dynamic DVMRP tunnels. There is no **no** version.

**Syntax** show dvmrp destination profile [ *profileName* ]

- *profileName*—Name of the destination profile

**Mode** Privileged Exec

**Release Information** Command introduced in JUNOS Release 8.2.0.

## show dvmrp tunnel

---

**Description** Displays information about DVMRP tunnels.

**Syntax** show dvmrp tunnel [ detail ] [ state *tunnelStatus* ] [ *tunnelName* |  
[ virtual-router *vrName* ] ip *ipAddress* [ *tunnelName* ] ] [ *filter* ]

To display summary information:

show dvmrp tunnel summary [ *filter* ]

- detail—Shows detailed tunnel information about DVMRP tunnels
- *tunnelStatus*—State of tunnels for which information is displayed; one of the following:
  - disabled—Tunnel is disabled
  - down—Tunnel is not operational
  - enabled—Tunnel is enabled
  - lower-down—Interface layer below the tunnel is not operational
  - not-present—Tunnel service module is not in slot
  - up—Tunnel is operational
- *tunnelName*—Name of a tunnel for which you want to display information
- *vrName*—Name of a virtual router for which tunnel information is displayed
- *ipAddress*—IP address associated with tunnel
- *filter*—See *Filtering show Commands in About This Guide*
- summary—Displays summary information

**Mode** Privileged Exec

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

## show egress-queue events

---

**Description** Displays events that track the number of times egress queuing rates exceed thresholds you have configured.

**Syntax** `show egress-queue events { interface interfaceType interfaceSpecifier | l2tp session sessionName | tunnel-server interfaceType } [ atmVpi | s-vlanIdValue ] [ explicit | summary ] [ traffic-class trafficClassName ] [ event-exceeding eventExceedingNumber { committed | conformed | exceeded | forwarded } ] [ filter ]`

- *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*
- *sessionName*—Name of the L2TP session
- *atmVpi*—Virtual path identifier of this PVC; number in the range 0–255
- *s-vlanIdValue*—S-VLAN ID number in the range 0–4095
- *explicit*—Displays events for queues only on the specified interface and not for queues stacked above the interface
- *summary*—Displays the sum of events for the queues bound to interfaces that are stacked above the specified interface
- *trafficClassName*—Name of a traffic class for which egress queue events are displayed
- *eventExceedingNumber*—Number of events, in the range 1–1073741824
- *committed*—Displays queues in which the committed drop count exceeds the *eventExceedingNumber*
- *conformed*—Displays queues in which the conformed drop count exceeds the *eventExceedingNumber*
- *exceeded*—Displays queues in which the exceeded drop count exceeds the *eventExceedingNumber*
- *forwarded*—Displays queues in which the forwarding event count exceeds the *eventExceedingNumber*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*atmVpi* and *s-vlanIdValue* variables added in JUNOS Release 7.1.0.

### Related Topics

- Monitoring Forwarding and Drop Events on the Egress Queue

## show egress-queue rates

---

**Description** Displays statistics associated with egress queuing rates.

**Syntax** `show egress-queue rates [ color ] [ previous | current ] [ full | brief ]  
{ interface interfaceType interfaceSpecifier |  
l2tp session sessionName | tunnel-server interfaceType } [ atmVpi | s-vlanIdValue ]  
[ explicit | summary ] [ traffic-class trafficClassName ]  
[ rate-exceeding rateExceedingNumber { aggregate | committed | conformed |  
exceeded | forwarded | minimum | maximum } ] [ filter ]`

- *color*—Displays drop rates by color without minimum and maximum rates, rather than as an aggregate of all colors
- *previous*—Displays rate statistics for the previous rate period; the default option
- *current*—Displays rate statistics for the current rate period
- *full*—Displays rate statistics for all queues
- *brief*—Displays rate statistics only for queues that have queue rate statistics enabled; the default option
- *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*
- *sessionName* —Name of the L2TP session
- *atmVpi*—Virtual path identifier of this PVC; number in the range 0–255
- *s-vlanIdValue*—S-VLAN ID number in the range 0–4095
- *explicit*—Displays rate statistics for queues only on the specified interface and not queues stacked above the interface
- *summary*—Displays the sum of rates for the queues bound to interfaces that are stacked above the specified interface
- *trafficClassName*—Name of a traffic class for which egress queue rate statistics are displayed
- *rateExceedingNumber*—Bits per second in the range 1–1073741824
- *aggregate*—Displays queues in which the aggregate drop rate exceeds the *rateExceedingNumber*
- *committed*—Displays queues in which the committed drop rate exceeds the *rateExceedingNumber*
- *conformed*—Displays queues in which the conformed drop rate exceeds the *rateExceedingNumber*

- *exceeded*—Displays queues in which the exceeded drop rate exceeds the *rateExceedingNumber*
- *forwarded*—Displays queues in which the forwarding rate exceeds the *rateExceedingNumber*
- *minimum*—Displays queues in which the minimum queue rate exceeds the *rateExceedingNumber*
- *maximum*—Displays queues in which the maximum queue rate exceeds the *rateExceedingNumber*
- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*atmVpi* and *s-vlanIdValue* variables added in JUNOS Release 7.1.0.

**Related Topics**

- Monitoring Forwarding and Drop Rates on the Egress Queue
- Troubleshooting Memory and Processor Use for Egress Queue Rate Statistics and Events

## show environment

---

**Description** Displays information about the router's physical environment, such as power and temperature.

**Syntax** show environment [ *all* ] [ *table* ] [ *filter* ]

- *all*—Displays router environment information and temperature status table
- *table*—Displays temperature status table only
- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

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

## show exception dump

---

**Description** Displays the parameters for transferring core dump files.

**Syntax** show exception dump [ *filter* ]

- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

## show exception monitor

---

**Description** Displays information about core dump monitor status and configuration.

**Syntax** show exception monitor [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show fabric-queue

---

**Description** Displays forwarded and dropped statistics for the queues in the fabric.

**Syntax** show fabric-queue [ traffic-class *trafficClassName* [ detail ] |  
egress-slot *egressSlotNumber* | detail |  
traffic-class *trafficClassName* egress-slot *egressSlotNumber* ] [ *filter* ]  
■ *trafficClassName*—Name of the traffic class  
■ detail—Provides detailed information about the queues in the fabric  
■ *egressSlotNumber*—Number of the egress slot  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- [Monitoring Queue Statistics for the Fabric](#)

## show fabric weights

---

**Description** Displays the multicast-to-unicast ratio for the router switch fabric.

**Syntax** show fabric weights

**Mode** Privileged Exec, User Exec

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

## show flash

---

**Description** Displays information about installed flash cards.

**Syntax** show flash

**Mode** Privileged Exec, User Exec

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

## show forwarding-table route-holddown

---

**Description** Displays the configured route hold-down time (in seconds) that is allowed after an initial routing table change for the accumulation and subsequent distribution of a set of routing table updates to the line modules.

**Syntax** show forwarding-table route-holddown

**Mode** Privileged Exec, User Exec

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



## show frame-relay interface

---

**Description** Displays Frame Relay statistics for interfaces.

**Syntax** show frame-relay interface [ *interfaceType* *interfaceSpecifier* ] [ *members* ]  
[ *brief* ] [ *delta* ] [ *filter* ]

- *interfaceType*—One of the following interface types listed in *Interface Types and Specifiers* in *About This Guide*:
  - serial
  - pos
  - mlframe-relay
  - tunnel—GRE tunnel
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *members*—Displays the status of MLFR links
  - displays the status of all MLFR links if you specify the interface type **mlframe-relay** without a specifier for an MLFR bundle
  - displays the status of MLFR links in an MLFR bundle if you specify that bundle
- *brief*—Displays a summary of interface information
- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show frame-relay lip

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays Link Integrity Protocol state and statistics for a link in an MLFR bundle.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Syntax</b>              | <pre>show frame-relay lip [ interface <i>interfaceType</i> <i>interfaceSpecifier</i> ] [ brief ] [ delta ] [ filter ]</pre> <ul style="list-style-type: none"> <li>■ <i>interfaceType</i>—One of the following interface types listed in <i>Interface Types and Specifiers</i> in <i>About This Guide</i>: <ul style="list-style-type: none"> <li>■ serial</li> <li>■ pos</li> </ul> </li> <li>■ <i>interfaceSpecifier</i>—Particular interface in the format <i>slot/port:link</i>: <ul style="list-style-type: none"> <li>■ <i>slot</i>—Number of the chassis slot of the line module in the range 0–13 (ERX-14xx models) and 0–6 (ERX-7xx models)</li> <li>■ <i>port</i>—Port number in the range 0–2</li> <li>■ <i>link</i>—Number of a link in the range 1–8</li> </ul> </li> <li>■ brief—Summarized format</li> <li>■ delta—Displays baselined statistics</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## show frame-relay lmi

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays state and statistics for the local management interface.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Syntax</b>              | <pre>show frame-relay lmi [ interface <i>interfaceType</i> <i>interfaceSpecifier</i> ] [ brief ] [ delta ] [ filter ]</pre> <ul style="list-style-type: none"> <li>■ <i>interfaceType</i>—One of the following interface types listed in <i>Interface Types and Specifiers</i> in <i>About This Guide</i>: <ul style="list-style-type: none"> <li>■ serial</li> <li>■ pos</li> <li>■ mlframe-relay</li> <li>■ tunnel—GRE tunnel</li> </ul> </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>■ brief—Summarized format</li> <li>■ delta—Displays baselined statistics</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## show frame-relay map

---

**Description** Displays the current Frame Relay map entries and information about the Frame Relay connections.

**Syntax** show frame-relay map [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show frame-relay multilinkInterface

---

**Description** Displays statistics about all MLFR interfaces or the specified MLFR interfaces.

**Syntax** show frame-relay multilinkInterface [ *interfaceType interfaceSpecifier* ] [ *brief* ] [ *delta* ] [ *filter* ]

- *interfaceType*—One of the following interface types listed in *Interface Types and Specifiers* in *About This Guide*:
  - serial
  - pos
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *brief* —Displays a summary of interface information
- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show frame-relay pvc

---

**Description** Displays permanent virtual circuit statistics for Frame Relay or MLFR interfaces.

**Syntax** show frame-relay pvc [ *dlci* | interface *interfaceType* *interfaceSpecifier* ]  
[ *brief* ] [ *delta* ] [ *filter* ]

- *dlci*—DLCI number to be used on the specified subinterface to identify a virtual circuit in the range 16–1007
- *interfaceType*—One of the following interface types listed in *Interface Types and Specifiers* in *About This Guide*:
  - serial
  - pos
  - mlframe-relay
  - tunnel—GRE tunnel
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *brief*—Displays the abbreviated version of the command output
- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show frame-relay subinterface

---

**Description** Displays statistics about Frame Relay subinterfaces.

**Syntax** show frame-relay subinterface [ *interfaceType* *interfaceSpecifier* ] [ brief ]  
[ delta ] [ *filter* ]

- *interfaceType*—One of the following interface types listed in *Interface Types and Specifiers* in *About This Guide*:
  - serial
  - pos
  - mlframe-relay
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- brief—Displays a summary of subinterface information
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Monitoring the Policy Configuration of Frame Relay Subinterfaces

## show frame-relay summary

---

**Description** Scans all defined Frame Relay interfaces and circuits and reports aggregate status counts.

**Syntax** show frame-relay summary [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ftp-server

---

**Description** Displays information about the FTP server.

**Syntax** show ftp-server

**Mode** Privileged Exec

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

## show gre destination profile

---

**Description** Displays the configuration and status of a destination profile for dynamic GRE tunnels. There is no **no** version.

**Syntax** show gre destination profile [ *profileName* ]

- *profileName*—Name of the destination profile

**Mode** Privileged Exec

**Release Information** Command introduced in JUNOS Release 8.2.0.

## show gre tunnel

---

**Description** Displays information about GRE tunnels.

**Syntax** show gre tunnel [ detail ] [ state *tunnelStatus* ]  
[ *tunnelName* | [ virtual-router *vrName* ] ip *ipAddress* ] [ *filter* ] [ summary ]

To display summary information:  
show gre tunnel summary [ *filter* ]

- detail—Shows detailed tunnel information about GRE tunnels
- *tunnelStatus*—State of tunnels for which information is displayed; one of the following:
  - disabled—Tunnel is disabled
  - down—Tunnel is not operational
  - enabled—Tunnel is enabled
  - lower-down—Interface layer lower below the tunnel is not operational
  - not-present—Tunnel service module is not in slot
  - up—Tunnel is operational
- *tunnelName*—Name of a tunnel for which you want to display information
- *vrName*—Name of a virtual router for which tunnel information is displayed
- *ipAddress*—IP address associated with tunnel
- *filter*—See *Filtering show Commands* in *About This Guide*
- summary—Displays summary information

**Mode** Privileged Exec

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

### Related Topics

- Monitoring GRE Tunnel Information

## show hardware

---

**Description** Displays information about the modules installed in the router.

**Syntax** show hardware [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show hdlc interface

---

**Description** Displays statistics about specified Cisco HDLC interfaces.

**Syntax** `show hdlc interface [ { dataRestriction [ dataRestriction ]* } | full ] [ delta ] [ stateRestriction ] [ { interfaceType } interfaceSpecifier ] [ filter ]`

- *dataRestriction*—Specify one or more of the following keywords:
  - *config*—Displays information about the HDLC interface configuration
  - *status*—Displays information about the HDLC interface operational status
  - *statistics*—Displays information about the HDLC interface statistics
- *\**—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *full*—Displays configuration, status, and statistics information; equivalent to specifying **config status statistics**
- *delta*—Displays baselined statistics
- *stateRestriction*—Specify only one of the following keywords:
  - *open*—Displays an interface that is administratively enabled, which means that the **no ppp shutdown** command is operational
  - *closed*—Displays an interface that is administratively disabled, which means that the **ppp shutdown** command is operational
  - *up*—Displays an interface that is up, which means that the LCP has been negotiated
  - *down*—Displays an interface that is down, which means that the LCP has not been negotiated, the negotiations have failed, or the connection has been terminated
  - *lower-layer-down*—Displays an interface that is not up and is waiting for the lower layer to come up to initiate negotiations for LCP
  - *not present*—Displays an interface on which traffic cannot flow because hardware is unavailable
- *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*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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



## show hosts

---

**Description** Displays a list of configured network servers.

**Syntax** show hosts [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show hotfix

---

**Description** Displays information for any hotfix available on the local file system. The information includes name and ID of the hotfix, activation and arming status, and any other required hotfixes.

**Syntax** show hotfix [ *hfixFileName* ] [ *detail* ]

- *hfixFileName*—Name of a hotfix software file (.hfx) on the local file system
- *detail*—Displays a synopsis describing the purpose of each hotfix; when you also specify a particular hotfix, displays additional details about that hotfix

**Mode** User Exec

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

## show ike certificates

---

**Description** Displays the IKE certificates configured on the E-series router.



**NOTE:** This command has been replaced by the **show ipsec certificates** command and may be removed completely in a future release.

**Syntax** show ike certificates { *all* | *crl* | *peer* | *public-certs* | *root-cas* } [ *hex-format* ] [ *filter* ]

- *all*—Displays all certificates configured on the router
- *crl*—Displays certificate revocation lists
- *peer*—Displays peer certificates
- *public-certs*—Displays public certificates
- *root-cas*—Displays root CA certificates
- *hex-format*—Displays certificate data in hexadecimal format
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ike configuration

---

**Description** Displays a summary of the IKE configuration.



**NOTE:** This command has been replaced by the **show ipsec ike-configuration** command and may be removed completely in a future release.

**Syntax** show ike configuration [ *filter* ]

- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ike identity

---

**Description** Displays the IKE identity configuration.



**NOTE:** This command has been replaced by the **show ipsec identity** command and may be removed completely in a future release.

**Syntax** show ike identity [ *filter* ]

- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ike policy-rule

---

**Description** Displays configuration of IKE phase 1 policy rules.



**NOTE:** This command has been replaced by the **show ipsec ike-policy-rule** command and may be removed completely in a future release.

**Syntax** show ike policy-rule [ *filter* ]

- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

## show ike sa

---

**Description** Displays IKE phase 1 SAs running on the router.



**NOTE:** This command has been replaced by the **show ipsec ike-sa** command and may be removed completely in a future release.

**Syntax** show ike sa [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show interfaces

---

**Description** Displays the current state of the interface you specify.

**Syntax** show interfaces *interfaceType interfaceSpecifier* [ *delta* ] [ *brief* ] [ *filter* ]

- *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*; for ATM, subinterfaces are not supported by the syntax
- *delta*—Displays baselined statistics
- *brief*—Displays a brief summary of the interface
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Monitoring the QoS Configuration of ATM Interfaces
- Monitoring the QoS Configuration of Fast Ethernet, Gigabit Ethernet, and 10-Gigabit Ethernet Interfaces
- Monitoring Interfaces and Policy Lists

## show interfaces lag

---

- Description** Displays information about a specified Ethernet member link in an IEEE 802.3ad link aggregation group (LAG) bundle.
- Syntax** show interfaces *interfaceType* *interfaceSpecifier* lag [ *filter* ]
- *interfaceType*—One of the following interface types listed in *Interface Types and Specifiers* in *About This Guide*
    - fastEthernet
    - gigabitEthernet
  - *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

## show interfaces lag members

---

- Description** Displays information about the Ethernet member links in all IEEE 802.3ad link aggregation group (LAG) bundles configured on the router, or about the member links in a specified IEEE 802.3ad LAG bundle.
- Syntax** show interfaces lag [ *interfaceSpecifier* ] members [ *filter* ]
- *interfaceSpecifier*—LAG interface specifier; see *Interface Types and Specifiers* in *About This Guide*
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.
- Related Topics**
- Monitoring the QoS Configuration of IEEE 802.3ad Link Aggregation Group Bundles

## show ip

---

- Description** Displays general information for IP.
- Syntax** show ip [ *filter* ]
- *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

## show ip address

---

**Description** Displays interface information for the specified IP address.

**Syntax** show ip address [ *vrfName* ] [ brief | detail ] *localAddress* [ *filter* ]

- *vrfName*—Name of the VRF
- brief—Displays summary information about the interface
- detail—Displays detailed information about the interface
- *localAddress*—IP address of the specific interface
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip as-path-access-list

---

**Description** Displays information about AS-path access lists.

**Syntax** show ip as-path-access-list [ *accessListName* ] [ *filter* ]

- *accessListName*—Name of an AS-path access list
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip bgp

---

**Description** Displays filtered information about a specified network, or all networks, in the BGP routing table associated with a specified address family or all address families. Only those fields that you specify are displayed, except that the prefix field is always displayed. Default fields can be set with the **default-fields route** command.

**Syntax** To display information about networks for all address families or for a specific address family other than the L2VPN address family and the route-target address family:

```
show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName ]
[ network [ networkMask [ longer-prefixes ] ] ] [ fields fieldOptions ] [ filter ]
```

To display information for networks associated with only the L2VPN address family:

```
show ip bgp l2vpn { all | vpls vplsName | vpws vpwsName }
[ site-id siteId block-offset blockOffset ] [ fields fieldOptions ] [ filter ]
```

To display information for networks associated with only the route-target address family:

```
show ip bgp route-target signaling rtfPrefix [ longer-prefixes ]
[ fields fieldOptions ] [ filter ]
```

- *ipv4 unicast*—Specifies the IPv4 unicast address family and routing table; the default option
- *ipv4 multicast*—Specifies the IPv4 multicast address family and routing table
- *vpnv4 all*—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- *vpnv4 vrf vrfName*—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- *network*—IP address for which the best matching route is displayed; if no network is specified, displays the fields for all networks
- *networkMask*—Address mask to be applied to the network address
- *longer-prefixes*—Displays all routes with a prefix that is equal to or more specific than the specified prefix
- *l2vpn all*—Specifies all VPLS instances in the L2VPN address family
- *l2vpn vpls vplsName*—Specifies the VPLS instance with the name *vplsName*
- *l2vpn vpws vpwsName*—Specifies the L2VPN (VPWS) instance with the name *vpwsName*
- *siteId*—Numerical identifier for the site; must be an unsigned 16-bit integer greater than zero that is unique across the VPLS domain
- *blockOffset*—Integer in the range 1–65535 that identifies a block offset for which information is displayed
- *route-target signaling*—Specifies the route-target address family

- *rtfPrefix*—Prefix representing the route-target membership NLRI (RT-MEM-NLRI), in the format *asNumber:extendedCommunity/prefixLength* (for example, 320:320:524/36) where:
  - *asNumber*—AS number for origin of route target information, in the range 1–4294967295
  - *extendedCommunity*—Two-part number in the format *number1:number2* that identifies an extended community of VPNs, in the format *number1:number2*, where:
    - *number1*—Autonomous system (AS) number, in the range 1–4294967295, or an IP address
    - *number2*—Unique integer, in the range 1–4294967295; 32 bits if *number1* is a 16-bit AS number; 16 bits if *number1* is an IP address or a 32-bit AS number
  - *prefixLength*—Number that specifies the length of the route prefix, in the range 32–96
- *fields*—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- *fieldOptions*—Fields to be displayed, in the format *all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]\**
  - *all*—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - *afi*—Address family identifier
  - *aggregator*—AS number and IP address of aggregator
  - *as-path*—AS path through which this route has been advertised
  - *atomic-aggregate*—Whether the atomic aggregate attribute is present
  - *best*—Whether this is the best route for the prefix
  - *clusters*—List of cluster IDs through which the route has been advertised
  - *communities*—Community number associated with the route
  - *extended-communities*—Extended community
  - *imported*—Whether the route was imported
  - *intro*—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
  - *in-label*—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
  - *loc-pref*—Local preference for the route
  - *med*—Multiexit discriminator for the route

- **next-hop**—IP address of the next router that is used when forwarding a packet to the destination network
- **next-hop-cost**—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- **origin**—Origin of the route
- **originator-id**—Router ID of the router in the local AS that originated the route
- **out-label**—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- **peer**—IP address of BGP peer from which route was learned
- **peer-type**—Type of BGP peer: internal, external, or confederation
- **rd**—Route distinguisher
- **safi**—Subsequent address family identifier
- **stale**—Route that has gone stale due to peer restart
- **unknown-types**—Attribute codes for unknown path attributes
- **weight**—Weight of the route
- **\***—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- **filter**—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
**vpws** keyword and *vpwsName* variable added in JUNOS Release 7.1.0.  
**site-id** keyword and *siteId* variable added in JUNOS Release 7.1.0.  
**block-offset** keyword and *blockOffset* variable added in JUNOS Release 7.1.0.  
**vpws** keyword and *vpwsName* variable added in JUNOS Release 8.1.0.  
**route-target signaling** keywords and *rtMemNlri* variable added in JUNOS Release 8.2.0.  
*rtMemNlri* variable replaced by *rtfPrefix* variable in JUNOS Release 9.1.0.

#### Related Topics

- Monitoring BGP-Related Settings for L2VPNs
- Monitoring Layer 2 NLRI for VPLS Instances



## show ip bgp advertised-routes

---

**Description** Displays the routes in the Adj-RIBs-Out table of the specified peer or peer group. For peers, displays routes that have been previously advertised to the peer and the attributes for the routes before the application of outbound policy.

For peer groups, displays routes that will be advertised to the peer group, but includes the full set of route attributes associated with the routes after the application of outbound policy. This command returns an error message unless you first enable rib-out with the **no neighbor rib-out disable** command or the **no rib-out disable** command.

**Syntax** To display routes advertised to a neighbor or peer group in all address families or a particular address family:

```
show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName |  
l2vpn [ all ] | route-target signaling ]  
{ neighbors { ipAddress | ipv6Address } | peer-group peerGroupName }  
advertised-routes [ fields { fieldOptions } ] [ delta ] [ filter ]
```

To display routes advertised to the specified peer group for all VPN address families or for a particular VPN address family after the application of route-target filters advertised by the specified member of the peer group:

```
show ip bgp [ vpnv4 all | vpnv4 vrf vrfName ] | l2vpn [ all ] | route-target signaling ]  
peer-group peerGroupName advertised-routes  
route-target-filter neighbor { ipRtfNbrAddress | ipv6RtfNbrAddress }  
[ fields { pgfieldOptions } ] [ delta ] [ filter ]
```

To display the route that best matches the specified address for all address families or for a particular address family; not available for the L2VPN address family:

```
show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName ]  
{ neighbors { ipAddress | ipv6Address } | peer-group peerGroupName }  
advertised-routes network [ networkMask [ longer-prefixes ] ]  
[ fields { fieldOptions } ] [ delta ] [ filter ]
```

To display routes advertised to a neighbor or peer group with the specified site ID and block offset in the L2VPN address family:

```
show ip bgp l2vpn all  
{ neighbors { ipAddress | ipv6Address } | peer-group peerGroupName }  
advertised-routes site-id siteId block-offset blockOffset  
[ fields { fieldOptions } ] [ delta ] [ filter ]
```

To display all routes or the route that best matches the specified address advertised to a neighbor or peer group in only the route-target address family:

```
show ip bgp route-target signaling  
{ neighbors { ipAddress | ipv6Address } | peer-group peerGroupName }  
advertised-routes rtfPrefix [ longer-prefixes ]  
[ fields { fieldOptions } ] [ delta ] [ filter ]
```

- **ipv4 unicast**—Specifies the IPv4 unicast address family and routing table; the default option
- **ipv4 multicast**—Specifies the IPv4 multicast address family and routing table
- **vpnv4 all**—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- **vpnv4 vrf vrfName**—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*

- `l2vpn all`—Displays information for only the L2VPN address family; the **all** keyword is optional unless you specify a site ID and block offset
- `route-target signaling`—Specifies the route-target address family
- `ipAddress`—IP address of a neighbor whose routes the router has learned
- `ipv6Address`—IPv6 address of a neighbor whose routes the router has learned
- `peerGroupName`—Name of a BGP peer group
- `route-target-filter neighbor`—Displays routes actually advertised to the specified peer group member (neighbor); which routes are advertised is determined by the application of the route-target filter received from that neighbor to routes in the peer group's Adj-RIBs-Out table
- `ipRtNbrAddress`—IP address of a peer group member that has advertised route-target membership filtering information
- `ipv6RtNbrAddress`—IPv6 address of a peer group member that has advertised route-target membership filtering information
- `network`—Route that best matches this IP address; if no network is specified, displays the fields for all networks
- `networkMask`—Address mask to be applied to the network address
- `longer-prefixes`—Displays all routes with a prefix that is equal to or more specific than the specified prefix
- `siteId`—Numerical identifier for the site; must be an unsigned 16-bit integer greater than zero that is unique across the VPLS domain
- `blockOffset`—Integer in the range 1–65535 that identifies a block offset for which information is displayed
- `rtfPrefix`—Prefix representing the route-target membership NLRI (RT-MEM-NLRI), in the format *asNumber:extendedCommunity/prefixLength* (for example, 320:320:524/36) where:
  - *asNumber*—AS number for origin of route target information, in the range 1–4294967295
  - *extendedCommunity*—Two-part number in the format *number1:number2* that identifies an extended community of VPNs, in the format *number1:number2*, where:
    - *number1*—Autonomous system (AS) number, in the range 1–4294967295, or an IP address
    - *number2*—Unique integer, in the range 1–4294967295; 32 bits if *number1* is a 16-bit AS number; 16 bits if *number1* is an IP address or a 32-bit AS number

- *prefixLength*—Number that specifies the length of the route prefix, in the range 32–96
- *fields*—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- *fieldOptions*—Fields to be displayed, in the format  
all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]\*

For peers, all described options are available. For peer groups, all options are available except the following:

best | imported | intro | next-hop-cost | peer | peer-type | stale | weight

- all—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
- afi—Address family identifier
- aggregator—AS number and IP address of aggregator
- as-path—AS path through which this route has been advertised
- atomic-aggregate—Whether the atomic aggregate attribute is present
- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers

- **peer**—IP address of BGP peer from which route was learned
- **peer-type**—Type of BGP peer: internal, external, or confederation
- **rd**—Route distinguisher
- **safi**—Subsequent address family identifier
- **stale**—Route that has gone stale due to peer restart
- **unknown-types**—Attribute codes for unknown path attributes
- **weight**—Weight of the route
- **\***—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- **delta**—Displays baselined statistics
- **filter**—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
**site-id** keyword and *siteId* variable added in JUNOS Release 7.1.0.  
**block-offset** keyword and *blockOffset* variable added in JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.  
**route-target signaling** and **route-target-filter neighbor** keywords and *ipRtfnbrAddress*, *ipv6RtfnbrAddress*, and *rtMemNlri* variables added in JUNOS Release 8.2.0.  
*rtMemNlri* variable replaced by *rtfPrefix* variable in JUNOS Release 9.1.0.

#### Related Topics

- Monitoring BGP-Related Settings for L2VPNs

## show ip bgp aggregate-address

---

**Description** Displays information about aggregate addresses.

**Syntax** show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName ]  
aggregate-address [ *ipAddress mask* ] [ *filter* ]

- *ipv4 unicast*—Specifies the IPv4 unicast address family and routing table; the default option
- *ipv4 multicast*—Specifies the IPv4 multicast address family and routing table
- *vpnv4 all*—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- *vpnv4 vrf vrfName*—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- *ipAddress*—Aggregate address
- *mask*—Aggregate address mask
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip bgp cidr-only

---

**Description** Displays information only about routes having nonnatural network masks.

**Syntax** `show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName ]  
cidr-only [ fields { fieldOptions } ] [ filter ]`

- `ipv4 unicast`—Specifies the IPv4 unicast address family and routing table; the default option
- `ipv4 multicast`—Specifies the IPv4 multicast address family and routing table
- `vpnv4 all`—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- `vpnv4 vrf vrfName`—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- `fieldOptions`—Fields to be displayed, in the format  
`all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters |  
communities | extended-communities | imported | intro | in-label | loc-pref |  
med | next-hop | next-hop-cost | origin | originator-id | out-label | peer |  
peer-type | rd | safi | stale | unknown-types | weight ]*`
  - `all`—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - `afi`—Address family identifier
  - `aggregator`—AS number and IP address of aggregator
  - `as-path`—AS path through which this route has been advertised
  - `atomic-aggregate`—Whether the atomic aggregate attribute is present

- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip bgp community

---

**Description** Displays routes that belong to the specified BGP community.

**Syntax** `show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName | l2vpn all | l2vpn vpls vplsName | l2vpn vpws vpwsName | route-target signaling ] community { communityNumber | local-as | no-advertise | no-export } [ communityNumber | local-as | no-advertise | no-export ]* [ exact-match ] [ fields fieldOptions ] [ filter ]`

- `ipv4 unicast`—Specifies the IPv4 unicast address family and routing table; the default option
- `ipv4 multicast`—Specifies the IPv4 multicast address family and routing table
- `vpnv4 all`—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- `vpnv4 vrf vrfName`—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- `l2vpn all`—Specifies all VPLS instances in the L2VPN address family
- `l2vpn vpls vplsName`—Specifies the VPLS instance with the name *vplsName*
- `l2vpn vpws vpwsName`—Specifies the L2VPN (VPWS) instance with the name *vpwsName*
- `route-target signaling`—Specifies the route-target address family
- `communityNumber`—Filters routes according to this community number, specified either as a number in the range 1–4294967295 or in *AA:NN* format (autonomous system number:community number); displays only routes that are members of the specified community
- `local-as`—Displays only routes belonging to the local-AS community
- `no-advertise`—Displays only routes belonging to the no-advertise community
- `no-export`—Displays only routes belonging to the no-export community
- `*`—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- `exact-match`—Displays only routes that have exactly the specified communities
- `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- `fieldOptions`—Fields to be displayed, in the format `all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]*`
  - `all`—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - `afi`—Address family identifier
  - `aggregator`—AS number and IP address of aggregator
  - `as-path`—AS path through which this route has been advertised
  - `atomic-aggregate`—Whether the atomic aggregate attribute is present



- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
**vppls** keyword and *vpplsName* variable added in JUNOS Release 7.1.0.  
**vpws** keyword and *vpwsName* variable added in JUNOS Release 8.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

#### Related Topics

- Monitoring BGP-Related Settings for L2VPNs

## show ip bgp community-list

---

**Description** Displays routes that belong to the BGP community specified by the community list.

**Syntax** `show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName | l2vpn all | l2vpn vpls vpplsName | l2vpn vpws vpwsName | route-target signaling ] community-list communityListName [ exact-match ] [ fields fieldOptions ] [ filter ]`

- `ipv4 unicast`—Specifies the IPv4 unicast address family and routing table; the default option
- `ipv4 multicast`—Specifies the IPv4 multicast address family and routing table
- `vpnv4 all`—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- `vpnv4 vrf vrfName`—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- `l2vpn all`—Specifies all VPLS instances in the L2VPN address family
- `l2vpn vpls vpplsName`—Specifies the VPLS instance with the name *vpplsName*
- `l2vpn vpws vpwsName`—Specifies the L2VPN (VPWS) instance with the name *vpwsName*
- `route-target signaling`—Specifies the route-target address family
- `communityListName`—Filters routes according to community list; displays only routes that are members of a community on the specified list
- `exact-match`—Displays only routes that have exactly the specified communities
- `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- `fieldOptions`—Fields to be displayed, in the format `all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]*`
  - `all`—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - `afi`—Address family identifier
  - `aggregator`—AS number and IP address of aggregator
  - `as-path`—AS path through which this route has been advertised
  - `atomic-aggregate`—Whether the atomic aggregate attribute is present

- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
**vppls** keyword and *vpplsName* variable added in JUNOS Release 7.1.0.  
**vpws** keyword and *vpwsName* variable added in JUNOS Release 8.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

#### Related Topics

- Monitoring BGP-Related Settings for L2VPNs

## show ip bgp dampened-paths

---

**Description** Displays information about dampened BGP routes.

**Syntax** `show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName | l2vpn all | l2vpn vpls vplsName | l2vpn vpws vpwsName | route-target signaling ] dampened-paths [ fields fieldOptions ] [ filter ]`

- `ipv4 unicast`—Specifies the IPv4 unicast address family and routing table; the default option
- `ipv4 multicast`—Specifies the IPv4 multicast address family and routing table
- `vpnv4 all`—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- `vpnv4 vrf vrfName`—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- `l2vpn all`—Specifies all VPLS instances in the L2VPN address family
- `l2vpn vpls vplsName`—Specifies the VPLS instance with the name *vplsName*
- `l2vpn vpws vpwsName`—Specifies the L2VPN (VPWS) instance with the name *vpwsName*
- `route-target signaling`—Specifies the route-target address family
- `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- `fieldOptions`—Fields to be displayed, in the format `all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]*`
  - `all`—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - `afi`—Address family identifier
  - `aggregator`—AS number and IP address of aggregator
  - `as-path`—AS path through which this route has been advertised
  - `atomic-aggregate`—Whether the atomic aggregate attribute is present

- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
**vppls** keyword and *vpplsName* variable added in JUNOS Release 7.1.0.  
**vpws** keyword and *vpwsName* variable added in JUNOS Release 8.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

#### Related Topics

- Monitoring BGP-Related Settings for L2VPNs

## show ip bgp filter-list

---

**Description** Displays all routes whose AS path matches the specified AS path access list.

**Syntax** `show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName | l2vpn all | l2vpn vpls vplsName | l2vpn vpws vpwsName | route-target signaling ] filter-list asPathAccessListName [ fields fieldOptions ] [ filter ]`

- `ipv4 unicast`—Specifies the IPv4 unicast address family and routing table; the default option
- `ipv4 multicast`—Specifies the IPv4 multicast address family and routing table
- `vpnv4 all`—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- `vpnv4 vrf vrfName`—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- `l2vpn all`—Specifies all VPLS instances in the L2VPN address family
- `l2vpn vpls vplsName`—Specifies the VPLS instance with the name *vplsName*
- `l2vpn vpws vpwsName`—Specifies the L2VPN (VPWS) instance with the name *vpwsName*
- `route-target signaling`—Displays information for only the route-target address family
- `asPathAccessListName`—Name of AS path access list to filter routes; displays only routes that have AS paths matching the specified list
- `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- `fieldOptions`—Fields to be displayed, in the format `all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]*`
  - `all`—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - `afi`—Address family identifier
  - `aggregator`—AS number and IP address of aggregator
  - `as-path`—AS path through which this route has been advertised
  - `atomic-aggregate`—Whether the atomic aggregate attribute is present

- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
**vppls** keyword and *vpplsName* variable added in JUNOS Release 7.1.0.  
**vpws** keyword and *vpwsName* variable added in JUNOS Release 8.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

#### Related Topics

- Monitoring BGP-Related Settings for L2VPNs

## show ip bgp flap-statistics

---

**Description** Displays information about routes that are dampened.

**Syntax** To display information about dampened routes for address families other than the L2VPN and route-target signaling address families:

```
show ip bgp
[ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName ] flap-statistics
[ network [ networkMask ] ] [ filter ]
```

To display information about dampened routes for only the route-target signaling address family:

```
show ip bgp route-target signaling flap-statistics [ rtfPrefix | rtfAddress ] [ filter ]
```

To display information about dampened routes for only the L2VPN address family:

```
show ip bgp
{ l2vpn all | l2vpn vpls vplsName | l2vpn vpws vpwsName } flap-statistics
[ site-id siteId block-offset blockOffset ] [ filter ]
```

- *ipv4 unicast*—Specifies the IPv4 unicast address family and routing table; the default option
- *ipv4 multicast*—Specifies the IPv4 multicast address family and routing table
- *vpnv4 all*—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- *vpnv4 vrf vrfName*—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- *network*—IP address of the network for which you want information displayed; if no network is specified, the fields are displayed for all networks
- *networkMask*—Address mask to be applied to the network address
- *route-target signaling*—Displays information for only the route-target address family
- *rtfPrefix*—Prefix representing the route-target membership NLRI (RT-MEM-NLRI), in the format *asNumber:extendedCommunity/prefixLength* (for example, 320:320:524/36) where:
  - *asNumber*—AS number for origin of route target information, in the range 1–4294967295
  - *extendedCommunity*—Two-part number in the format *number1:number2* that identifies an extended community of VPNs, in the format *number1:number2*, where:
    - *number1*—Autonomous system (AS) number, in the range 1–4294967295, or an IP address
    - *number2*—Unique integer, in the range 1–4294967295; 32 bits if *number1* is a 16-bit AS number; 16 bits if *number1* is an IP address or a 32-bit AS number



- *prefixLength*—Number that specifies the length of the route prefix, in the range 32–96
- *rtfAddress*—*rtfPrefix* with a prefix length of 96; representing the route-target membership NLRI (RT-MEM-NLRI), in the format *asNumber:extendedCommunity* (for example, 320:320:524 or 320:50.2.3.4:524)
- *l2vpn all*—Specifies all VPLS instances in the L2VPN address family
- *l2vpn vpls vplsName*—Specifies the VPLS instance with the name *vplsName*
- *l2vpn vpws vpwsName*—Specifies the L2VPN (VPWS) instance with the name *vpwsName*
- *siteId*—Numerical identifier for the site; must be an unsigned 16-bit integer greater than zero that is unique across the VPLS domain
- *blockOffset*—Integer in the range 1–65535 that identifies a block offset for which information is displayed
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
**vpls** keyword and *vplsName* variable added in JUNOS Release 7.1.0.  
**site-id** keyword and *siteId* variable added in JUNOS Release 7.1.0.  
**block-offset** keyword and *blockOffset* variable added in JUNOS Release 7.1.0.  
**vpws** keyword and *vpwsName* variable added in JUNOS Release 8.1.0.  
**route-target signaling** keywords and *rtMemNlri* variable added in JUNOS Release 8.2.0.  
*rtMemNlri* variable replaced by two variables, *rtfAddress* and *rtfPrefix*, in JUNOS Release 9.1.0.

#### Related Topics

- Monitoring BGP-Related Settings for L2VPNs

## show ip bgp inconsistent-as

---

**Description** Displays information only about routes with inconsistent AS paths.

**Syntax** show ip bgp  
 [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf *vrfName* | route-target signaling ]  
 inconsistent-as [ fields { *fieldOptions* } ] [ *filter* ]

- *ipv4 unicast*—Specifies the IPv4 unicast address family and routing table; the default option
- *ipv4 multicast*—Specifies the IPv4 multicast address family and routing table
- *vpnv4 all*—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- *vpnv4 vrf vrfName*—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- *route-target signaling*—Displays information for only the route-target address family
- *fields*—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- *fieldOptions*—Fields to be displayed, in the format  
 all | [ *afi* | *aggregator* | *as-path* | *atomic-aggregate* | *best* | *clusters* |  
*communities* | *extended-communities* | *imported* | *intro* | *in-label* | *loc-pref* |  
*med* | *next-hop* | *next-hop-cost* | *origin* | *originator-id* | *out-label* | *peer* |  
*peer-type* | *rd* | *safi* | *stale* | *unknown-types* | *weight* ]\*
- *all*—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
- *afi*—Address family identifier
- *aggregator*—AS number and IP address of aggregator
- *as-path*—AS path through which this route has been advertised
- *atomic-aggregate*—Whether the atomic aggregate attribute is present

- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## show ip bgp neighbors

---

**Description** Displays information about the BGP neighbors.

**Syntax** `show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName | l2vpn [ all ] | route-target signaling ] neighbors [ ipAddress | ipv6Address ] [ delta ] [ filter ]`

- `ipv4 unicast`—Specifies the IPv4 unicast address family and routing table; the default option
- `ipv4 multicast`—Specifies the IPv4 multicast address family and routing table
- `vpnv4 all`—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- `vpnv4 vrf vrfName`—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- `l2vpn`—Displays information for only the L2VPN address family
- `all`—Optional keyword; has no effect
- `route-target signaling`—Displays information for only the route-target address family
- *ipAddress*—IP address of a neighbor whose routes the router has learned
- *ipv6Address*—IPv6 address of a neighbor whose routes the router has learned
- `delta`—Displays baselined statistics
- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

### Related Topics

- Monitoring BGP-Related Settings for L2VPNs

## show ip bgp neighbors dampened-routes

---

**Description** Displays information about routes with a dampening history for the specified BGP neighbor.

**Syntax** `show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName | l2vpn [ all ] | route-target signaling ] neighbors { ipAddress | ipv6Address } dampened-routes [ fields fieldOptions ] [ delta ] [ filter ]`

- `ipv4 unicast`—Specifies the IPv4 unicast address family and routing table; the default option
- `ipv4 multicast`—Specifies the IPv4 multicast address family and routing table
- `vpnv4 all`—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- `vpnv4 vrf vrfName`—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- `l2vpn`—Displays information for only the L2VPN address family
- `all`—Optional keyword; has no effect
- `route-target signaling`—Displays information for only the route-target address family
- `ipAddress`—IP address of a neighbor whose routes the router has learned
- `ipv6Address`—IPv6 address of a neighbor whose routes the router has learned
- `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- `fieldOptions`—Fields to be displayed, in the format  
`all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]*`
  - `all`—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - `afi`—Address family identifier
  - `aggregator`—AS number and IP address of aggregator
  - `as-path`—AS path through which this route has been advertised
  - `atomic-aggregate`—Whether the atomic aggregate attribute is present

- **best**—Whether this is the best route for the prefix
- **clusters**—List of cluster IDs through which the route has been advertised
- **communities**—Community number associated with the route
- **extended-communities**—Extended community
- **imported**—Whether the route was imported
- **intro**—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- **in-label**—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- **loc-pref**—Local preference for the route
- **med**—Multiexit discriminator for the route
- **next-hop**—IP address of the next router that is used when forwarding a packet to the destination network
- **next-hop-cost**—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- **origin**—Origin of the route
- **originator-id**—Router ID of the router in the local AS that originated the route
- **out-label**—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- **peer**—IP address of BGP peer from which route was learned
- **peer-type**—Type of BGP peer: internal, external, or confederation
- **rd**—Route distinguisher
- **safi**—Subsequent address family identifier
- **stale**—Route that has gone stale due to peer restart
- **unknown-types**—Attribute codes for unknown path attributes
- **weight**—Weight of the route
- **\***—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- **delta**—Displays baselined statistics
- **filter**—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
**ipv6Address** variable added in JUNOS Release 8.0.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

#### Related Topics

- Monitoring BGP-Related Settings for L2VPNs

## show ip bgp neighbors paths

---

**Description** Displays path information for the specified BGP neighbor.

**Syntax** show ip bgp  
[ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf *vrfName* | route-target signaling ]  
neighbors { *ipAddress* | *ipv6Address* } paths [ *regularExpression* ] [ *filter* ]

- *ipv4 unicast*—Specifies the IPv4 unicast address family and routing table; the default option
- *ipv4 multicast*—Specifies the IPv4 multicast address family and routing table
- *vpnv4 all*—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- *vpnv4 vrf vrfName*—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- *route-target signaling*—Displays information for only the route-target address family
- *ipAddress*—IP address of a neighbor whose routes the router has learned
- *ipv6Address*—IPv6 address of a neighbor whose routes the router has learned
- *regularExpression*—Regular expression to match the AS path. See **show ip bgp regexp** for information about regular expressions.
- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## show ip bgp neighbors received prefix-filter

---

**Description** Displays prefix-list outbound route filters received from the neighbor.

**Syntax** show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName ]  
 neighbors { *ipAddress* | *ipv6Address* } received prefix-filter [ *filter* ]

- *ipv4 unicast*—Specifies the IPv4 unicast address family and routing table; the default option
- *ipv4 multicast*—Specifies the IPv4 multicast address family and routing table
- *vpnv4 all*—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- *vpnv4 vrf vrfName*—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- *ipAddress*—IP address of a neighbor whose routes the router has learned
- *ipv6Address*—IPv6 address of a neighbor whose routes the router has learned
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.



## show ip bgp neighbors received-routes

---

**Description** Displays routes originating from the specified BGP neighbor before inbound policy is applied.

**Syntax** `show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName | l2vpn all | route-target signaling ] neighbors { ipAddress | ipv6Address } received-routes [ fields fieldOptions ] [ delta ] [ filter ]`

- `ipv4 unicast`—Specifies the IPv4 unicast address family and routing table; the default option
- `ipv4 multicast`—Specifies the IPv4 multicast address family and routing table
- `vpnv4 all`—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- `vpnv4 vrf vrfName`—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- `l2vpn`—Displays information for only the L2VPN address family
- `all`—Optional keyword; has no effect
- `route-target signaling`—Displays information for only the route-target address family
- *ipAddress*—IP address of a neighbor whose routes the router has learned
- *ipv6Address*—IPv6 address of a neighbor whose routes the router has learned
- `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- *fieldOptions*—Fields to be displayed, in the format  
`all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]*`
  - `all`—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - `afi`—Address family identifier
  - `aggregator`—AS number and IP address of aggregator
  - `as-path`—AS path through which this route has been advertised
  - `atomic-aggregate`—Whether the atomic aggregate attribute is present

- **best**—Whether this is the best route for the prefix
- **clusters**—List of cluster IDs through which the route has been advertised
- **communities**—Community number associated with the route
- **extended-communities**—Extended community
- **imported**—Whether the route was imported
- **intro**—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- **in-label**—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- **loc-pref**—Local preference for the route
- **med**—Multiexit discriminator for the route
- **next-hop**—IP address of the next router that is used when forwarding a packet to the destination network
- **next-hop-cost**—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- **origin**—Origin of the route
- **originator-id**—Router ID of the router in the local AS that originated the route
- **out-label**—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- **peer**—IP address of BGP peer from which route was learned
- **peer-type**—Type of BGP peer: internal, external, or confederation
- **rd**—Route distinguisher
- **safi**—Subsequent address family identifier
- **stale**—Route that has gone stale due to peer restart
- **unknown-types**—Attribute codes for unknown path attributes
- **weight**—Weight of the route
- **\***—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- **delta**—Displays baselined statistics
- **filter**—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
**ipv6Address** variable added in JUNOS Release 8.0.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

#### Related Topics

- Monitoring BGP-Related Settings for L2VPNs

## show ip bgp neighbors routes

---

**Description** Displays routes originating from the specified BGP neighbor after inbound policy is applied.

**Syntax** `show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName | l2vpn [ all ] | route-target signaling ] neighbors { ipAddress | ipv6Address } routes [ fields fieldOptions ] [ delta ] [ filter ]`

- `ipv4 unicast`—Specifies the IPv4 unicast address family and routing table; the default option
- `ipv4 multicast`—Specifies the IPv4 multicast address family and routing table
- `vpnv4 all`—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- `vpnv4 vrf vrfName`—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- `l2vpn`—Displays information for only the L2VPN address family
- `all`—Optional keyword; has no effect
- `route-target signaling`—Displays information for only the route-target address family
- `ipAddress`—IP address of a neighbor whose routes the router has learned
- `ipv6Address`—IPv6 address of a neighbor whose routes the router has learned
- `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- `fieldOptions`—Fields to be displayed, in the format  
`all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]*`
  - `all`—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - `afi`—Address family identifier
  - `aggregator`—AS number and IP address of aggregator
  - `as-path`—AS path through which this route has been advertised
  - `atomic-aggregate`—Whether the atomic aggregate attribute is present

- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
*ipv6Address* variable added in JUNOS Release 8.0.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

#### Related Topics

- Monitoring BGP-Related Settings for L2VPNs

## show ip bgp network

---

**Description** Displays information about a potentially originated prefix that was configured with the **network** command.

**Syntax** To display information about a prefix configured for all address families or for a specific address family other than the route-target address family:

```
show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName ]  
network [ networkNumber [ [ mask ] networkMask ] ] [ filter ]
```

To display information about about a prefix configured for the route-target address family:

```
show ip bgp route-target signaling network [ rtfPrefix ] [ filter ]
```

- **ipv4 unicast**—Specifies the IPv4 unicast address family and routing table; the default option
- **ipv4 multicast**—Specifies the IPv4 multicast address family and routing table
- **vpnv4 all**—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- **vpnv4 vrf vrfName**—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- **networkNumber**—IP address of the network for which you want information displayed; if no network is specified, the fields are displayed for all networks
- **networkMask**—Address mask to be applied to the network address
- **route-target signaling**—Displays information for only the route-target address family
- **rtfPrefix**—Prefix representing the route-target membership NLRI (RT-MEM-NLRI), in the format *asNumber:extendedCommunity/prefixLength* (for example, 320:320:524/36) where:
  - **asNumber**—AS number for origin of route target information, in the range 1–4294967295
  - **extendedCommunity**—Two-part number in the format *number1:number2* that identifies an extended community of VPNs, in the format *number1:number2*, where:
    - **number1**—Autonomous system (AS) number, in the range 1–4294967295, or an IP address
    - **number2**—Unique integer, in the range 1–4294967295; 32 bits if *number1* is a 16-bit AS number; 16 bits if *number1* is an IP address or a 32-bit AS number
  - **prefixLength**—Number that specifies the length of the route prefix, in the range 32–96
- **filter**—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords and *rtMemNlri* variable added in JUNOS Release 9.0.0.  
*rtMemNlri* variable replaced by *rtfPrefix* variable in JUNOS Release 9.1.0.

## show ip bgp next-hops

---

**Description** Displays information about BGP next hops.

**Syntax** `show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName | l2vpn all | l2vpn vpls vplsName | l2vpn vpws vpwsName } | route-target signaling ] next-hops [ ipAddress ] [ filter ]`

- `ipv4 unicast`—Specifies the IPv4 unicast address family and routing table; the default option
- `ipv4 multicast`—Specifies the IPv4 multicast address family and routing table
- `vpnv4 all`—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- `vpnv4 vrf vrfName`—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- `l2vpn all`—Specifies all VPLS instances in the L2VPN address family
- `l2vpn vpls vplsName`—Specifies the VPLS instance with the name *vplsName*
- `l2vpn vpws vpwsName`—Specifies the L2VPN (VPWS) instance with the name *vpwsName*
- `route-target signaling`—Displays information for only the route-target address family
- `ipAddress`—Displays information only for this indirect next hop
- `filter`—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
**vpls** keyword and *vplsName* variable added in JUNOS Release 7.1.0.  
**vpws** keyword and *vpwsName* variable added in JUNOS Release 8.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

### Related Topics

- Monitoring BGP-Related Settings for L2VPNs
- Monitoring BGP Next Hops for L2VPNs
- Monitoring BGP Next Hops for VPLS

## show ip bgp paths

---

**Description** Displays information about BGP AS paths.

**Syntax** `show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName | l2vpn all | l2vpn vpls vplsName | l2vpn vpws vpwsName | route-target signaling ] paths [ regularExpression ] [ filter ]`

- `ipv4 unicast`—Specifies the IPv4 unicast address family and routing table; the default option
- `ipv4 multicast`—Specifies the IPv4 multicast address family and routing table
- `vpnv4 all`—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- `vpnv4 vrf vrfName`—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- `l2vpn all`—Specifies all VPLS instances in the L2VPN address family
- `l2vpn vpls vplsName`—Specifies the VPLS instance with the name *vplsName*
- `l2vpn vpws vpwsName`—Specifies the L2VPN (VPWS) instance with the name *vpwsName*
- `route-target signaling`—Displays information for only the route-target address family
- *regularExpression*—Regular expression to match that specifies the desired AS paths. See **show ip bgp regexp** for information about regular expressions.
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
**vpls** keyword and *vplsName* variable added in JUNOS Release 7.1.0.  
**vpws** keyword and *vpwsName* variable added in JUNOS Release 8.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

### Related Topics

- Monitoring BGP-Related Settings for L2VPNs

## show ip bgp peer-group

---

**Description** Displays information about BGP peer groups.

**Syntax** `show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName | l2vpn [ all ] | route-target signaling ] peer-group [ peerGroupName ] [ filter ]`

- `ipv4 unicast`—Specifies the IPv4 unicast address family and routing table; the default option
- `ipv4 multicast`—Specifies the IPv4 multicast address family and routing table
- `vpnv4 all`—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- `vpnv4 vrf vrfName`—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- `l2vpn`—Displays information for only the L2VPN address family
- `all`—Optional keyword; has no effect
- `route-target signaling`—Displays information for only the route-target address family
- *peerGroupName*—Name of the BGP peer group
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

**Related Topics**

- Monitoring BGP-Related Settings for L2VPNs



## show ip bgp quote-regexp

---

**Description** Displays information about BGP routes whose AS path matches the specified regular expression. Regular expressions match numbers for which the specified path is a substring—for example, if you specify *20*, *200* matches because *20* is a substring of *200*. You can disallow substring matching by using the underscore (`_`) metacharacter to constrain matching to the specified pattern; for example, *\_20\_*. You can use output filtering on the display.

**Syntax** `show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName | l2vpn all | l2vpn vpls vplsName | l2vpn vpws vpwsName | route-target signaling ] quote-regexp pathExpression [ fields fieldOptions ] [ filter ]`

- `ipv4 unicast`—Specifies the IPv4 unicast address family and routing table; the default option
- `ipv4 multicast`—Specifies the IPv4 multicast address family and routing table
- `vpnv4 all`—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- `vpnv4 vrf vrfName`—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- `l2vpn all`—Specifies all VPLS instances in the L2VPN address family
- `l2vpn vpls vplsName`—Specifies the VPLS instance with the name *vplsName*
- `l2vpn vpws vpwsName`—Specifies the L2VPN (VPWS) instance with the name *vpwsName*
- `route-target signaling`—Displays information for only the route-target address family
- `quote-regexp`—Indicates that only a single element is matched
- *pathExpression*—Regular expression string describing the AS path or community to be matched. You must enclose elements containing a space within double quotes (“*one element*”).

Each element is either an AS number, a metacharacter, or a combination:

`^` Matches the beginning of the path unless appearing as the first character within brackets; see below

`[^ ]` Matches any AS number except the ones specified within the brackets

`$` Matches the end of the path

`{` Matches the beginning of an AS\_SET

`}` Matches the end of an AS\_SET

`(` Matches the start of an AS\_CONFED\_SET or AS\_CONFED\_SEQ

`)` Matches the end of an AS\_CONFED\_SET or AS\_CONFED\_SEQ

`.` Matches any single character

- \* Matches zero or more occurrences of the preceding character
- + Matches one or more occurrences of the preceding character
- ? Matches zero or one occurrence of the preceding character. To use the ? metacharacter in a regular expression, you must enter the following key sequence: Ctrl-v-?. Otherwise, the CLI considers this to be a request for assistance in completing the command, rather than understanding it as a metacharacter.
- () Used with a multiplier metacharacter (\*, +, ?) to specify patterns for multiple use. You can specify that a parenthesis be construed as a literal token instead of a metacharacter by immediately preceding it with a backslash:
  - \( matches the beginning of an AS\_CONFED\_SET or AS\_CONFED\_SEQ
  - \) matches the end of an AS\_CONFED\_SET or AS\_CONFED\_SEQ.
- [ ] Matches any enclosed character; specifies a range of single characters
  - Used within brackets to specify a range of AS numbers
  - \_ Matches a ^, a \$, a comma, a space, a {, or a }. Placed on either side of a string to specify a literal and disallow substring matching. Numerals enclosed by underscores can be preceded or followed by any of the characters listed above.
  - | Matches characters on either side of the metacharacter; logical OR

- **fields**—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- **fieldOptions**—Fields to be displayed, in the format  
 all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]\*
  - all—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - afi—Address family identifier
  - aggregator—AS number and IP address of aggregator
  - as-path—AS path through which this route has been advertised
  - atomic-aggregate—Whether the atomic aggregate attribute is present

- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
**vppls** keyword and *vpplsName* variable added in JUNOS Release 7.1.0.  
**vpws** keyword and *vpwsName* variable added in JUNOS Release 8.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

#### Related Topics

- Monitoring BGP-Related Settings for L2VPNs

## show ip bgp regexp

---

**Description** Displays information about BGP routes whose AS path matches the specified regular expression. Regular expressions match numbers for which the specified path is a substring—for example, if you specify *20*, *200* matches because *20* is a substring of *200*. You can disallow substring matching by using the underscore (`_`) metacharacter to constrain matching to the specified pattern; for example, *\_20\_*. You can use output filtering on the display.

**Syntax** `show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName | l2vpn all | l2vpn vpls vplsName | l2vpn vpws vpwsName | route-target signaling ] regexp pathExpression [ fields fieldOptions ] [ filter ]`

- `ipv4 unicast`—Specifies the IPv4 unicast address family and routing table; the default option
- `ipv4 multicast`—Specifies the IPv4 multicast address family and routing table
- `vpnv4 all`—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- `vpnv4 vrf vrfName`—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- `l2vpn all`—Specifies all VPLS instances in the L2VPN address family
- `l2vpn vpls vplsName`—Specifies the VPLS instance with the name *vplsName*
- `l2vpn vpws vpwsName`—Specifies the L2VPN (VPWS) instance with the name *vpwsName*
- `route-target signaling`—Displays information for only the route-target address family
- `regexp`—Indicates that multiple elements can be matched
- *pathExpression*—Regular expression string describing the AS paths to be matched. You do not have to enclose elements containing a space within quotation marks (“*one element*”).

Each element is either an AS number, a metacharacter, or a combination:

- ^ Matches the beginning of the path unless appearing as the first character within brackets; see below
- [^ ] Matches any AS number except the ones specified within the brackets
- \$ Matches the end of the path
- { Matches the beginning of an AS\_SET
- } Matches the end of an AS\_SET
- ( Matches the start of an AS\_CONFED\_SET or AS\_CONFED\_SEQ
- ) Matches the end of an AS\_CONFED\_SET or AS\_CONFED\_SEQ
- .
- Matches any single character

- \* Matches zero or more occurrences of the preceding character
- + Matches one or more occurrences of the preceding character
- ? Matches zero or one occurrence of the preceding character. To use the ? metacharacter in a regular expression, you must enter the following key sequence: Ctrl-v-?. Otherwise, the CLI considers this to be a request for assistance in completing the command, rather than understanding it as a metacharacter.
- () Used with a multiplier metacharacter (\*, +, ?) to specify patterns for multiple use. You can specify that a parenthesis be construed as a literal token instead of a metacharacter by immediately preceding it with a backslash:
- \( matches the beginning of an AS\_CONFED\_SET or AS\_CONFED\_SEQ
- \) matches the end of an AS\_CONFED\_SET or AS\_CONFED\_SEQ.
- [ ] Matches any enclosed character; specifies a range of single characters
- Used within brackets to specify a range of AS numbers
- \_ Matches a ^, a \$, a comma, a space, a {, or a }. Placed on either side of a string to specify a literal and disallow substring matching. Numerals enclosed by underscores can be preceded or followed by any of the characters listed above.
- | Matches characters on either side of the metacharacter; logical OR

- fields—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- *fieldOptions*—Fields to be displayed, in the format  
all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]\*
- all—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
- afi—Address family identifier
- aggregator—AS number and IP address of aggregator
- as-path—AS path through which this route has been advertised
- atomic-aggregate—Whether the atomic aggregate attribute is present
- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported

- **intro**—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- **in-label**—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- **loc-pref**—Local preference for the route
- **med**—Multiexit discriminator for the route
- **next-hop**—IP address of the next router that is used when forwarding a packet to the destination network
- **next-hop-cost**—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- **origin**—Origin of the route
- **originator-id**—Router ID of the router in the local AS that originated the route
- **out-label**—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- **peer**—IP address of BGP peer from which route was learned
- **peer-type**—Type of BGP peer: internal, external, or confederation
- **rd**—Route distinguisher
- **safi**—Subsequent address family identifier
- **stale**—Route that has gone stale due to peer restart
- **unknown-types**—Attribute codes for unknown path attributes
- **weight**—Weight of the route
- **\***—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- **filter**—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
**vppls** keyword and *vpplsName* variable added in JUNOS Release 7.1.0.  
**vpws** keyword and *vpwsName* variable added in JUNOS Release 8.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

#### Related Topics

- Monitoring BGP-Related Settings for L2VPNs

## show ip bgp summary

---

**Description** Displays filtered information about the status of all BGP connections. Only those fields that you specify are displayed, except that the prefix field is always displayed. Default fields can be set with the **default-fields peer** command.

**Syntax** `show ip bgp [ ipv4 unicast | ipv4 multicast | vpnv4 all | vpnv4 vrf vrfName | l2vpn all | l2vpn vpls vplsName | l2vpn vpws vpwsName | route-target signaling ] summary [ fields fieldOptions ] [ delta ] [ filter ]`

- `ipv4 unicast`—Specifies the IPv4 unicast address family and routing table; the default option
- `ipv4 multicast`—Specifies the IPv4 multicast address family and routing table
- `vpnv4 all`—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- `vpnv4 vrf vrfName`—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- `l2vpn all`—Specifies all VPLS instances in the L2VPN address family
- `l2vpn vpls vplsName`—Specifies the VPLS instance with the name *vplsName*
- `l2vpn vpws vpwsName`—Specifies the L2VPN (VPWS) instance with the name *vpwsName*
- `route-target signaling`—Displays information for only the route-target address family
- `fields`—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- `fieldOptions`—Fields to be displayed, in the format `all | [ dynamic | intro | last-reset-reason | messages-received | messages-sent | more-in-queue | peer-type | prefixes-received | remote-as | rib-version | send-queue-length | state | times-up | up-down-time | updates-received | updates-sent ]*`
  - `dynamic` —Nature of peer, dynamic or not
  - `intro`—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
  - `last-reset-reason`—Reason for most recent reset
  - `messages-received`—Total number of messages received from the peer
  - `messages-sent`—Total number of messages sent to the peer
  - `more-in-queue`—Status indicating whether any messages are waiting to be sent to this peer
  - `peer-type`—Type of BGP peer: internal, external, or confederation
  - `prefixes-received`—Number of unique prefixes received from the peer
  - `remote-as`—Remote AS number of the peer
  - `rib-version`—Last RIB version queued to be sent to this peer
  - `send-queue-length`—Number of messages queued to be sent to this peer
  - `state`—State of the BGP session

- times-up—Number of times the session has been established
- up-down-time—How long the session has been up or down
- updates-received—Number of update messages received from the peer
- updates-sent—Number of update messages sent to the peer
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- delta—Displays baselined statistics
- filter—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**l2vpn** and **all** keywords added in JUNOS Release 7.1.0.  
**vpls** keyword and *vplsName* variable added in JUNOS Release 7.1.0.  
**vpws** keyword and *vpwsName* variable added in JUNOS Release 8.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

**Related Topics**

- Monitoring BGP-Related Settings for L2VPNs

## show ip cache flow

---

**Description** Displays IP flow cache operational statistics.

**Syntax** show ip cache flow [ history | active [ brief | detail [ *interfaceType interfaceNumber* ] ] ]  
 [ *filter* ]

- history—Displays a history (running total) of cache flows since the J-Flow statistics started or were last cleared
- active—Displays information for only active flows
- brief—Displays a summary rather than detailed information for active flows
- detail—Displays detailed information for active flows
- *interfaceType*—Interface type against which all flow records are filtered
- *interfaceNumber*—Interface number against which all flow records are filtered
- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

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



## show ip cache flow aggregation

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays IP flow cache operational statistics for an aggregation cache.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Syntax</b>              | <pre>show ip cache flow aggregation <i>aggregationType</i> [ history   active [ brief   detail ] ]<br/>[ <i>filter</i> ]</pre> <ul style="list-style-type: none"><li>■ <i>aggregationType</i>—Displays information for an aggregation cache flow</li><li>■ history—Displays a history (running total) of cache flows since the J-Flow statistics started or were last cleared</li><li>■ active—Displays information for only active flows</li><li>■ brief—Displays a summary rather than detailed information for active flows</li><li>■ detail—Displays detailed information for active flows</li><li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Release Information</b> | Command introduced before JUNOS Release 8.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## show ip community-list

---

|                            |                                                                                                                                                                                                                                                          |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays community list information.                                                                                                                                                                                                                     |
| <b>Syntax</b>              | <pre>show ip community-list [ <i>listName</i> ] [ <i>filter</i> ]</pre> <ul style="list-style-type: none"><li>■ <i>listName</i>—Name of a community list</li><li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                               |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                           |

## show ip demux interface

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays information about a subscriber interface.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Syntax</b>              | <pre>show ip demux interface <i>interfaceType</i> <i>interfaceSpecifier</i> [ <i>filter</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>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## show ip dhcp-capture

---

**Description** Displays the per-interface DHCP packet capture configuration information.

**Syntax** show ip dhcp-capture [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring Duplicate MAC Addresses Use By DHCP Local Server Clients

## show ip dhcp-external binding

---

**Description** Displays binding for DHCP external clients.



**NOTE:** This command is deprecated and might be removed completely in a future release. The function provided by this command has been replaced by the **show dhcp binding** command.

**Syntax** show ip dhcp-external binding [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring DHCP Bindings (Displaying IP Address-to-MAC Address Bindings)

## show ip dhcp-external binding-id

---

**Description** Displays binding information for DHCP clients.



**NOTE:** This command is deprecated and might be removed completely in a future release. The function provided by this command has been replaced by the **show dhcp binding** command.

**Syntax** show ip dhcp-external binding-id [ *filter* ]  
■ *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring DHCP Bindings (Displaying DHCP Bindings Based on Binding ID)

## show ip dhcp-external configuration

---

**Description** Displays configuration information for the DHCP external server.

**Syntax** show ip dhcp-external configuration [ *filter* ]  
■ *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring DHCP Local Server Configuration

## show ip dhcp-external statistics

---

**Description** Displays statistics for the DHCP external server.

**Syntax** show ip dhcp-external statistics [ *delta* ] [ *filter* ]  
■ *delta*—Displays baselined statistics  
■ *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring DHCP External Server Statistics

## show ip dhcp-local

---

**Description** Displays DHCP local server configuration information, including the status of SNMP traps and client roaming support.

**Syntax** show ip dhcp-local

**Mode** Privileged Exec

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

**Related Topics**

- [Monitoring DHCP Local Server Configuration](#)

## show ip dhcp-local auth

---

**Description** Displays information about the DHCP local server authentication configuration.

**Syntax** show ip dhcp-local auth { config | statistics [ delta ] } [ filter ]

- config—Specifies that configuration information is shown
- statistics—Specifies that statistics are shown
- delta—Displays baselined statistics
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- [Monitoring DHCP Local Server Authentication Information](#)

## show ip dhcp-local binding

---

**Description** Displays DHCP local server binding information for DHCP local server clients.



**NOTE:** This command is deprecated and might be removed completely in a future release. The function provided by this command has been replaced by the **show dhcp binding** command.

**Syntax** show ip dhcp-local binding [ *ipAddress* | interface *interfaceType* *interfaceValue* ] [ *filter* ]

- *ipAddress*—IP address of the subscriber's personal computer
- *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*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

### Related Topics

- Monitoring DHCP Bindings (Local Server Binding Information)

## show ip dhcp-local duplicate-clients

---

**Description** Displays information about all, or specific, MAC addresses being used by more than one DHCP local server client.

**Syntax** show ip dhcp-local duplicate-clients [ *macAddress* ] [ *filter* ]

- *macAddress*—Specific MAC address
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

### Related Topics

- Monitoring Duplicate MAC Addresses Use By DHCP Local Server Clients

## show ip dhcp-local excluded

---

**Description** Displays IP addresses that have been excluded. These are addresses that the DHCP local server does not allocate because they are already used by devices on the subnet.

**Syntax** show ip dhcp-local excluded [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring the Maximum Number of Available Leases

## show ip dhcp-local leases

---

**Description** Displays DHCP local server lease and binding information.

**Syntax** show ip dhcp-local leases [ *ipAddress* ] [ *filter* ]

- *ipAddress*—Specific IP address
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring the Maximum Number of Available Leases

## show ip dhcp-local limits

---

**Description** Displays the maximum number of leases available for each VPI/VCI, VLAN, and Ethernet subnetwork, or for a particular interface or subinterface from the DHCP local server.

**Syntax** show ip dhcp-local limits [ interface *InterfaceType* *InterfaceSpecifier* | *filter* ]

- *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*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**interface** keyword and *interfaceType* and *interfaceSpecifier* variables added in JUNOS Release 7.1.0.

### Related Topics

- Monitoring the Maximum Number of Available Leases

## show ip dhcp-local pool

---

**Description** Displays the configuration of DHCP local pools.

**Syntax** show ip dhcp-local pool [ groups ] [ *filter* ]

- groups—Displays DHCP local server pool group information
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

### Related Topics

- Monitoring DHCP Local Address Pools

## show ip dhcp-local reserved

---

**Description** Displays the static IP address/MAC address pairs that the DHCP local server supplies in standalone mode. This command does not display address pairs that the DHCP local server supplies in non-PPP equal access mode.

**Syntax** show ip dhcp-local reserved [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring Static IP Address and MAC Address Pairs Supplied by DHCP Local Server

## show ip dhcp-local statistics

---

**Description** Displays statistics for the DHCP local server.

**Syntax** show ip dhcp-local statistics [ interface [ *interfaceType interfaceSpecifier* ] ] [ delta ] [ *filter* ]

- *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*
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring DHCP Local Server Statistics

## show ip domain-lookup

---

**Description** Displays the name servers that you have specified on the router with the **ip name-server** command.

**Syntax** show ip domain-lookup [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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



## show ip dvmrp

---

**Description** Displays DVMRP information for a virtual router.

**Syntax** show ip dvmrp [ delta ] [ filter ]

- delta—Displays baselined statistics
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip dvmrp interface

---

**Description** Displays DVMRP parameters for the specified interfaces.

**Syntax** show ip dvmrp interface  
{ { [ brief ] [ interfaceType interfaceSpecifier ] } | summary } [ delta ] [ filter ]

- brief—Specifies that a summary rather than detailed information is displayed
- delta—Displays baselined statistics
- 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*
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip dvmrp mroute

---

**Description** Displays information about DVMRP routes to multicast groups.

**Syntax** show ip dvmrp mroute [ group [ sourceAddress [ sourceMask ] ] ] [ filter ]

- group—IP address of a specific multicast group
- sourceAddress—IP address of the network on which the source resides
- sourceMask—Subnet mask
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip dvmrp neighbor

---

**Description** Displays information about DVMRP neighbors.

**Syntax** show ip dvmrp neighbor [ *interfaceType interfaceSpecifier* [ *ipAddress* ] ]  
[ *brief* ] [ *delta* ] [ *filter* ]

- *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*
- *ipAddress*—IP address of the neighbor for which information is displayed
- *brief*—Specifies that a summary rather than detailed information is displayed
- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip dvmrp route

---

**Description** Displays information about DVMRP routes.

**Syntax** show ip dvmrp route  
[ *ipAddress* [ *addressMask* ] ] [ *interfaceType interfaceSpecifier* ] [ *brief* ] [ *filter* ]

- *ipAddress*—IP address for which the best route is displayed
- *addressMask*—Subnet mask applied to IP address
- *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*
- *brief*—Displays a summary rather than detailed information
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip dvmrp routeNextHop

---

**Description** Displays information about the next hop.

**Syntax** show ip dvmrp routeNextHop  
[ *ipAddress* [ *addressMask* [ *interfaceType* *interfaceSpecifier* ] ] ] [ *filter* ]

- *ipAddress*—IP address of the network
- *addressMask*—Mask for the subnet
- *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*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip explicit-paths

---

**Description** Displays all explicit paths or a particular explicit path in a non-E-series implementation. See the **show mpls explicit-paths** command for a complete description and syntax.

## show ip extcommunity-list

---

**Description** Displays all extended-community lists or a specific extended-community list.

**Syntax** show ip extcommunity-list [ *listName* ] [ *filter* ]

- *listName*—Name of the extended-community list
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show ip flow

---

**Description** Displays configuration values for either J-Flow sampling or export.

**Syntax** show ip flow { export | sampling }

- export—Displays export configuration settings
- sampling—Displays sampling configuration settings

**Mode** Privileged Exec, User Exec

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

## show ip forwarding-table slot

---

**Description** Displays information about routing table memory, load errors, and status for the forwarding table of a specific line module.

**Syntax** show ip forwarding-table slot *slotNumber*

- *slotNumber*—Number of the slot containing the line module

**Mode** Privileged Exec, User Exec

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

## show ip http

---

**Description** Displays information about HTTP local servers, information about the parameters configured for the HTTP local server, and statistics about the connections to the HTTP local server.

**Syntax** show ip http [ scalar | server | statistics [ delta ] ] [ *filter* ]

- scalar—Displays information about the connections to the HTTP local server
- server—Displays information about the parameters configured for the HTTP local server
- statistics—Display statistics about the connections to the HTTP local server
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show ip igmp

---

**Description** Displays IGMP information for a virtual router.

**Syntax** show ip igmp [ delta ] [ filter ]

- delta—Displays baselined statistics
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip igmp groups

---

**Description** Displays information about statically joined and directly connected groups learned by means of IGMP.

**Syntax** show ip igmp groups [ count ] [ groupAddress ]  
[ interfaceType interfaceSpecifier ] [ filter ]

- count—Displays the total number of groups learned
- groupAddress—IP address of the group
- 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*
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip igmp interface

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays IGMP information for interfaces on which you enabled IGMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Syntax</b>              | <pre>show ip igmp interface [ brief   count ] [ delta ] [ interfaceType interfaceSpecifier ] [ filter ]</pre> <ul style="list-style-type: none"> <li>■ <i>brief</i>—Displays a summary of the information</li> <li>■ <i>count</i>—Displays the total number of interfaces on which you enabled IGMP</li> <li>■ <i>delta</i>—Displays baselined statistics</li> <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>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## show ip igmp mapped-oif

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays the current mappings to all mapped outgoing interfaces or to the specified outgoing interface.                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Syntax</b>              | <pre>show ip igmp mapped-oif [ interfaceType interfaceSpecifier ] [ filter ]</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>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## show ip igmp membership

---

- Description** Displays IGMP membership information for multicast groups and (S, G) channels.
- Syntax** show ip igmp membership [ *groupAddress* ] [ tracked ]  
[ *interfaceType interfaceSpecifier* ] [ *filter* ]
- *groupAddress*—Address of the group whose membership information you want to display
  - tracked—Displays interface information only for interfaces where explicit host tracking is enabled
  - *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced in JUNOS Release 8.2.0.

## show ip igmp oif-map

---

- Description** Displays all outgoing interface (OIF) maps or the OIF map for the specified interface.
- Syntax** show ip igmp oif-map [ *mapName* ] [ *filter* ]
- *mapName*—Outgoing interface multicast map name
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

## show ip igmp oif-mapping

---

- Description** Displays the mapped OIF that would be assigned to a given map name, group address, and source address.
- Syntax** show ip igmp oif-mapping *mapName* [ *groupAddress* [ *sourceAddress* ] ] [ *filter* ]
- *mapName*—Outgoing interface multicast map name
  - *groupAddress*—IP address of a multicast group
  - *sourceAddress*—IP address of a multicast source
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

## show ip igmp-proxy

---

**Description** Displays IGMP proxy parameters on a virtual router.

**Syntax** show ip igmp-proxy [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip igmp-proxy groups

---

**Description** Displays information about multicast groups that IGMP proxy interfaces reported.

**Syntax** show ip igmp-proxy groups [ *groupAddress* | count ] [ *filter* ]

- *groupAddress*—IP address of a group for which you want to display information
- count—Displays the number of groups that IGMP proxy reported
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip igmp-proxy interface

---

**Description** Displays information about the interface on which you configured IGMP proxy.

**Syntax** show ip igmp-proxy interface [ brief ] [ delta ] [ *interfaceType interfaceSpecifier* ] [ *filter* ]

- brief—Displays summarized information
- delta—Displays baselined statistics
- *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*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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



## show ip igmp ssm-mapping

---

**Description** Displays the SSM mapping state and the source list mapping associated with a multicast group address.

**Syntax** show ip igmp ssm-mapping [ *groupAddress* ] [ *filter* ]

- *groupAddress*—IP address of the group
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip inspect

---

**Description** Displays the firewall inspection lists.

**Syntax** show ip inspect all [ *delta* ] [ *filter* ]

- *all*—Displays a concatenated list of inspection lists, **show ip inspect config** output, **show ip inspect name** output, **show ip inspect session** output, and **show ip inspect statistics** output
- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip inspect config

---

**Description** Displays all inspection parameters.

**Syntax** show ip inspect config [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip inspect name

---

**Description** Displays information about the specified inspection list.

**Syntax** show ip inspect name *listName* [ *delta* ] [ *filter* ]

- *listName*—Name of the inspection list for which you want to view rules
- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip inspect session

---

**Description** Displays current sessions being tracked by the stateful firewall.

**Syntax** show ip inspect session [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip inspect statistics

---

**Description** Displays the firewall-related statistics.

**Syntax** show ip inspect statistics [ *delta* ] [ *filter* ]

- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip interface

---

**Description** Displays current state of all IP interfaces or the IP interfaces you specify. The default is all interface types and all interfaces.

**Syntax** `show ip interface [ vrf vrfName ]  
{ { [ brief | detail | other | show-virtual-router [ virtualRouterName ] }  
[ interfaceType interfaceSpecifier ] } | summary } [ delta ] [ filter ]`

- *vrfName*—Name of the VRF
- *brief*—Displays a brief summary of IP status and configuration information
- *detail*—Shows a detailed display of IP status and configuration information
- *other*—Shows hidden interfaces and routes to the local address that are used internally so that from a given CE you can now ping the local address of any VRF that has a VPN overlapping a VPN to which the CE belongs
- *interfaceType*—Interface type; see *Interface Types and Specifiers* in *About This Guide*
- *virtualRouterName*—Name of the virtual router
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *summary*—Shows a detailed summary of IP status and configuration
- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**show-virtual-router** keyword and *virtualRouterName* variable added in JUNOS Release 7.3.0.  
**other** keyword added in JUNOS Release 8.0.0.

### Related Topics

- Monitoring the QoS Configuration of IP Interfaces
- Monitoring the Policy Configuration of IP Interfaces
- Monitoring the Packet Mirroring Configuration of IP Interfaces

## show ip interface shares

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays information about shared IP interfaces for all IP interfaces or for the IP interfaces you specify. The default is all interface types and all interfaces.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Syntax</b>              | <pre>show ip interface shares [ vrf vrfName ] [ brief   detail ] [ interfaceType interfaceSpecifier ] [ delta ] [ filter ]</pre> <ul style="list-style-type: none"> <li>■ <i>vrfName</i>—Name of the VRF</li> <li>■ <i>brief</i>—Displays a brief summary of IP status and configuration information</li> <li>■ <i>detail</i>—Shows a detailed display of IP status and configuration information</li> <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>delta</i>—Displays baselined statistics</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## show ip interface vrf

---

|                            |                                                                                                                                                                                                                               |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays current state of all interfaces on the specified VRF.                                                                                                                                                                |
| <b>Syntax</b>              | <pre>show ip interface vrf vrfName [ filter ]</pre> <ul style="list-style-type: none"> <li>■ <i>vrfName</i>—Name of the VRF</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                    |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                |

## show ip local alias

---

|                            |                                                                                                                                                                                                                                              |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays information about the aliases for local address pools configured on your system.                                                                                                                                                    |
| <b>Syntax</b>              | <pre>show ip local alias [ aliasName ] [ filter ]</pre> <ul style="list-style-type: none"> <li>■ <i>aliasName</i>—Name of a specific alias</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec                                                                                                                                                                                                                              |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                               |

## show ip local pool

---

**Description** Displays information about the local address pools configured on the router.

**Syntax** show ip local pool [ *poolName* | statistics [ delta ] ] [ *filter* ]

- *poolName*—Name of a specific local address pool
- statistics—Specifies that local pool statistics are to be shown
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show ip local shared-pool

---

**Description** Displays information about the shared local address pools configured on the router.

**Syntax** show ip local shared-pool [ *poolName* ] [ *filter* ]

- *poolName*—Name of a specific shared local address pool
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show ip mac-validate interface

---

**Description** Displays the status of MAC address validation on the physical interface that you specify.

**Syntax** show ip mac-validate interface *interfaceType* *interfaceSpecifier* ] [ *filter* ]

- *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*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show ip match-policy-list

---

**Description** Displays all the policy lists or the policy list that you specify. The default is all policy lists.

**Syntax** show ip match-policy-list [ *listName* ] [ *filter* ]

- *listName*—Name of a policy list
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show ip mirror interface

---

**Description** Displays information about the interface mirroring configuration of all interfaces, or for a specific interface on which mirroring is enabled.



**NOTE:** This command is deprecated and might be removed completely in a future release. The function provided by this command has been replaced by the **show secure policy-list** command.

**Syntax** show ip mirror interface [ *vrf vrfName* ] [ *interfaceType interfaceSpecifier* ]

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

**Mode** Privileged Exec

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

### Related Topics

- Monitoring the Packet Mirroring Configuration of IP Interfaces

## show ip mobile binding

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays the contents of the binding table for the Mobile IP home agent in the current virtual router. By default, all mobility bindings are displayed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Syntax</b>              | <pre>show ip mobile binding [ nai { user@realm   @realm   @ }   ipAddress   summary ] [ filter ]</pre> <ul style="list-style-type: none"><li>■ <i>user@realm</i>—Name of the user for the mobile node specification when the <b>nai</b> keyword is specified, in the format <i>user@realm</i>, where <i>realm</i> is the domain name</li><li>■ <i>@realm</i>—Name of the user for the mobile node specification when the <b>nai</b> keyword is specified, in the format <i>@realm</i>, where <i>realm</i> is the domain name</li><li>■ <i>@</i>—Name of the user for the mobile node specification when the <b>nai</b> keyword is specified, in the format <i>@</i></li><li>■ <i>ipAddress</i>—IP address of the home agent</li><li>■ <i>summary</i>—Displays aggregate information about the binding table</li><li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Release Information</b> | Command introduced in JUNOS Release 9.0.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## show ip mobile home-agent

---

|                            |                                                                                                                                                                                                                       |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays configuration information for the Mobile IP home agent in the current virtual router. This information includes access list name, registration lifetime, replay protection time, and reverse tunnel setting. |
| <b>Syntax</b>              | <pre>show ip mobile home-agent</pre>                                                                                                                                                                                  |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                            |
| <b>Release Information</b> | Command introduced in JUNOS Release 9.0.0.                                                                                                                                                                            |

## show ip mobile host

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays configuration information for all or specified mobile nodes or domain users.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Syntax</b>              | <pre>show ip mobile host [ nai { user@realm   @realm   @ }   ipAddress ] [ filter ]</pre> <ul style="list-style-type: none"> <li>■ <i>user@realm</i>—Name of the user for the mobile node specification when the <b>nai</b> keyword is specified, in the format <i>user@realm</i>, where <i>realm</i> is the domain name</li> <li>■ <i>@realm</i>—Name of the user for the mobile node specification when the <b>nai</b> keyword is specified, in the format <i>@realm</i>, where <i>realm</i> is the domain name</li> <li>■ <i>@</i>—Name of the user for the mobile node specification when the <b>nai</b> keyword is specified, in the format <i>@</i></li> <li>■ <i>ipAddress</i>—IP address of the home agent</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Release Information</b> | Command introduced in JUNOS Release 9.0.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## show ip mobile profile

---

|                            |                                                                                                                    |
|----------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays the name of the interface profile associated with the Mobile IP home agent in the current virtual router. |
| <b>Syntax</b>              | <pre>show ip mobile profile</pre>                                                                                  |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                         |
| <b>Release Information</b> | Command introduced in JUNOS Release 9.0.0.                                                                         |

## show ip mobile secure foreign-agent

---

|                            |                                                                                                                                                                                                                                                                     |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays the security associations configured for all Mobile IP foreign agents in the current virtual router.                                                                                                                                                       |
| <b>Syntax</b>              | <pre>show ip mobile secure foreign-agent [ ipAddress ] [ filter ]</pre> <ul style="list-style-type: none"> <li>■ <i>ipAddress</i>—IP address of the foreign agent</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                          |
| <b>Release Information</b> | Command introduced in JUNOS Release 9.0.0.                                                                                                                                                                                                                          |



## show ip mobile secure host

---

**Description** Displays the security associations configured for all mobile nodes or domains in the current virtual router.

**Syntax** show ip mobile secure host [ nai { *user@realm* | *@realm* | *@* } | *ipAddress* ] [ *filter* ]

- *user@realm*—Name of the user for the mobile node specification when the **nai** keyword is specified, in the format *user@realm*, where *realm* is the domain name
- *@realm*—Name of the user for the mobile node specification when the **nai** keyword is specified, in the format *@realm*, where *realm* is the domain name
- *@*—Name of the user for the mobile node specification when the **nai** keyword is specified, in the format *@*
- *ipAddress*—IP address of the foreign agent
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip mobile traffic

---

**Description** Displays protocol statistics for the Mobile IP home agent traffic, including advertisements, solicitations, registrations, registration errors, and security violations.

**Syntax** show ip mobile traffic [ delta ]

- *delta*—Displays baselined statistics

**Mode** Privileged Exec, User Exec

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

## show ip mroute

---

**Description** Displays information about all or specified multicast routes.

**Syntax** `show ip mroute [ groupIpAddress [ sourceIpAddress ] ]`  
`[ summary | count | statistics ] [ active [ bandwidth ] ] [ filter ]`

- *groupIpAddress*—IP address of a multicast group
- *sourceIpAddress*—IP address of a multicast source
- *summary*—Displays brief information about the multicast routes
- *count*—Displays the number of groups and sources
- *statistics*—Displays statistics for packets received through multicast routes that the router has added to the multicast routing table and established on the appropriate line modules
- *active*—Displays active mroutes
- *bandwidth*—Admission bandwidth for active multicast routes that is greater than the specified bandwidth threshold; default is 4000 bps
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip multicast protocols

---

**Description** Displays information about the multicast protocols enabled on the router.

**Syntax** `show ip multicast protocols [ brief ] [ filter ]`

- *brief*—Displays a summary rather than detailed information
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip multicast routing

---

**Description** Displays information about the status of multicast routing on the router.

**Syntax** `show ip multicast routing`

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip nat inside rule

---

**Description** Displays NAT inside rule information.

**Syntax** show ip nat inside rule [ *accessListName* ] [ *filter* ]

- *accessListName*—Name of the access list
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** User Exec

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

## show ip nat outside rule

---

**Description** Displays NAT outside rule information.

**Syntax** show ip nat outside rule [ *accessListName* ] [ *filter* ]

- *accessListName*—Name of the access list
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** User Exec

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

## show ip nat pool

---

**Description** Displays NAT address pool information.

**Syntax** show ip nat pool [ *poolName* ] [ *filter* ]

- *poolName*—Name of the pool
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** User Exec

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

## show ip nat statistics

---

**Description** Displays internal NAT statistics.

**Syntax** show ip nat statistics [ global [ pool ] | pool [ *poolName* ] ] [ *filter* ]

- *global*—Displays system-wide statistics
- *pool*—Displays address pool statistics
- *poolName*—Name of the pool
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** User Exec

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

## show ip nat translations

---

**Description** Displays translations that reside in the NAT translation table.

**Syntax** show ip nat translations [ static | dynamic ] [ gre | icmp | tcp | udp ]\* [ verbose ]  
[ filter ]

show ip nat translations inside *insideLocalIpAddress* [ *localPort* ]  
[ *insideGlobalIpAddress* [ *globalPort* ] ] [ verbose ] [ filter ]

show ip nat translations outside *outsideGlobalIpAddress* [ *globalPort* ]  
[ *outsideLocalIpAddress* [ *localPort* ] ] [ verbose ] [ filter ]

- static—Displays static translations
- dynamic—Displays dynamic translations
- tcp—Displays TCP port translations
- udp—Displays UDP port translations
- icmp—Displays ICMP port translations
- gre—Displays GRE translations
- \*—Indicates that you can specify one or more protocol keywords, in any order, in a list in the command line
- inside—Specifies an inside address
- *insideLocalIpAddress*—Inside local IP address
- *localPort*—Local port value
- *insideGlobalIpAddress*—Inside global IP address
- *globalPort*—Global port value
- outside—Specifies an outside address
- *outsideGlobalIpAddress*—Inside global IP address
- *outsideLocalIpAddress*—Inside local IP address
- verbose—Additionally displays the time since creation and time since last use for each translation entry
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** User Exec

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

## show ip nfs

---

**Description** Displays information about the interface that the current virtual router uses to exchange messages with the NFS server.

**Syntax** show ip nfs [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip ospf

---

**Description** Displays general information about OSPF routing processes.

**Syntax** show ip ospf [ vrf *vrfName* ] [ delta ] [ *filter* ]

- *vrfName*—Name of the VRF
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip ospf border-routers

---

**Description** Displays routing table entries for area border and AS boundary routers.

**Syntax** show ip ospf border-routers [ vrf *vrfName* ] [ *filter* ]

- *vrfName*—Name of the VRF
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip ospf database

---

**Description** Displays the full IP OSPF database, a summary of the database, the number of LSAs available in each category, or the number of LSAs that have reached the maximum age in each category.

**Syntax** `show ip ospf database [ vrf vrfName ] [ database-summary | area areaId | areaIdInt | { asbr-summary | external | network | nssa-external | router | summary | opaque-area | link-local } [ ipAddress | internal ] ] [ filter ]`

- *vrfName*—Name of the VRF
- database-summary—Displays summary of the database
- *areaId*—Area ID as an IP address
- *areaIdInt*—Area ID as an integer
- asbr-summary—Displays AS boundary router summary link states
- external—Displays External link states
- network—Displays network link states
- nssa-external—Displays NSSA external link states
- router—Displays router link states
- summary—Displays network summary link states
- opaque-area—Displays traffic-engineering opaque LSA states
- link-local—Displays link local link states
- *ipAddress*—Link-state IP address
- internal—Displays internal LSA information
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*areaId* and *areaIdInt* variables added in JUNOS Release 7.3.0.

## show ip ospf interface

---

**Description** Displays a list of OSPFv2 interfaces.

**Syntax** show ip ospf interface [ vrf *vrfName* ] [ *interfaceType interfaceSpecifier* ] [ *filter* ]

- *vrfName*—Name of the VRF
- *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*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip ospf internal-statistics

---

**Description** Displays internal OSPFv2 statistics.

**Syntax** show ip ospf internal-statistics [ vrf *vrfName* ] [ *filter* ]

- *vrfName*—Name of the VRF
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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



## show ip ospf neighbors

---

**Description** Displays a list of OSPF neighbors.

**Syntax** show ip ospf neighbors [ vrf *vrfName* ] [ history ] [ *neighborAddress* ]  
[ *interfaceType* *interfaceSpecifier* ] [ *filter* ]

- *vrfName*—Name of the VRF
- history—Displays history of events for the listed neighbors
- *neighborAddress*—Router ID of a specified neighbor
- *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*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip ospf remote-neighbor interface

---

**Description** Displays interfaces associated with OSPF remote neighbors.

**Syntax** show ip ospf remote-neighbor [ *ipAddress* ] interface [ vrf *vrfName* ] [ *filter* ]

- *ipAddress*—Source IP address of a remote neighbor
- *vrfName*—Name of the VRF
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip ospf spf-log

---

**Description** Displays how often and why the router has run a full SPF calculation.

**Syntax** show ip ospf spf-log [ vrf *vrfName* ] [ *filter* ]

- *vrfName*—Name of the VRF
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip ospf virtual-links

---

**Description** Displays the parameters and the current state of OSPF virtual links. A virtual link is a logical connection between two routers. To establish or maintain connectivity to the backbone, you can configure virtual links through nonbackbone areas. Virtual links serve to connect physically separate components of the backbone—the two endpoints of a virtual link area.

**Syntax** `show ip ospf virtual-links [ vrf vrfName ] [ filter ]`

- *vrfName*—Name of the VRF
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip pim

---

**Description** Displays general PIM router-level information.

**Syntax** `show ip pim`

**Mode** Privileged Exec, User Exec

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

## show ip pim auto-rp

---

**Description** Displays information about rendezvous point routers and the RP mapping agent in a PIM sparse mode environment.

**Syntax** `show ip pim auto-rp [ filter ]`

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip pim bsr

---

**Description** Displays BSR information and the group prefixes for which the local router is a C-RP in a PIM sparse mode environment.

**Syntax** `show ip pim bsr [ filter ]`

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip pim data-mdt

---

**Description** Displays the configuration and status of a data MDT. There is no **no** version.

**Syntax** show ip pim data-mdt [ senders | receivers ] [ group *groupIPAddress* ]  
[ source *sourceIPAddress* ] [ summary | count ]

- senders—Displays data MDTs on which the provider edge transmits data
- receivers—Displays data MDTs on which the provider edge receives data
- *groupIPAddress*—IP address of the group
- *sourceIPAddress*—IP address of the source
- summary—Displays a summary of configuration for each data MDT
- count—Displays the number of data MDTs

**Mode** Privileged Exec

**Release Information** Command introduced in JUNOS Release 8.2.0.

## show ip pim dense-mode sg-state

---

**Description** Displays information for each SG entry that PIM dense mode knows about.

**Syntax** show ip pim dense-mode sg-state  
[ group *groupAddress* [ source *sourceAddress* ] ] [ *filter* ]

- *groupAddress*—IP address of a multicast group
- *sourceAddress*—IP address of a multicast source
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip pim interface

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays information about each PIM dense mode interface.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Syntax</b>              | <pre>show ip pim interface { summary   [ <i>interfaceType</i> <i>interfaceSpecifier</i> ] [ count ] [ filter ] }</pre> <ul style="list-style-type: none"> <li>■ <i>summary</i>—Displays the number of configured, enabled, and disabled PIM dense mode, PIM sparse mode, and PIM sparse-dense mode interfaces</li> <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>count</i>—Displays the number of incoming and outgoing PIM control packets</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## show ip pim neighbor

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays information about each PIM neighbor that the router has discovered.                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Syntax</b>              | <pre>show ip pim neighbor [ <i>interfaceType</i> <i>interfaceSpecifier</i> ] [ filter ]</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>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## show ip pim remote-neighbor

---

**Description** Displays information about all PIM remote neighbors or the specified remote neighbor.



**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** show ip pim remote-neighbor [ *ipAddress* ] [ *count* ] [ *filter* ]

- *ipAddress*—IP address of a remote neighbor
- *count*—Display the number of remote neighbors
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show ip pim rp

---

**Description** Displays information about PIM group-to-RP mappings.

**Syntax** show ip pim rp { *groupAddress* | *mapping* } [ *filter* ]

- *groupAddress*—Address of a group for which you want to view group-to-RP mappings
- *mapping*—Displays all group-to-RP mappings that the router has recorded
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip pim rp-hash

---

**Description** Shows which RP a multicast group is using.

**Syntax** show ip pim rp-hash *groupAddress* [ *filter* ]

- *groupAddress*—IP address of multicast group for which you want to view the RP
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip pim sparse-mode sg-state

---

**Description** Displays information for each SG entry that PIM sparse mode knows about.

**Syntax** `show ip pim sparse-mode sg-state [ group groupAddress [ source sourceAddress ] | rp rpAddress ] [ count ] [ filter ]`

- *groupAddress*—IP address of a multicast group
- *sourceAddress*—IP address of a multicast source
- *rpAddress*—IP address of an RP router
- *count*—Displays the number of SG entries
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip pim sparse-mode unicast-route

---

**Description** Displays the unicast routes that PIM sparse mode is using.

**Syntax** `show ip pim sparse-mode unicast-route [ routeAddress routeAddress routeMask ] [ count ] [ filter ]`

- *routeAddress*—IP address associated with a unicast route
- *routeMask*—Network mask associated with a unicast route
- *count*—Shows the number of unicast routes that PIM sparse mode is using.
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip pim spt-threshold

---

**Description** Displays the threshold for switching to the shortest-path-tree at a PIM designated router.

**Syntax** `show ip pim spt-threshold [ filter ]`

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip prefix-list

---

**Description** Displays information about prefix lists.

**Syntax** show ip prefix-list [ *listName* [ seq *seqNum* | *ipPrefix* [ longer | first-match ] ] ] [ *filter* ]

To display summary or detail info:

show ip prefix-list { summary | detail } [ *listName* ] [ *filter* ]

- *listName*—Prefix list for which information is displayed
- *seqNum*—Sequence number of prefix list entry for which information is displayed
- *ipPrefix*—Prefix in the format *IPbaseaddress/length*; for example, 10.10.10.0/24
- longer—Displays all entries for a prefix that are equal to or more specific than the specified prefix
- first-match—Displays only an entry that matches the specified prefix
- *filter*—See *Filtering show Commands* in *About This Guide*
- summary—Displays summary information
- detail—Displays detailed information

**Mode** Privileged Exec

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

## show ip prefix-tree

---

**Description** Displays information about prefix trees.

**Syntax** show ip prefix-tree [ *treeName* [ *ipPrefix* [ longer ] ] ] [ *filter* ]

To display summary or detail info:

show ip prefix-tree { summary | detail } [ *treeName* ] [ *filter* ]

- *treeName*—Name of the prefix tree
- *ipPrefix*—Prefix in the format *IPbaseaddress/length*; for example, 10.10.10.0/24
- longer—Displays all entries for a prefix that are equal to or more specific than the specified prefix
- *filter*—See *Filtering show Commands* in *About This Guide*
- summary—Displays summary information
- detail—Displays detailed information

**Mode** Privileged Exec

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

## show ip profile

---

**Description** Displays information about a specific IP profile.

**Syntax** show ip profile *profileName* [ *filter* ]

- *profileName*—Name of the profile you want to display
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip protocols

---

**Description** Displays detailed information about IP protocols currently configured on the router.

**Syntax** show ip protocols [ *vrf vrfName* ] [ *summary* ] [ *filter* ]

- *vrfName*—Displays information about protocols only for the specified VRF
- *summary*—Displays only a list of currently configured protocols
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip redistribute

---

**Description** Displays configured route redistribution policy.

**Syntax** show ip redistribute [ *vrfName* ] [ *filter* ]

- *vrfName*—Name of the VRF
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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



## show ip rip

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays limited RIP general status information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Syntax</b>              | <pre>show ip rip [ vrf <i>vrfName</i> ] [ brief ] [ ifconfig ] [ <i>ipAddress</i> ] [ <i>filter</i> ]</pre> <ul style="list-style-type: none"><li>■ <i>vrfName</i>—Name of the VRF</li><li>■ <i>brief</i>—Displays limited information</li><li>■ <i>ifconfig</i>—Displays address and interface configuration information instead of the default operational data</li><li>■ <i>ipAddress</i>—Displays information only for specific RIP network</li><li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## show ip rip database

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays route entries in the RIP routing table (RIP database).                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Syntax</b>              | <pre>show ip rip database [ vrf <i>vrfName</i> ] [ all ] [ inactive ] [ <i>filter</i> ]</pre> <ul style="list-style-type: none"><li>■ <i>vrfName</i>—Name of the VRF</li><li>■ <i>all</i>—Displays active and inactive routes learned through RIP updates</li><li>■ <i>inactive</i>—Displays routes the router will discard in the immediate future</li><li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                      |

## show ip rip network

---

|                            |                                                                                                                                                                                                                                                |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays the networks associated with the RIP routing process.                                                                                                                                                                                 |
| <b>Syntax</b>              | <pre>show ip rip network [ vrf <i>vrfName</i> ] [ <i>filter</i> ]</pre> <ul style="list-style-type: none"><li>■ <i>vrfName</i>—Name of the VRF</li><li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                     |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                 |

## show ip rip peer

---

**Description** Displays all RIP neighbors, with limited information about each peer.

**Syntax** show ip rip peer [ vrf *vrfName* ] [ *filter* ]

- *vrfName*—Name of the VRF
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip rip statistics

---

**Description** Displays global statistics associated with the RIP routing process. If you specify an IP address, additionally displays statistics for that interface.

**Syntax** show ip rip statistics [ vrf *vrfName* ] [ *ipAddress* ] [ delta ] [ *filter* ]

- *vrfName*—Name of the VRF
- *ipAddress*—Address of IP interface where RIP is running; identifies RIP network
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip rip summary-address

---

**Description** Displays RIP summary addresses.

**Syntax** show ip rip summary-address [ vrf *vrfName* ] [ *ipAddress* [ *ipMask* ] ] [ *filter* ]

- *vrfName*—Name of the VRF
- *ipAddress*—Address of IP interface where RIP is running
- *ipMask*—IP mask of the specific address
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip route

---

**Description** Displays current state of the routing table.

**Syntax** `show ip route [ vrf vrfName ] [ destination [ ipMask ] [ detail ] ] [ all ] [ protocol ] [ filter ]`

To display summary information:

`show ip route summary [ vrf vrfName ] [ filter ]`

- *vrfName*—Displays the contents of the IP routing table associated with a VRF
- *destination*—Specifies the IP address or domain name of the host to show
- *ipMask*—IP mask of the specific address to show
- *detail*—Displays detailed information about the specific prefix; currently shows the tag added by means of the **ip route** command
- *all*—Displays all routes in the routing table inserted from all protocols (not just the *best* routes that are used for forwarding)
- *protocol*—One of the following protocols for which you want to display the best routes in the routing table; no routes are displayed if routes for the specified protocol are not present in the routing table
  - *access*—Displays the best access-server routes (BGP) in the routing table
  - *access-internal*—Displays the best access-internal routes in the routing table
  - *bgp*—Displays the best BGP routes in the routing table
  - *bgp-tunnel*—Displays the best BGP tunnel routes in the routing table
  - *dvmrp*—Displays the best DVMRP routes in the routing table
  - *isis*—Displays the best IS-IS routes in the routing table
  - *ldp*—Displays the best LDP tunnel routes in the routing table
  - *local*—Displays the best locally connected routes in the routing table
  - *mbgp*—Displays the best MBGP routes in the routing table
  - *ospf*—Displays the best OSPF routes owned by in the routing table
  - *other*—Displays the best internal control routes in the routing table
  - *rip*—Displays the best RIP routes in the routing table
  - *rsvp*—Displays the best RSVP tunnel routes in the routing table
  - *static*—Displays the best static routes added by network management to the routing table
  - *static-rpf*—Displays the best static RPF routes added by network management to the routing table
- *summary*—Displays summary counters for all routes in the IP routing table
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip route slot

---

**Description** Displays the interface and next hop for an IP address in the routing table of a line module.

**Syntax** show ip route slot *slotNumber* [ vrf *vrfName* ] *ipAddress*

- *slotNumber*—Number of slot containing the line module
- *vrfName*—Name of the VRF
- *ipAddress*—IP address to look up in the routing table

**Mode** Privileged Exec, User Exec

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

## show ip rpf-route

---

**Description** Displays routes that the router can use to verify source addresses in multicast packets.

**Syntax** `show ip rpf-route [ vrf vrfName ] [ destination [ ipMask ] [ detail ] ]  
[ all ] [ protocol ] [ filter ]`

- *vrfName*—Displays the contents of the IP routing table associated with a VRF
- *destination*—Specifies the IP address or domain name of the host to show
- *ipMask*—IP mask of the specific address to show
- *detail*—Displays detailed information about the specific prefix; currently shows the tag added by means of the **ip route** command
- *all*—Displays all routes in the routing table inserted from all protocols (not just the *best* routes that are used for forwarding)
- *protocol*—One of the following protocols for which you want to display the best routes in the routing table; no routes are displayed if routes for the specified protocol are not present in the routing table
  - *access*—Displays the best access-server routes (BGP) in the routing table
  - *access-internal*—Displays the best access-internal routes in the routing table
  - *bgp*—Displays the best BGP routes in the routing table
  - *bgp-tunnel*—Displays the best BGP tunnel routes in the routing table
  - *dvmrp*—Displays the best DVMRP routes in the routing table
  - *isis*—Displays the best IS-IS routes in the routing table
  - *ldp*—Displays the best LDP tunnel routes in the routing table
  - *local*—Displays the best locally connected routes in the routing table
  - *mbgp*—Displays the best MBGP routes in the routing table
  - *ospf*—Displays the best OSPF routes owned by in the routing table
  - *other*—Displays the best internal control routes in the routing table
  - *rip*—Displays the best RIP routes in the routing table
  - *rsvp*—Displays the best RSVP tunnel routes in the routing table
  - *static*—Displays the best static routes added by network management to the routing table
  - *static-rpf*—Displays the best static RPF routes added by network management to the routing table
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip service-profile

---

**Description** Displays information for IP service profiles.

**Syntax** show ip service-profile [ *profileName* ]

- *profileName*—Name of a specific service profile

**Mode** Privileged Exec

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

## show ip socket statistics

---

**Description** Displays BSD socket-emulation statistics.

**Syntax** show ip socket statistics [ *detailed* ] [ *filter* ]

- *detailed*—Displays detailed statistics for each TCP socket
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip ssh

---

**Description** Displays the current state of the SSH server.

**Syntax** show ip ssh [ *detail* ] [ *filter* ]

- *detail*—Displays detailed information
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show ip static

---

**Description** Displays general status information for static routes added by network management to the routing table.

**Syntax** `show ip static [ vrfName ] [ ipAddress ipMask [ all ] ] [ filter ]`

- *vrfName*—Name of the VRF
- *ipAddress*—IP address to show
- *ipMask*—IP mask of the specific address to show
- *all*—Displays all routes starting at the specified prefix
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip-subscriber

---

**Description** Displays information about the active IP subscribers that are created by subscriber manager.

**Syntax** `show ip-subscriber [ subscriberId | interface interfaceType interfaceSpecifier | username userName | virtual-router vrName | summary ] [ detail ] [ filter ]`

- *subscriberId*—ID of the IP subscriber
- *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*
- *userName*—Username of a specific active subscriber
- *vrName*—Name of the virtual router to which interfaces of active IP subscribers are bound
- *summary*—Displays the number of IP subscribers for each virtual router
- *detail*—Displays detailed information about IP subscribers
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

**Release Information** Command introduced in JUNOS Release 8.1.0.  
*filter* variable added in JUNOS Release 9.1.0.

## show ip traffic

---

**Description** Displays statistics about IP traffic.

**Syntax** show ip traffic [ *vrfName* ] [ delta ] [ *filter* ]

- *vrfName*—Name of the VRF
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip tunnel reassembly statistics

---

**Description** Displays statistics on the reassembly of fragmented tunnel packets within the current virtual router context.

**Syntax** show ip tunnel reassembly statistics [ detail ] [ all ] [ delta ] [ *filter* ]

- detail—Displays detailed reassembly statistics that include packets reassembled or discarded per protocol
- all—Displays reassembly statistics for all virtual routers on the router
- delta—Displays baselined reassembly statistics
- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**delta** keyword added in JUNOS Release 8.0.0.



## show ip tunnel-route

---

**Description** Displays current state of the IPv4 tunnel routing table.

**Syntax** `show ip tunnel-route [ vrf vrfName ] [ destination [ ipMask ] [ detail ] ]`  
`[ all ] [ protocol ] [ filter ]`

- *vrfName*—Contents of the IPv4 tunnel routing table associated with a VRF
- *destination*—IP address or domain name of the host to show
- *ipMask*—IP mask of the specific address to show
- detail—Displays detailed information about the specific prefix
- all—Displays all routes in the IPv4 tunnel routing table inserted from all protocols, not just the best routes
- *protocol*—One of the following protocols for which you want to display the best route or all routes in the tunnel routing table; no routes are displayed if routes for the specified protocol are not present in the tunnel routing table



**NOTE:** Other protocol options are available in the CLI, but they are not applicable to the tunnel routing table.

- bgp-tunnel—Displays the BGP tunnel routes in the tunnel routing table
- ldp—Displays the LDP tunnel routes in the tunnel routing table
- rsvp—Displays the RSVP tunnel routes in the tunnel routing table
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip udp statistics

---

**Description** Displays UDP statistics.

**Syntax** `show ip udp statistics [ vrfName ] [ delta ] [ filter ]`

- *vrfName*—Name of the VRF
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip vrf

---

**Description** Displays information for a specified VRF and its associated interfaces or all VRFs and their associated interfaces for the current virtual router context.

**Syntax** `show ip vrf [ [ detail ] [ vrfName ] | interfaces [ detail ] ] [ filter ]`

- `detail`—Displays detailed VRF information
- `vrfName`—Name of the VRF for which information is displayed
- `interfaces`—Displays all VRFs in the virtual router and their associated interfaces
- `filter`—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ip vrrp

---

**Description** Displays information for the VRID configured on the specified interface, all VRIDs configured on the specified interface, or summary information.

**Syntax** `show ip vrrp [ brief ] [ interface interfaceType interfaceSpecifier [ vrid ] ] [ filter ]`

To display summary information:  
`show ip vrrp summary [ filter ]`

- `brief`—Displays a brief summary of VRIDs
- `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*
- `vrid`—Virtual router ID
- `filter`—See *Filtering show Commands* in *About This Guide*
- `summary`—Displays a summary count on all configured VRIDs

**Mode** Privileged Exec

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

## show ip vrrp neighbor

---

**Description** Displays summary of all neighbors known to the VRRP router configured on the specified interface. A neighbor—a router that shares a given VRID with the VRRP router—is known to the VRRP router only when the neighbor becomes a master for an IP address and sends VRRP advertisements to that effect. If a router sharing the VRID has not yet become a master, then the local router remains unaware of this neighbor and this command does not display that neighbor.

**Syntax** show ip vrrp neighbor [ interface *interfaceType* *interfaceSpecifier* [ *vrid* ] ] [ *filter* ]

- *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*
- *vrid*—Virtual router ID
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show ip vrrp statistics

---

**Description** Displays global statistics, interface statistics, or statistics per interface and VRID.

**Syntax** show ip vrrp statistics [ global | [ interface *interfaceType* *interfaceSpecifier* [ *vrid* ] ] [ delta ] [ *filter* ]

- global—Displays global counters
- *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*
- *vrid*—Virtual router ID
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show ip vrrp tracked-objects

---

**Description** Displays VRRP tracked objects.

**Syntax** show ip vrrp tracked-objects [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show ipsec ca identity

---

**Description** Displays information for a specific IKE CA identity or for all IKE CA identities that are configured on the E-series router and that support the online digital certificate process.

**Syntax** show ipsec ca identity { *name* | all } [ *filter* ]

- *name*—Name of specific CA
- all—Displays information for all CAs
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipsec certificates

---

**Description** Displays the IKE certificates configured on the E-series router.



**NOTE:** This command is replacing the **show ike certificates** command. The **show ike certificates** command may be removed completely in a future release.

**Syntax** show ipsec certificates { all | *crl* | *peer* | *public-certs* | *root-cas* } [ *hex-format* ] [ *filter* ]

- all—Displays all certificates configured on the router
- *crl*—Displays certificate revocation lists
- *peer*—Displays peer certificates
- *public-certs*—Displays public certificates
- *root-cas*—Displays root CA certificates
- *hex-format*—Displays certificate data in hexadecimal format
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipsec identity

---

**Description** Displays the IKE identity configuration.



**NOTE:** This command is replacing the **show ike identity** command. The **show ike identity** command may be removed completely in a future release.

**Syntax** show ipsec identity [ *filter* ]  
■ *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipsec ike-configuration

---

**Description** Displays a summary of the IKE configuration.



**NOTE:** This command is replacing the **show ike configuration** command. The **show ike configuration** command may be removed completely in a future release.

**Syntax** show ipsec ike-configuration [ *filter* ]  
■ *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipsec ike-policy-rule

---

**Description** Displays configuration of IKE phase 1 policy rules.



**NOTE:** This command is replacing the **show ike policy-rule** command. The **show ike policy-rule** command may be removed completely in a future release.

**Syntax** show ipsec ike-policy-rule [ *filter* ]  
■ *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

## show ipsec ike-sa

**Description** Displays IKE phase 1 SAs running on the router.



**NOTE:** This command is replacing the **show ike sa** command. The **show ike sa** command may be removed completely in a future release.

**Syntax** show ipsec ike-sa [ *filter* ]

- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

## show ipsec key mypubkey rsa

**Description** Displays the ISAKMP/IKE public key configured on the router. The public key is generated as part of a public/private key pair used to perform RSA authentication for IKE SA negotiations.

**Syntax** show ipsec key mypubkey rsa [ *filter* ]

- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

## show ipsec key pubkey-chain rsa

**Description** Displays the ISAKMP/IKE public key that a remote peer uses for RSA authentication without the need for a digital certificate.

**Syntax** show ipsec key pubkey-chain rsa { *summary* | address *ipAddress* | name *identityString* } [ *filter* ]

- *summary*—Displays a brief summary of the remote peers for which peer public keys are configured on the router
- *ipAddress*—IP address of the peer for which the public key can be used, in 32-bit dotted decimal format (for example, 192.168.32.2)
- *identityString*—Identity of the remote peer for which the public key can be used, either in fully qualified domain name (FQDN) format (for example, group003.customer535.isp.net) or in FQDN format preceded by an optional *user@* specification (for example, tsmith@group003.customer535.isp.net); maximum of 80 characters
- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

## show ipsec lifetime

---

**Description** Displays the configured default lifetime of phase II SAs.

**Syntax** show ipsec lifetime

**Mode** Privileged Exec

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

## show ipsec local-endpoint

---

**Description** Displays the address and transport virtual router of local endpoints.

**Syntax** show ipsec local-endpoint [ transport-virtual-router *transportVirtualRouter* ]

- *transportVirtualRouter*—Name of virtual router that includes source or destination addresses or both assigned to tunnel interfaces

**Mode** Privileged Exec

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

## show ipsec option

---

**Description** Displays the dead peer detection (DPD), Network Address Translation Traversal (NAT-T) status (enabled or disabled), and invalid cookie transmission status (enabled or disabled) for the current virtual router.

**Syntax** show ipsec option

**Mode** Privileged Exec, User Exec

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

## show ipsec transform-set

---

**Description** Displays transform sets configured on the router.

**Syntax** show ipsec transform-set [ *transformSetName* ]

- *transformSetName*—Name of a transform set

**Mode** Privileged Exec

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

## show ipsec transport interface

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays all details, including statistics, of IPSec transport connections that match the specified criteria.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Syntax</b>              | <pre>show ipsec transport interface [ detail ] [ application <i>applicationType</i> ] [ state { up   down } ] [ <i>interfaceName</i>   [ virtual-router <i>vrName</i> ] destination <i>destAddress</i>   local <i>localAddress</i> ] [ <i>filter</i> ]</pre> <p>To display summary information:<br/> show ipsec transport interface summary</p> <ul style="list-style-type: none"> <li>■ detail—Includes statistics for the displayed connection</li> <li>■ <i>applicationType</i>—Application protected by IPSec transport connections</li> <li>■ state—Displays connections that are in the specified state, up or down</li> <li>■ <i>interfaceName</i>—Connection number that you want to display</li> <li>■ <i>vrName</i>—Name of a virtual router. If you do not specify a virtual router, the router displays connections on the current virtual router context. Notice that the local and destination IP addresses exist in the current virtual router context.</li> <li>■ <i>destAddress</i>—IP address of remote endpoint</li> <li>■ <i>localAddress</i>—IP address of local endpoint</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> <li>■ summary—Displays a summary of all IPSec transport connections</li> </ul> |
| <b>Mode</b>                | Privileged Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## show ipsec transport profile

---

|                            |                                                                                                                                                                                    |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays the configuration of an IPSec transport profile.                                                                                                                          |
| <b>Syntax</b>              | <pre>show ipsec transport profile [ <i>profileName</i> ]</pre> <ul style="list-style-type: none"> <li>■ <i>profileName</i>—Name of the profile that you want to display</li> </ul> |
| <b>Mode</b>                | Privileged Exec                                                                                                                                                                    |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                     |



## show ipsec tunnel

---

**Description** Displays information about tunnels that are configured on a specific virtual router.

**Syntax** show ipsec tunnel [ *tunnelName* | [ virtual-router *vrName* ] ip *ipAddress* ]  
[ state { *adminState* | *operStatus* } ] [ *filter* ] [ detail ] [ delta ]

To display summary information:

show ipsec tunnel summary [ *filter* ]

- *tunnelName*—Name of tunnel
- *vrName*—Name of virtual router on which tunnels are configured
- *ipAddress*—IP address used by tunnels
- state—Restricts display to tunnels in one of the following states:
  - *adminState*—Administrative state of enabled or disabled
  - *operStatus*—Operational state of up, down, lower-down, or not-present
- *filter*—See *Filtering show Commands* in *About This Guide*
- detail—Displays configuration and statistics of tunnels
- delta—Displays baselined statistics
- summary—Displays a summary of all tunnels configured on the router

**Mode** Privileged Exec

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

## show ipsec tunnel profile

---

**Description** Displays information about all existing IPSec tunnel profiles or the specified tunnel profile.

**Syntax** show ipsec tunnel profile [ detail ] [ *profileName* ] [ *filter* ]

- detail—Displays detailed information about the profile
- *profileName*—Name of a specific IPSec tunnel configuration profile
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show ipv6

---

**Description** Displays general information for IPv6.

**Syntax** show ipv6 [ vrf *vrfName* ]  
 ■ *vrfName*—Name of the VRF

**Mode** Privileged Exec, User Exec

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

## show ipv6 access-list

---

**Description** Displays access list information about the specified IPv6 access list.

**Syntax** show ipv6 access-list [ *accessListName* ] [ detail ] [ *filter* ]  
 ■ *accessListName*—Name of the access list  
 ■ detail—Displays detailed information about the access list  
 ■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show ipv6 address

---

**Description** Displays interface information for the specified IPv6 address.

**Syntax** show ipv6 address [ vrf *vrfName* ] [ brief | detail ] *localAddress*  
 ■ *vrfName*—Name of the VRF  
 ■ brief—Displays summary information about the interface  
 ■ detail—Displays detailed information about the interface  
 ■ *localAddress*—IPv6 address of the specific interface

**Mode** Privileged Exec, User Exec

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

## show ipv6 dhcpv6-local binding

---

**Description** Displays the mapping between the token or enduring IPv6 prefix and the DHCP unique ID (DUID) of the client computer.

**Syntax** show ipv6 dhcpv6-local binding [ *ipv6Prefix* ] [ *filter* ]

- *ipv6Prefix*—IPv6 address of the subscriber's personal computer
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring DHCPv6 Local Server Binding Information

## show ipv6 dhcpv6-local dns-domain-searchlist

---

**Description** Displays the DHCPv6 local server's DNS search list.

**Syntax** show ipv6 dhcpv6-local dns-domain-searchlist [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring DHCPv6 Local Server DNS Search Lists

## show ipv6 dhcpv6-local dns-servers

---

**Description** Displays DNS servers that are configured on the DHCPv6 local server.

**Syntax** show ipv6 dhcpv6-local dns-servers [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring DHCPv6 Local Server DNS Servers

## show ipv6 dhcpv6-local prefix-lifetime

---

**Description** Displays the DHCPv6 default prefix lifetime.

**Syntax** show ipv6 dhcpv6-local prefix-lifetime [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring DHCPv6 Local Server Prefix Lifetime

## show ipv6 dhcpv6-local statistics

---

**Description** Displays statistics for the DHCPv6 local server.

**Syntax** show ipv6 dhcpv6-local statistics [ *delta* ] [ *filter* ]

- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**

- Monitoring DHCPv6 Local Server Statistics

## show ipv6 forwarding-table slot

---

**Description** Displays information about routing table memory, load errors, and status for the IPv6 forwarding table of a specific line module.

**Syntax** show ipv6 forwarding-table slot *slotNumber*

- *slotNumber*—Number of the slot containing the line module

**Mode** Privileged Exec, User Exec

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

## show ipv6 interface

---

**Description** Displays current state of all IPv6 interfaces or the IPv6 interfaces that you specify. The default is all interface types and all interfaces.

**Syntax** `show ipv6 interface [ vrf vrfName ] [ brief | detail ] [ interfaceType interfaceSpecifier ] [ delta ] [ filter ]`

To display summary information:

`show ipv6 interface summary [ vrf vrfName ] [ filter ]`

- *vrfName*—Name of the VRF
- *brief*—Displays a brief summary of IPv6 status and configuration information
- *detail*—Shows a detailed display of IP status and configuration information
- *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*
- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*
- *summary*—Shows a detailed summary of IP status and configuration

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Monitoring the Policy Configuration of IPv6 Interfaces

## show ipv6 mld

---

**Description** Displays MLD information for a virtual router.

**Syntax** `show ipv6 mld [ delta ] [ filter ]`

- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 mld groups

---

**Description** Displays information about statically joined and directly connected groups learned through MLD.

**Syntax** `show ipv6 mld groups [ count ] [ groupAddress ]  
[ interfaceType interfaceSpecifier ] [ filter ]`

- *count*—Displays the total number of groups learned
- *groupAddress*—IPv6 address of the group
- *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*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 mld membership

---

**Description** Displays MLD membership information for multicast groups and (S, G) channels.

**Syntax** `show ipv6 mld membership [ groupAddress ] [ tracked ]  
[ interfaceType interfaceSpecifier ] [ filter ]`

- *groupAddress*—Address of the group whose membership information you want to display
- *tracked*—Displays interface information only for interfaces where explicit host tracking is enabled
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced in JUNOS Release 8.2.0.

## show ipv6 mld interface

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays MLD information for interfaces on which you enabled MLD.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Syntax</b>              | <pre>show ipv6 mld interface [ brief   count ] [ delta ]<br/>[ interfaceType interfaceSpecifier ] [ filter ]</pre> <ul style="list-style-type: none"><li>■ <i>brief</i>—Displays a summary of the information</li><li>■ <i>count</i>—Displays the total number of interfaces on which you enabled MLD</li><li>■ <i>delta</i>—Displays baselined statistics</li><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>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

## show ipv6 mld mapped-oif

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays the current mappings to all mapped outgoing interfaces or to the specified outgoing interface.                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Syntax</b>              | <pre>show ipv6 mld mapped-oif [ interfaceType interfaceSpecifier ] [ filter ]</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>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## show ipv6 mld oif-map

---

|                            |                                                                                                                                                                                                                                                      |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays all outgoing interface (OIF) maps or the OIF map for the specified interface.                                                                                                                                                               |
| <b>Syntax</b>              | <pre>show ipv6 mld oif-map [ mapName ] [ filter ]</pre> <ul style="list-style-type: none"><li>■ <i>mapName</i>—Outgoing interface multicast map name</li><li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                           |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                       |

## show ipv6 mld oif-mapping

---

**Description** Displays the mapped OIF to be assigned to a given map name, group address, and source address.

**Syntax** show ipv6 mld oif-mapping *mapName* [ *groupAddress* [ *sourceAddress* ] ] [ *filter* ]

- *mapName*—Outgoing interface multicast map name
- *groupAddress*—IPv6 address of a multicast group
- *sourceAddress*—IPv6 address of a multicast source
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 mld-proxy

---

**Description** Displays MLD proxy parameters on a virtual router.

**Syntax** show ipv6 mld-proxy [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 mld-proxy groups

---

**Description** Displays information about multicast groups that MLD proxy interfaces reported.

**Syntax** show ipv6 mld-proxy groups [ *count* ] [ *groupAddress* ] [ *filter* ]

- *count*—Displays the number of groups that MLD proxy reported
- *groupAddress*—IPv6 address of a group for which you want to display information
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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



## show ipv6 mld-proxy interface

---

**Description** Displays information about the interface on which you configured MLD proxy.

**Syntax** show ipv6 mld-proxy interface [ *brief* ] [ *delta* ] [ *interfaceType interfaceSpecifier* ] [ *filter* ]

- *brief*—Displays summarized information
- *delta*—Displays baselined statistics
- *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*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 mld ssm-mapping

---

**Description** Displays the SSM mapping state and the source list mapping associated with a multicast group address.

**Syntax** show ipv6 mld ssm-mapping [ *groupAddress* ] [ *filter* ]

- *groupAddress*—IP address of the group
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 mroute

---

**Description** Displays information about all or specified multicast routes.

**Syntax** show ipv6 mroute [ *groupIpAddress* [ *sourceIpAddress* ] ]  
 [ summary | count | statistics ] [ active [ *bandwidth* ] ] [ *filter* ]

- *groupIpAddress*—IPv6 address of a multicast group
- *sourceIpAddress*—IPv6 address of a multicast source
- summary—Displays brief information about the multicast routes
- count—Displays the number of groups and sources
- statistics—Displays statistics for packets received through multicast routes that the router has added to the multicast routing table and established on the appropriate line modules
- active—Displays active mroutes
- *bandwidth*—Admission bandwidth for active multicast routes that is greater than the specified bandwidth threshold; default is 4000 bps
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 multicast protocols

---

**Description** Displays information about the multicast protocols enabled on the router.

**Syntax** show ipv6 multicast protocols [ brief ] [ *filter* ]

- brief—Displays a summary rather than detailed information
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 multicast routing

---

**Description** Displays information about the status of multicast routing on the router.

**Syntax** show ipv6 multicast routing [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 neighbors

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays IPv6 neighbor discovery cache information for both static and dynamic entries.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Syntax</b>              | <pre>show ipv6 neighbors [ vrf vrfName ] [ ipv6Address ] [ interfaceType interfaceSpecifier ] [ static   dynamic   summary ] [ filter ]</pre> <pre>show ipv6 neighbors summary [ vrf vrfName ] [ filter ]</pre> <ul style="list-style-type: none"><li>■ <i>vrfName</i>—Name of the VRF</li><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>static</i>—Displays information for only static entries</li><li>■ <i>dynamic</i>—Displays information for only dynamic entries</li><li>■ <i>summary</i>—Displays summary information</li><li>■ <i>ipv6Address</i>—Specific IPv6 address</li><li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.<br><b>vrf</b> keyword and <i>vrfName</i> variable added in JUNOS Release 7.2.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## show ipv6 ospf

---

|                            |                                                                                                                                                                    |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays general information about OSPFv3 routing processes.                                                                                                       |
| <b>Syntax</b>              | <pre>show ipv6 ospf [ filter ]</pre> <ul style="list-style-type: none"><li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                         |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                     |

## show ipv6 ospf border-routers

---

|                            |                                                                                                                                                                                                                                            |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays IPv6 routing table entries for area border and AS boundary routers.                                                                                                                                                               |
| <b>Syntax</b>              | <pre>show ipv6 ospf border-routers [ vrf vrfName ] [ filter ]</pre> <ul style="list-style-type: none"><li>■ <i>vrfName</i>—Name of the VRF</li><li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                 |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                             |

## show ipv6 ospf database

---

**Description** Displays an area-scoped link-state database for each area of which the router is a part, an interface-scoped link-state database for each interface, the external link-state database, the number of LSAs available in each category, and the number of LSAs that have reached the maximum age in each category. Specifying an LSA type, with or without identifying an advertising router, provides more detailed information for those LSAs.

**Syntax** `show ipv6 ospf database [ vrf vrfName ] [ database-summary | { router | intra-area-prefix | link | network | inter-area-net | inter-area-router | external | grace } [ advRouterId ] ] [ filter ]`

- *vrfName*—Name of the VRF
- database-summary—Displays summary of the database
- router—Displays V3 router link states
- intra-area-prefix—Displays V3 intra-area-prefix link states
- link—Displays V3 link local link states
- network—Displays V3 network link states
- inter-area-net—Displays V3 inter-area network link states
- inter-area-router—Displays V3 inter-area AS link states
- external—Displays V3 external link states
- grace—Displays V3 grace link states
- *advRouterId*—Advertising router ID
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**database-summary** keyword added in JUNOS Release 7.3.0.  
**grace** keyword added in JUNOS Release 8.1.0.

## show ipv6 ospf internal-statistics

---

**Description** Displays internal OSPFv3 statistics.

**Syntax** `show ipv6 ospf internal-statistics [ delta ] [ filter ]`

- delta—Displays baselined information
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 ospf interface

---

**Description** Displays a list of OSPFv3 interfaces.

**Syntax** show ipv6 ospf [ *areald* | *arealdInt* ] interface  
[ *interfaceType* *interfaceSpecifier* ] [ *filter* ]

- *areald*—OSPF area ID in IP address format
- *arealdInt*—OSPF area ID as a decimal value (0–4294967295)
- *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*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 ospf neighbors

---

**Description** Displays a list of OSPFv3 neighbors.

**Syntax** show ipv6 ospf [ *areald* | *arealdInt* ] neighbors [ *neighborAddress* ]  
[ *interfaceType* *interfaceSpecifier* ] [ *filter* ]

- *areald*—OSPF area ID in IP address format
- *arealdInt*—OSPF area ID as a decimal value (0–4294967295)
- *neighborAddress*—Router ID of a specified neighbor
- *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*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 ospf summary-prefix

---

**Description** Displays summary prefixes configured to summarize externals.

**Syntax** show ipv6 ospf summary-prefix [ *vrfName* ] [ *filter* ]

- *vrfName*—Name of the VRF
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 ospf traffic

---

**Description** Displays OSPFv3 packet statistics.

**Syntax** show ipv6 ospf traffic [ *delta* ] [ *filter* ]

- *delta*—Displays baselined information
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 pim

---

**Description** Displays general PIM router-level information.

**Syntax** show ipv6 pim

**Mode** Privileged Exec, User Exec

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

## show ipv6 pim bsr

---

**Description** Displays BSR information and the group prefixes for which the local router is a C-RP in a PIM sparse mode environment.

**Syntax** show ipv6 pim bsr [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 pim interface

---

**Description** Displays information about each PIM IPv6 interface.

**Syntax** show ipv6 pim interface  
{ summary | [ *interfaceType interfaceSpecifier* ] [ detail | count ] [ *filter* ] }

- summary—Displays the number of configured, enabled, and disabled PIM sparse mode interfaces
- *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*
- detail—Displays detailed information for all PIM interfaces or for a specified PIM interface
- count—Displays the number of incoming and outgoing PIM control packets
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 pim neighbor

---

**Description** Displays information about each PIM IPv6 neighbor that the router has discovered.

**Syntax** show ipv6 pim neighbor [ *interfaceType interfaceSpecifier* ] [ detail ] [ *filter* ]

- *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*
- detail—Displays detailed information for all PIM neighbors or for a specified PIM neighbor
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 pim remote-neighbor

---

**Description** Displays information about all PIM IPv6 remote neighbors or the specified IPv6 remote neighbor.

**Syntax** show ipv6 pim remote-neighbor [ *ipv6Address* ] [ *count* ] [ *filter* ]

- *ipv6Address*—IPv6 address of a remote neighbor
- *count*—Displays the number of remote neighbors
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show ipv6 pim rp

---

**Description** Displays information about PIM IPv6 group-to-RP mappings.

**Syntax** show ipv6 pim rp { *groupAddress* | *mapping* } [ *filter* ]

- *groupAddress*—IPv6 address of a group for which you want to view group-to-RP mappings
- *mapping*—Displays all group-to-RP mappings that the router has recorded
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 pim rp-hash

---

**Description** Displays which RP an IPv6 multicast group is using.

**Syntax** show ipv6 pim rp-hash *groupAddress* [ *filter* ]

- *groupAddress*—IPv6 address of multicast group for which you want to view the RP
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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



## show ipv6 pim sparse-mode sg-state

---

**Description** Displays information for each SG entry that PIM sparse mode knows about.

**Syntax** show ipv6 pim sparse-mode sg-state  
[ group *groupAddress* [ source *sourceAddress* ] | rp *rpAddress* ] [ count ] [ *filter* ]

- *groupAddress*—IPv6 address of a multicast group
- *sourceAddress*—IPv6 address of a multicast source
- *rpAddress*—IPv6 address of an RP router
- count—Displays the number of SG entries
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 pim sparse-mode unicast-route

---

**Description** Displays the IPv6 unicast routes that PIM sparse mode is using.

**Syntax** show ipv6 pim sparse-mode unicast-route [ *routeAddress routeMask* | *ipv6Prefix* ]  
[ count ] [ *filter* ]

- *routeAddress*—IPv6 address associated with a unicast route
- *routeMask*—Network mask associated with a unicast route
- *ipv6Prefix*—Prefix in the format *IPv6BaseAddress/length*; for example, 1::1/32
- count—Shows the number of unicast routes that PIM sparse mode is using
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 pim spt-threshold

---

**Description** Displays the threshold for switching to the shortest-path-tree at a PIM designated router.

**Syntax** show ipv6 pim spt-threshold [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 prefix-list

---

**Description** Displays information about IPv6 prefix lists.

**Syntax** show ipv6 prefix-list  
 [ *listName* [ seq *seqNum* | *ipv6Prefix* [ longer | first-match ] ] ] [ *filter* ]

To display summary or detailed information:  
 show ipv6 prefix-list { summary | detail } [ *listName* ] [ *filter* ]

- *listName*—Name of IPv6 prefix list
- *seqNum*—Sequence number of prefix list entry
- *ipv6Prefix*—Prefix of prefix list entry: in the format *IPv6baseaddress/length*; for example, 1::1/32
- longer—Displays all entries for a prefix that are equal to or more specific than the specified prefix
- first-match—Displays only an entry that matches the specified prefix
- *filter*—See *Filtering show Commands* in *About This Guide*
- summary—Displays summary information for all prefix lists or for a specified prefix list
- detail—Displays detailed information for all prefix lists or for a specified prefix list

**Mode** Privileged Exec

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

## show ipv6 profile

---

**Description** Displays the IPv6 profile configuration.

**Syntax** show ipv6 profile *profileName* [ *filter* ]

- *profileName*—Name of the profile you want to display
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 protocols

---

**Description** Displays detailed information about IPv6 protocols currently configured on the router.

**Syntax** show ipv6 protocols [ vrf *vrfName* ] [ summary ] [ *filter* ]

- *vrfName*—Name of the VRF
- summary—Displays only a list of currently configured protocols
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 redistribute

---

**Description** Displays configured IPv6 route redistribution policy.

**Syntax** show ipv6 redistribute [ vrf *vrfName* ] [ *filter* ]

- *vrfName*—Name of the VRF
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 route

---

**Description** Displays current state of the IPv6 routing table.

**Syntax** `show ipv6 route [ vrf vrfName ] [ ipv6Address [ detail ] | ipv6Prefix [ detail ] ] [ all ] [ protocol ] [ filter ]`

To display summary information:

`show ipv6 route summary [ vrf vrfName ] [ filter ]`

- *vrfName*—Name of the VRF
- *ipv6Address*—IPv6 address
- *ipv6Prefix*—Prefix of prefix list entry; in the format *IPv6baseaddress/length*; for example, 1::1/32
- detail—Displays detailed information about the specific route
- all—Displays routes from all sources to a prefix
- *protocol*—One of the following protocols for which you want to display the best routes in the routing table; no routes are displayed if routes for the specified protocol are not present in the routing table
  - access—Displays the best access-server routes (BGP) in the routing table
  - access-internal—Displays the best access-internal routes in the routing table
  - bgp—Displays the best BGP routes in the routing table
  - bgp-tunnel—Displays the best BGP tunnel routes in the routing table
  - dvmrp—Displays the best DVMRP routes in the routing table
  - isis—Displays the best IS-IS routes in the routing table
  - ldp—Displays the best LDP tunnel routes in the routing table
  - local—Displays the best locally connected routes in the routing table
  - mbgp—Displays the best MBGP routes in the routing table
  - ospf—Displays the best OSPF routes owned by in the routing table
  - other—Displays the best internal control routes in the routing table
  - rip—Displays the best RIP routes in the routing table
  - rsvp—Displays the best RSVP tunnel routes in the routing table
  - static—Displays the best static routes added by network management to the routing table
  - static-rpf—Displays the best static RPF routes added by network management to the routing table
- *filter*—See *Filtering show Commands in About This Guide*
- summary—Displays summary counters for all routes in the IPv6 routing table

**Mode** Privileged Exec, User Exec

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

## show ipv6 routers

---

**Description** Displays IPv6 router advertisement information received by the E-series router.

**Syntax** show ipv6 routers [ vrf *vrfName* ] [ *interfaceType interfaceSpecifier* ] [ *ipv6Address* ]  
[ conflicts ] [ *filter* ]

- *vrfName*—Name of the VRF
- *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*
- *ipv6Address*—IPv6 address
- conflicts—Displays router advertisements that differ from the currently configured advertisements
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 rpf-route

---

**Description** Displays IPv6 routes that the router can use to verify source addresses in multicast packets.

**Syntax** `show ipv6 rpf-route [ vrf vrfName ] [ ipv6Address [ detail ] | ipv6Prefix [ detail ] ] [ all ] [ protocol ] [ filter ]`

- *vrfName*—Name of the VRF
- *ipv6Address*—Specific IPv6 address to show
- *ipv6Mask*—IPv6 mask of the specific address to show
- *detail*—displays detailed information about the specified route
- *all*—Displays routes from all sources to a prefix
- *protocol*—One of the following protocols for which you want to display the best routes in the routing table; no routes are displayed if routes for the specified protocol are not present in the routing table
  - *access*—Displays the best access-server routes (BGP) in the routing table
  - *access-internal*—Displays the best access-internal routes in the routing table
  - *bgp*—Displays the best BGP routes in the routing table
  - *bgp-tunnel*—Displays the best BGP tunnel routes in the routing table
  - *dvmrp*—Displays the best DVMRP routes in the routing table
  - *isis*—Displays the best IS-IS routes in the routing table
  - *ldp*—Displays the best LDP tunnel routes in the routing table
  - *local*—Displays the best locally connected routes in the routing table
  - *mbgp*—Displays the best MBGP routes in the routing table
  - *ospf*—Displays the best OSPF routes owned by in the routing table
  - *other*—Displays the best internal control routes in the routing table
  - *rip*—Displays the best RIP routes in the routing table
  - *rsvp*—Displays the best RSVP tunnel routes in the routing table
  - *static*—Displays the best static routes added by network management to the routing table
  - *static-rpf*—Displays the best static RPF routes added by network management to the routing table
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 static

---

**Description** Displays general status information for static routes added by network management to the routing table.

**Syntax** `show ipv6 static [ vrf vrfName ] [ ipv6Prefix [ all ] ] [ filter ]`

- *vrfName*—Name of the VRF
- *ipv6Prefix*—Prefix in the format *IPv6baseaddress/length*; for example, 1::1/32
- all—Displays all routes starting at the specified prefix
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 traffic

---

**Description** Displays statistics about IPv6 traffic.

**Syntax** `show ipv6 traffic [ vrf vrfName ] [ delta ] [ filter ]`

- *vrfName*—Name of the VRF
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 tunnel-route

---

**Description** Displays current state of the IPv6 tunnel routing table.

**Syntax** `show ipv6 tunnel-route [ vrf vrfName ] [ ipv6Address [ detail ] | ipv6Prefix [ detail ] ] [ all ] [ protocol ] [ filter ]`

- *vrfName*—Name of the VRF
- *ipv6Address*—IPv6 address
- *ipv6Prefix*—Prefix of prefix list entry; in the format *IPv6baseaddress/length*; for example, `1::1/32`
- detail—Displays detailed information about the specific route
- all—Displays all routes in the IPv6 tunnel routing table inserted from all protocols, not just the best routes
- *protocol*—The following protocols for which you want to display the best route or all routes in the tunnel routing table; no routes are displayed if routes for the specified protocol are not present in the tunnel routing table



**NOTE:** Other protocol options are available in the CLI, but they are not applicable to the tunnel routing table.

- *bgp-tunnel*—Displays the BGP tunnel routes in the tunnel routing table
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ipv6 udp statistics

---

**Description** Displays IPv6 UDP statistics.

**Syntax** `show ipv6 udp statistics [ vrf vrfName ] [ delta ] [ filter ]`

- *vrfName*—Name of the VRF
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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



## show isis database

---

**Description** Displays the IS-IS link-state database.

**Syntax** `show isis database [ level-1 | level-2 | l1 | l2 | lspid | hostname | detail | verbose ]*`  
`[ filter ]`

- `level-1`—Displays the IS-IS link-state database for level 1
- `level-2`—Displays the IS-IS link-state database for level 2
- `l1`—Displays the IS-IS link-state database for level 1
- `l2`—Displays the IS-IS link-state database for level 2
- `lspid`—Link-state PDU identifier in the form `xxxx.xxxx.xxxx.yy.zz`; when specified, displays the contents of a single link-state PDU by its ID number
- `hostname`—Displays the IS-IS link-state database for the specified hostname
- `detail`—Additionally displays contents of each link-state PDU; if not specified, a summary display is provided
- `verbose`—Additionally displays MPLS traffic engineering information
- `*`—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- `filter`—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
`hostname` variable added in JUNOS Release 7.3.0.

## show isis mpls adjacency-log

---

**Description** Displays a log of the last 20 IS-IS adjacency changes.

**Syntax** `show isis mpls [ traffic-eng ] adjacency-log [ filter ]`

- `traffic-eng`—Specifies optional keyword for compatibility with non-E-series implementations
- `filter`—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show isis mpls advertisements

---

|                            |                                                                                                                                                                                                                                                                                                               |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays the last record flooded from MPLS.                                                                                                                                                                                                                                                                   |
| <b>Syntax</b>              | <pre>show isis mpls [ traffic-eng ] advertisements [ filter ]</pre> <ul style="list-style-type: none"><li>■ <b>traffic-eng</b>—Specifies optional keyword for compatibility with non-E-series implementations</li><li>■ <b>filter</b>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                    |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                |

## show isis mpls tunnel

---

|                            |                                                                                                                                                                                                                                                                                                       |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays information about tunnels used in the calculation of IS-IS next hops.                                                                                                                                                                                                                        |
| <b>Syntax</b>              | <pre>show isis mpls [ traffic-eng ] tunnel [ filter ]</pre> <ul style="list-style-type: none"><li>■ <b>traffic-eng</b>—Specifies optional keyword for compatibility with non-E-series implementations</li><li>■ <b>filter</b>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                            |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                        |

## show isis nsf

---

|                            |                                                                                                                                                                          |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays information about the configured and operational settings on the router for IS-IS graceful restart. Graceful restart is also known as nonstop forwarding (NSF). |
| <b>Syntax</b>              | <pre>show isis nsf</pre>                                                                                                                                                 |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                               |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                           |

## show isis spf-log

---

**Description** Displays how often and why the router has run a full SPF calculation.

**Syntax** show isis spf-log [ detail ] [ filter ]

- detail—Displays the time it takes to perform the route table update and the time it takes to leak the routes across ISIS levels
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show isis summary-addresses

---

**Description** Displays aggregate address information for IS-IS.

**Syntax** show isis summary-addresses [ filter ]

- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show isis topology

---

**Description** Displays the paths to all intermediate systems.

**Syntax** show isis topology [ [ level-1 | level-2 | l1 | l2 ]\* [ nsap ]  
[ level-1 | level-2 | l1 | l2 ]\* ] [ filter ]

- level-1—Displays paths to all level 1 routers in the area
- level-2—Displays paths to all level 2 routers in the domain
- l1—Displays paths to all level 1 routers in the area
- l2—Displays paths to all level 2 routers in the domain
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- nsap—NSAP address
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show issu

---

**Description** Displays the current status of unified ISSU operation.

**Syntax** show issu [ brief | detail ] [ *filter* ]

- *brief*—Displays hardware and software criteria required for unified ISSU to begin and whether criteria are met
- *detail*—Displays detailed information about unified ISSU status and warnings in addition to criteria required for unified ISSU and whether criteria are met
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show l2c

---

**Description** Displays information about the ANCP configuration on the router.

**Syntax** show l2c

**Mode** Privileged Exec

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

## show l2c discovery-table

---

**Description** Displays information about ANCP discovery table entries.

**Syntax** show l2c discovery-table [ neighbor *neighborName* ] [ end-user-id *userIdString* ] [ brief ]

- *neighborName*—Name of the neighbor for which you want to view ANCP discovery table information
- *userIdString*—ID of the neighbor for which you want to view ANCP discovery table information
- *brief*—Displays limited information

**Mode** Privileged Exec

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

## show l2c label

---

**Description** Displays information about known ANCP labels on the router.

**Syntax** show l2c label [ interface *interfaceType* *interfaceSpecifier* ]  
[ neighbor-input | neighbor-output ] [ brief ]

- *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*
- neighbor-input—Displays labels for input ports
- neighbor-output—Displays labels for output ports
- brief—Displays limited information

**Mode** Privileged Exec

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

## show l2c neighbor

---

**Description** Displays information about known ANCP neighbors on the router and their configurations.

**Syntax** To display information about all ANCP neighbors:  
show l2c neighbor [ name *neighborName* | id *neighborIdMac* ] [ brief ]

To display the number of active neighbors:  
show l2c neighbor [ summary ]

- *neighborName*—Name of the neighbor for which you want to view ANCP information
- *neighborIdMac*—ID of the neighbor for which you want to view ANCP information
- brief—Displays limited information
- summary—Displays the number of active neighbors

**Mode** Privileged Exec

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

## show l2c statistics

---

**Description** Displays information about the ANCP statistics.

**Syntax** show l2c statistics [ delta ]

- delta—Limits the display to events that occurred after the baseline

**Mode** Privileged Exec

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

## show l2tp

---

**Description** Displays information about the L2TP configuration on the router.

**Syntax** show l2tp [ filter ]

- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show l2tp destination

---

**Description** Displays information about selected L2TP destinations.

**Syntax** show l2tp destination [ detail ] [ destinationName |  
[ virtual-router vrName ] ip ipAddress ] [ filter ]  
show l2tp destination summary [ filter ]

- detail—Provides complete information about the specified destinations, including destination profiles
- destinationName—Name the router assigns to the peer at the other end of the tunnel
- vrName—Name of the virtual router on which the destination exists
- ipAddress—IP address of the peer at the other end of the tunnel
- summary—Displays a summary of destination profile configuration
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show l2tp destination lockdown

---

**Description** Displays information about the L2TP destinations that are currently unavailable because they are in the lockdown state.

**Syntax** show l2tp destination lockdown [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show l2tp destination profile

---

**Description** Displays destination profile configuration.

**Syntax** show l2tp destination profile [ *profileName* ] [ *filter* ]

- *profileName*—Name of a profile
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show l2tp dial-out

---

**Description** Displays the chassis-wide configuration, operational state, and statistics for L2TP dial-out.

**Syntax** show l2tp dial-out [ [ *detail* ] [ *state operState* ] | *summary* ] [ *filter* ]

- *detail*—Displays configuration, states, and statistics
- *operState*—One of the following operational states:
  - inService
  - initIncomplete
  - restricted
- *summary*—Displays aggregate counts for virtual routers, targets, and sessions in each of the possible operational and administrative states
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show l2tp dial-out session

---

**Description** Displays the status of L2TP dial-out sessions.

**Syntax** `show l2tp dial-out session [ triggerIpAddress | allVirtualRouters ] [ detail ]  
[ state operState ] [ filter ]`

To display summary information:

`show l2tp dial-out session summary [ allVirtualRouters ] [ filter ]`

- *triggerIpAddress*—Trigger IP address for the session that you want to display
- *allVirtualRouters*—Displays dial-out information for all virtual routers
- *detail*—Displays configuration, state, and statistics
- *operState*—One of the following operational states:
  - *authenticating*
  - *connecting*
  - *dormant*
  - *failed*
  - *inService*
  - *inhibited*
  - *pending*
  - *postInhibited*
- *filter*—See *Filtering show Commands* in *About This Guide*
- *summary*—Displays aggregate counts for dial-out sessions in each of the possible operational and administrative states

**Mode** Privileged Exec

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



## show l2tp dial-out target

---

**Description** Displays configured dial-out targets within the current virtual router context.

**Syntax** show l2tp dial-out target [ *targetIpAddress targetIpAddressMask* | allVirtualRouters ]  
[ detail ] [ state *operState* ] [ *filter* ]

To display summary information:

show l2tp dial-out target summary [ allVirtualRouters ] [ *filter* ]

- *targetIpAddress*—Trigger IP address for the target that you want to display
- *targetIpAddressMask*—Mask for the trigger IP address
- allVirtualRouters—Displays dial-out information for all virtual routers
- detail—Displays configuration, state, and statistics
- *operState*—One of the following operational states:
  - down
  - inService
  - inhibited
- *filter*—See *Filtering show Commands* in *About This Guide*
- summary—Displays aggregate counts for targets in each of the possible operational and administrative states

**Mode** Privileged Exec

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

## show l2tp dial-out virtual-router

---

- Description** Displays dial-out state machine operational status and statistics within the current virtual router context.
- Syntax** `show l2tp dial-out virtual-router [ allVirtualRouters ] [ detail ] [ state operState ] [ filter ]`
- To display summary information:  
`show l2tp dial-out virtual-router summary [ allVirtualRouters ] [ filter ]`
- *allVirtualRouters*—Displays dial-out information across all virtual routers
  - *detail*—Displays configuration, state, and statistics
  - *operState*—One of the following operational states:
    - *down*
    - *inService*
    - *initFailed*
    - *initPending*
  - *filter*—See *Filtering show Commands* in *About This Guide*
  - *summary*—Displays aggregate counts for dial-out state machines in each of the possible operational and administrative states
- Mode** Privileged Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

## show l2tp received-disconnect-cause-summary

---

- Description** Displays aggregate summary statistics for all information received by an LAC from an LNS about the cause of an L2TP session disconnection. The LAC receives this information from the LNS by means of a PPP Disconnect Cause Code attribute value pair (AVP) included in an L2TP Call-Disconnect-Notify (CDN) message.
- Syntax** `show l2tp received-disconnect-cause-summary [ filter ]`
- *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

## show l2tp session

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays detailed information about selected L2TP sessions or summary information for all L2TP sessions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Syntax</b>              | <pre>show l2tp session [ detail ] [ state { adminState   ifOperStatus } ]<br/>[ l2tpName   [ virtual-router vrName ] ip ipAddress [ l2tpNameNoDest ] ] [ filter ]</pre> <p>To display summary information:<br/>show l2tp session summary [ filter ]</p> <ul style="list-style-type: none"><li>■ detail—Provides complete information about the specified sessions</li><li>■ state—Restricts display to sessions in a specific state</li><li>■ adminState—Effective administrative state</li><li>■ ifOperStatus—Operational state</li><li>■ l2tpName—Session name</li><li>■ vrName—Name of the virtual router on which the session exists</li><li>■ ipAddress—IP address</li><li>■ l2tpNameNoDest—Name of the session</li><li>■ filter—See <i>Filtering show Commands</i> in <i>About This Guide</i></li><li>■ summary—Displays the configured and operational status of all L2TP sessions</li></ul> |
| <b>Mode</b>                | Privileged Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Release Information</b> | Command introduced before JUNOSe Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## show l2tp switch-profile

---

|                            |                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays the names of all L2TP tunnel switch profiles currently configured on the router, or displays detailed information about a particular L2TP tunnel switch profile.                                                                                                                   |
| <b>Syntax</b>              | <pre>show l2tp switch-profile [ profileName ] [ filter ]</pre> <ul style="list-style-type: none"><li>■ profileName—Name of the tunnel switch profile; a string of up to 64 alphanumeric characters</li><li>■ filter—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec                                                                                                                                                                                                                                                                             |
| <b>Release Information</b> | Command introduced in JUNOSe Release 7.2.0.                                                                                                                                                                                                                                                 |

## show l2tp tunnel

---

**Description** Displays detailed information about the configured and operational status of selected L2TP tunnels or summary information for all L2TP tunnels.

**Syntax** `show l2tp tunnel [ detail ] [ state { adminState | ifOperStatus | failover-resync failoverResyncMode } ] [ l2tpName | [ virtual-router vrName ] ip ipAddress [ l2tpNameNoDest ] ] [ filter ]`

To display summary information:

`show l2tp tunnel summary [ filter ]`

- *detail*—Provides complete information about the specified sessions, including the L2TP host profile name
- *adminState*—Displays information about tunnels only with the specified effective administrative state
  - *enabled*—Effective administrative state is disabled
  - *disabled*—Effective administrative state is enabled
  - *drain*—Effective administrative state is drain
- *ifOperStatus*—Displays information about tunnels only with the specified operational state
  - *up*—Operational state is up
  - *down*—Operational state is down
  - *lower-down*—Operational state is lower down
  - *not-present*—Operational state is not-present
- *failoverResyncMode*—Displays information about tunnels that use the specified failover resynchronization mode:
  - *disable*—Peer failover resynchronization is disabled
  - *failover-protocol*—Uses the L2TP failover protocol method
  - *failover-protocol-fallback-to-silent-failover*—Uses the L2TP failover protocol method; however, if the peer does not support this method, the silent failover method is used
  - *not-configured*—Uses the global failover method because peer failover resynchronization is not configured for L2TP host profiles and AAA domain map tunnels
  - *silent-failover*—Uses the L2TP silent failover method

- *l2tpName*—Tunnel name
- *vrName*—Name of the virtual router on which the tunnel exists
- *ipAddress*—IP address
- *l2tpNameNoDest*—Tunnel name
- *filter*—See *Filtering show Commands* in *About This Guide*
- *summary*—Displays the configured and operational status of all L2TP tunnels

**Mode** Privileged Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**failover-resync** keyword and *failoverResyncMode* variable added in JUNOS Release 9.0.0.

## show l2vpn connections

---

**Description** Displays information about L2VPN point-to-point connections.

**Syntax** show l2vpn connections  
 [ details | instance *l2vpnName* | remote-site *siteId* | state down | state up ]\* [ *filter* ]

- *details*—Displays detailed information about all L2VPN connections
- *l2vpnName*—Name of the L2VPN instance
- *siteId*—Numerical identifier for the site, in the range 1–65535
- *state down*—Displays information about nonoperational L2VPN connections
- *state up*—Displays information about operational L2VPN connections
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line; parameters can be entered in any order
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Monitoring L2VPN Connections

## show l2vpn instance

---

**Description** Displays all L2VPN instances on the VR or information about the specified L2VPN instance.

**Syntax** show l2vpn instance { all | *l2vpnName* } [ detail ] [ *filter* ]

- instance—Displays information for all L2VPN instances
- *l2vpnName*—Name of the L2VPN instance
- detail—Displays detailed information
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

**Related Topics**

- Monitoring L2VPN Instances

## show l2vpn interface

---

**Description** Displays information about L2VPN interfaces configured to be members of L2VPNs in the current VR: all L2VPN interfaces in the specified L2VPN instance, all L2VPN interfaces in all L2VPN instances, or a specific L2VPN interface.

**Syntax** show l2vpn interface [ instance *l2vpnName* | *interfaceType interfaceSpecifier* ] [ detail ] [ *filter* ]

- *l2vpnName*—Name of the L2VPN instance
- *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*
- detail—Displays detailed information
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

**Related Topics**

- Monitoring L2VPN Interfaces

## show last-reset

---

**Description** Displays information describing the reason for the router's last reload, whether specified by the user or resulting from a router problem.

**Syntax** show last-reset [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ldp

---

**Description** Displays the status of LDP.

**Syntax** show [ *mpls* ] ldp [ *filter* ]

- *mpls*—Specifies optional keyword for compatibility with non-E-series implementations
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** User Exec

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

## show ldp binding

---

**Description** Displays label bindings from the MPLS label information base. This command displays the same output as the **show mpls binding** command.

**Syntax** For MPLS binding information:

```
show [ mpls ] ldp { [ ip ] binding | binding ip }
[ destAddr [ maskLength | maskAddress ] [ longer-prefixes ] ]
[ interface interfaceType interfaceSpecifier ]
[ neighbor ipAddress ] [ generic | atm ] [ local | remote ]
[ label { atm vpi vci | explicit-null-label | implicit-null-label |
labelNumber [ labelRangeEnd ] } ]
[ brief ] [ filter ]
```

For layer 2 over MPLS binding information:

```
show [ mpls ] ldp binding layer2-vc [ vc-type vcType [ vc-id vcid ] ]
[ interface interfaceType interfaceSpecifier ]
[ neighbor ipAddress ] [ generic | atm ] [ local | remote ]
[ label { atm vpi vci | explicit-null-label | implicit-null-label |
labelNumber [ labelRangeEnd ] } ]
[ brief ] [ filter ]
```

- **mpls**—Specifies optional keyword for compatibility with non-E-series implementations
- **ip**—Specifies optional keyword for compatibility with non-E-series implementations when placed before the **binding** keyword; when present (either before or after this keyword) displays label binding information only for IP prefixes
- **destAddr**—Destination address for which you want information displayed; if not specified, displays all destinations
- **maskLength**—Prefix length for the destination address
- **maskAddress**—Address mask to be applied to the destination address
- **longer-prefixes**—Displays information for prefixes that are equal to or more specific than the specified prefix
- **interface**—Displays labels associated with the specified interface
  - **interfaceType**—Interface type; see *Interface Types and Specifiers* in *About This Guide*
  - **interfaceSpecifier**—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- **ipAddress**—Displays labels associated with the specified neighbor
- **generic**—Displays only generic labels
- **atm**—Displays only ATM VPI/VCI labels
- **local**—Displays only local labels
- **remote**—Displays only remote labels
- **atm**—Displays the specified ATM VPI/VCI labels
  - **vpi**—Specifies ATM VPI that partially designates a label
  - **vci**—Specifies ATM VCI that partially designates a label



- **explicit-null-label**—Displays binding information for the explicit null label
- **implicit-null-label**—Displays binding information for the implicit null label
- **labelNumber**—Label for which binding information is displayed; number in the range 16–1048575
- **labelRangeEnd**—Label designating the high end of a range of labels for which binding information is specified; number in the range 16–1048575
- **brief**—Displays limited information
- **filter**—See *Filtering show Commands* in *About This Guide*
- **layer2-vc**—Displays binding information for layer 2 over MPLS
- **vcType**—One of the following types of virtual circuit over MPLS for which binding information is displayed: aal5-vc, ethernet, frame-relay, vlan
- **vcId**—Virtual circuit identifier, number in the range 1–4294967295

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced in JUNOS Release 7.1.0.  
**explicit-null-label** keyword and optional **mpls** keyword added in JUNOS Release 7.2.0.

## show ldp graceful-restart

---

**Description** Displays the status of LDP graceful restart.

**Syntax** show [ mpls ] ldp graceful-restart [ filter ]

- **mpls**—Specifies optional keyword for compatibility with non-E-series implementations
- **graceful-restart**—Displays graceful restart information
- **filter**—See *Filtering show Commands* in *About This Guide*

**Mode** User Exec

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

## show ldp igp-sync

---

**Description** Displays information about all interfaces that are synchronizing with LDP or about the specified interface that is synchronizing with LDP.

**Syntax** show [ mpls ] ldp igp-sync [ interface *interfaceType interfaceSpecifier* ]

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

**Mode** Privileged Exec, User Exec

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

## show ldp interface

---

**Description** Displays information about all LDP interfaces or a specific LDP interface.

**Syntax** show [ mpls ] ldp interface [ *interfaceType interfaceSpecifier* | [ brief ] ] [ *filter* ]

- mpls—Specifies optional keyword for compatibility with non-E-series implementations
- *interfaceType*—Interface type; see *Interface Types and Specifiers* in *About This Guide*
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- brief—Displays only brief or summary information about the interface or all interfaces
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** User Exec

**Release Information** Command introduced in JUNOS Release 7.1.0.  
Optional **mpls** keyword added in JUNOS Release 7.2.0.

## show ldp neighbor

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays information about LDP neighbors.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Syntax</b>              | <pre>show [ mpls ] ldp neighbor [ ipAddress ] [ brief   graceful-restart   statistics ] [ filter ]</pre> <ul style="list-style-type: none"><li>■ <b>mpls</b>—Specifies optional keyword for compatibility with non-E-series implementations</li><li>■ <b>ipAddress</b>—IP address of the remote peer</li><li>■ <b>brief</b>—Displays only brief or summary information about the LDP neighbors</li><li>■ <b>graceful-restart</b>—Displays graceful restart information for the neighbor</li><li>■ <b>statistics</b>—Displays statistics about the sessions with each LDP neighbor</li><li>■ <b>filter</b>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.<br><b>graceful-restart</b> keyword added in JUNOS Release 7.1.0.<br><b>mpls</b> keyword made optional in JUNOS Release 7.2.0.<br><b>brief</b> and <b>statistics</b> keywords added in JUNOS Release 8.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                         |

## show ldp profile

---

|                            |                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays a specific LDP profile, or all LDP profiles.                                                                                                                                                                                                                                                                                                               |
| <b>Syntax</b>              | <pre>show [ mpls ] ldp profile [ profileName ] [ filter ]</pre> <ul style="list-style-type: none"><li>■ <b>mpls</b>—Specifies optional keyword for compatibility with non-E-series implementations</li><li>■ <b>profileName</b>—Name of the profile to be displayed</li><li>■ <b>filter</b>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                          |
| <b>Release Information</b> | Command introduced in JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                          |

## show ldp statistics

---

|                            |                                                                                                                                                                                                                                                                                       |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays statistics information for LDP on the current virtual router.                                                                                                                                                                                                                |
| <b>Syntax</b>              | <pre>show [ mpls ] ldp statistics [ filter ]</pre> <ul style="list-style-type: none"><li>■ <b>mpls</b>—Specifies optional keyword for compatibility with non-E-series implementations</li><li>■ <b>filter</b>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | User Exec                                                                                                                                                                                                                                                                             |
| <b>Release Information</b> | Command introduced in JUNOS Release 8.1.0.                                                                                                                                                                                                                                            |

## show ldp targeted session

---

**Description** Displays information about the LDP targeted sessions.

**Syntax** show [ mpls ] ldp targeted session [ all | receive | send ]

- mpls—Specifies optional keyword for compatibility with non-E-series implementations
- all—Displays all targeted sessions
- receive—Displays only targeted receive sessions
- send—Displays only targeted send sessions

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
mpls keyword made optional in JUNOS Release 7.2.0.

## show ldp vpls

---

**Description** Displays MPLS configuration information for a VPLS instance that uses LDP as the signaling protocol. You can display information for a specific VPLS instance, for a specific neighbor address, or for all VPLS instances configured on the router.

**Syntax** show [ mpls ] ldp vpls [ vplsName | neighbor ipAddress ] [ filter ]

- mpls—Specifies optional keyword for compatibility with non-E-series implementations
- vplsName—Name of a VPLS instance created with the **bridge vpls transport-virtual-router** command
- ipAddress—IP address of a neighbor in the VPLS domain
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced in JUNOS Release 8.2.0.

### Related Topics

- Monitoring LDP-Related Settings for VPLS

## show license

---

**Description** Displays all licenses or a specified license.



**NOTE:** The **show license l2tp-session** command remains in the CLI even though a separate L2TP license is no longer required to enable support for 32,000 L2TP sessions on supported systems.

**Syntax** show license [ *licenseType* ] [ *filter* ]

- *licenseType*—bfd, b-ras, firewall, ipsec-tunnels, ipv6, l2tp-session, nat, or service-management
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**service-management** keyword added in JUNOS Release 7.2.0.

## show license mobile-ip home-agent

---

**Description** Displays the license key information for the Mobile IP home agent in the current virtual router.

**Syntax** show license mobile-ip home-agent

**Mode** Privileged Exec, User Exec

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

## show line console 0

---

**Description** Displays the speed configured for all future console sessions and the current console session.

**Syntax** show line console 0 [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show line vty

---

**Description** Displays the configuration of vty lines.

**Syntax** show line vty *lineNumber* [ *filter* ]

- *lineNumber*—Number of the vty line; only line numbers that you have configured are available for display
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show log configuration

---

**Description** Displays information about the logging configuration settings for a selected category.

**Syntax** show log configuration [ *category eventCategory* ] [ *filter* ]

- *eventCategory*—Log category to be displayed; refer to the CLI online help for available options
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show log data

---

**Description** Displays the system log.

**Syntax** `show log data [ nv-file | category eventCategory ]  
[ severity { severityValue | severityNumber } ] [ delta ] [ filter ]`

- *nv-file*—Displays the nv-file log
- *eventCategory*—Log category to display; refer to the CLI online help for available options
- *severity*—Minimum severity of the log messages displayed; 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
- *delta*—Limits the display to events that occurred after the baseline
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show mirror log

---

**Description** Displays a log of failure messages for secure policy lists. By default, you must have CLI user access level 13 or above to use this command; an administrator can modify the user access level requirement.

**Syntax** show mirror log [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Monitoring Failure Messages for Secure Policies
- Monitoring Information for Secure Policies
- Logging Packet Mirroring Information

## show mirror rules

---

**Description** Displays information about the policy rules that are configured for packet mirroring.

**Syntax** show mirror rules [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

### Related Topics

- Monitoring Packet Mirroring Triggers

## show mirror subscribers

---

**Description** Displays information about subscribers who have current packet mirroring sessions.

**Syntax** show mirror subscribers [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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



## show mirror trap

---

|                            |                                                                                                 |
|----------------------------|-------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays the status (enabled or disabled) of SNMP secure traps.                                 |
| <b>Syntax</b>              | show mirror trap                                                                                |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                      |
| <b>Release Information</b> | Command introduced in JUNOS Release 7.2.0.                                                      |
| <b>Related Topics</b>      | <ul style="list-style-type: none"><li>■ Monitoring SNMP Secure Packet Mirroring Traps</li></ul> |

## show mpls

---

|                            |                                                                                                                                                                                                       |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays status and configuration information about MPLS on the router or on specific interfaces.                                                                                                     |
| <b>Syntax</b>              | show mpls [ detail ] [ filter ] <ul style="list-style-type: none"><li>■ detail—Displays detailed information</li><li>■ filter—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                            |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.<br><b>detail</b> keyword added in JUNOS Release 7.1.0.                                                                                                 |

## show mpls binding

---

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b> | Displays label bindings from the MPLS label information base. This command displays the same output as the <b>show ldp binding</b> command.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Syntax</b>      | For MPLS binding information:<br>show mpls { [ ip ] binding   binding ip }<br>[ destAddr [ maskLength   maskAddress ] [ longer-prefixes ] ]<br>[ interface interfaceType interfaceSpecifier ]<br>[ neighbor ipAddress ] [ generic   atm ] [ local   remote ]<br>[ label { atm vpi vci   explicit-null-label   implicit-null-label  <br>labelNumber [ labelRangeEnd ] } ]<br>[ brief ] [ filter ]<br><br>For layer 2 over MPLS binding information:<br>show mpls binding layer2-vc [ vc-type vcType [ vc-id vcid ] ]<br>[ interface interfaceType interfaceSpecifier ]<br>[ neighbor ipAddress ] [ generic   atm ] [ local   remote ]<br>[ label { atm vpi vci   explicit-null-label   implicit-null-label  <br>labelNumber [ labelRangeEnd ] } ]<br>[ brief ] [ filter ] |

- **ip**—Specifies optional keyword for compatibility with non-E-series implementations when placed before the **binding** keyword; when present (either before or after this keyword) displays label binding information only for IP prefixes
- **destAddr**—Destination address for which you want information displayed; if not specified, displays all destinations
- **maskLength**—Prefix length for the destination address
- **maskAddress**—Address mask to be applied to the destination address
- **longer-prefixes**—Displays information for prefixes that are equal to or more specific than the specified prefix
- **interface**—Displays labels associated with the specified interface
  - **interfaceType**—Interface type; see *Interface Types and Specifiers* in *About This Guide*
  - **interfaceSpecifier**—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- **ipAddress**—Displays labels associated with the specified neighbor
- **generic**—Displays only generic labels
- **atm**—Displays only ATM VPI/VCI labels
- **local**—Displays only local labels
- **remote**—Displays only remote labels
- **atm**—Displays the specified ATM VPI/VCI labels
  - **vpi**—Specifies ATM VPI that partially designates a label
  - **vci**—Specifies ATM VCI that partially designates a label
- **explicit-null-label**—Displays binding information for the explicit null label
- **implicit-null-label**—Displays binding information for the implicit null label
- **labelNumber**—Label for which binding information is displayed; number in the range 16–1048575
- **labelRangeEnd**—Label designating the high end of a range of labels for which binding information is specified; number in the range 16–1048575
- **brief**—Displays limited information
- **filter**—See *Filtering show Commands* in *About This Guide*
- **layer2-vc**—Displays binding information for layer 2 over MPLS
- **vcType**—One of the following types of virtual circuit over MPLS for which binding information is displayed: aal5-vc, ethernet, frame-relay, vlan
- **vcId**—Virtual circuit identifier, number in the range 1–4294967295

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**explicit-null-label** keyword added in JUNOS Release 7.2.0.

## show mpls cross-connects atm

---

**Description** Displays all ATM passthrough connections between local subinterfaces.

**Syntax** show mpls cross-connects atm [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Monitoring ATM Cross-Connects for Layer 2 Services over MPLS
- Configuring Local ATM Cross-Connects with AAL5 Encapsulation

## show mpls explicit-paths

---

**Description** Displays all explicit paths or a particular explicit path.

**Syntax** show { mpls | ip } explicit-paths  
[ detail | { name *pathName* | identifier *pathNum* } ] [ *filter* ]

- mpls—Specifies keyword for JUNOS MPLS implementation
- ip—Specifies keyword for compatibility with non-E-series implementations
- detail—Specifies a verbose display [not currently supported]
- *pathName*—Name that identifies an explicit path
- *pathNum*—Number that identifies an explicit path
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show mpls fast-reroute database

---

**Description** Displays information about the backup state of protected primary tunnels.

**Syntax** `show mpls [ traffic-eng ] fast-reroute database [ ipAddress ]  
[ name tunnelName ] [ interface interfaceType interfaceSpecifier ]  
[ status { all | desired | establishing | established | active | unknown } ]  
[ count-only ] [ filter ]`

- *traffic-eng*—Specifies optional keyword for compatibility with non-E-series implementations
- *ipAddress*—Address of the endpoint for the primary LSP; meaningful only for the tunnel ingress node
- *tunnelName*—Name of the primary LSP; meaningful only for the tunnel ingress node
- *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*
- *status*—Displays only entries with the specified status:
  - *all*—Displays all entries regardless of backup protection status
  - *desired*—Displays entries where backup protection is desired
  - *establishing*—Displays entries where backup protection is being established
  - *established*—Displays entries where backup protection is established
  - *active*—Displays entries where backup protection is active
  - *unknown*—Displays entries where status of backup protection is unknown
- *count-only*—Displays count of entries matching command specification
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show mpls forwarding

---

**Description** Displays the MPLS forwarding table.

**Syntax** show mpls forwarding  
[ interface *interfaceType* *interfaceSpecifier* ] [ bgp | ldp | rsvp-te ]  
[ label { atm *vpi* *vci* | *labelNumber* [ *labelRangeEnd* ] } ]  
[ brief | bindings | bindings delta | delta ] [ *filter* ]

- *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*
- bgp—Displays BGP-specific forwarding information
- ldp—Displays LDP-specific forwarding information
- rsvp-te—Displays RSVP-TE-specific forwarding information
- atm—Displays information for the specified ATM VPI/VCI labels
  - *vpi*—Specifies ATM VPI that partially designates a label
  - *vci*—Specifies ATM VCI that partially designates a label
- *labelNumber*—Label number, in the range 16–1048575
- *labelRangeEnd*—Number, in the range 16–1048575, that specifies the high end of a range of labels
- brief—Displays only brief or summary information about the tunnels
- bindings—Displays protocol-specific label-to-FEC bindings
- detail—Displays detailed information
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Monitoring LDP-Related Settings for VPLS
- Monitoring MPLS Forwarding for Layer 2 Services over MPLS
- Monitoring MPLS Forwarding State for L2VPN (VPWS) Instances

## show mpls interface

---

**Description** Displays status and configuration information about MPLS major interfaces, shim interfaces, minor interfaces or all MPLS interfaces (the default) on the router.

**Syntax** `show mpls interface [ major | shim | minor ]  
[ summary | [ state not-up ] [ brief | detail ]  
[ interfaceType interfaceSpecifier | name tunnelName ] [ delta ] ] [ filter ]`

- *major*—Displays information about MPLS major interfaces
- *shim*—Displays information about shim interfaces used for layer 2 over MPLS
- *minor*—Displays information about MPLS minor interfaces
- *summary*—Displays summary information about MPLS interfaces
- *state not-up*—Displays information only about interfaces that are not operationally up
- *brief*—Displays limited interface information
- *detail*—Displays detailed information
- *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*
- *tunnelName*—Name of the tunnel represented by the MPLS minor interface
- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced in JUNOS Release 7.1.0.  
**minor**, **detail**, and **delta** keywords added in JUNOS Release 7.1.0.  
**name** keyword and *tunnelName* variable added in JUNOS Release 7.1.0.  
**summary** keyword added in JUNOS Release 8.0.0.

### Related Topics

- Monitoring MPLS Layer 2 Interfaces for Layer 2 Services over MPLS

## show mpls l2transport interface

---

**Description** Displays status and configuration information about layer 2 services over MPLS (also known as Martini, or layer 2 transport) on the router or on specific interfaces.

**Syntax** show mpls l2transport interface  
[ summary | [ *interfaceType* *interfaceSpecifier* ] [ brief | detail ] [ state not-up ] [ delta ] ]  
[ *filter* ]

- summary—Displays summary information about layer 2 services over MPLS
- *interfaceType*—Displays information only for the specified MPLS interface; if not specified, information for all interfaces is displayed
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- brief—Displays limited interface information
- detail—Provides expanded information about layer 2 services, rather than a summary
- state not-up—Displays information only about interfaces that are not up
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**summary** keyword added in JUNOS Release 8.0.0.

### Related Topics

- Monitoring MPLS Layer 2 Interfaces for Layer 2 Services over MPLS
- Monitoring the Policy Configuration of Layer 2 Services over MPLS

## show mpls l2transport load-balancing-group

---

**Description** Displays information about all configured load-balanced Martini circuits or a specified circuit.

**Syntax** show mpls l2transport load-balancing-group [ *groupNumber* ]  
[ member-circuits [ brief ] ] [ *filter* ]

- *groupNumber*—Displays information for the specified group number
- member-circuits—Displays member circuit information, including candidate ports, member circuits, and member subinterfaces
- brief—Displays summary information for the member circuits
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show mpls minor-interface

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays status and configuration for all minor interfaces in the current router context.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Syntax</b>              | <pre>show mpls minor-interface [ summary   [ state not-up ] [ brief   detail ] [ name <i>tunnelName</i> ] [ delta ] ] [ filter ]</pre> <ul style="list-style-type: none"> <li>■ <i>summary</i>—Displays summary information about minor interfaces</li> <li>■ <i>state not-up</i>—Displays information only about interfaces that are not operationally up</li> <li>■ <i>brief</i>—Displays only brief or summary information about the minor interfaces</li> <li>■ <i>detail</i>—Provides expanded information about minor interfaces, rather than a summary</li> <li>■ <i>tunnelName</i>—Name of the tunnel represented by the MPLS minor interface</li> <li>■ <i>delta</i>—Displays baselined statistics</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Release Information</b> | Command introduced in JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## show mpls next-hop

---

|                            |                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays MPLS next hops and any available next-hop statistics. Next hops can be pointed to by MPLS forwarding entries on an LSR, IP or IPv6 routes on an LER, and VPLS bridge groups.                                                                                                                                                                 |
| <b>Syntax</b>              | <pre>show mpls next-hop [ <i>nextHopIndex</i> ] [ delta ] [ filter ]</pre> <ul style="list-style-type: none"> <li>■ <i>nextHopIndex</i>—Number identifying a next hop, in the range 1–1048575</li> <li>■ <i>delta</i>—Displays baselined statistics</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                            |
| <b>Release Information</b> | Command introduced in JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                            |



## show mpls phb-id

---

**Description** Displays the PHB identifiers for MPLS.

**Syntax** show mpls phb-id

**Mode** Privileged Exec, User Exec

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

## show mpls profile

---

**Description** Displays a specific RSVP-TE or tunnel profile, or all RSVP-TE or tunnel profiles.

**Syntax** show mpls { rsvp | tunnels } profile [ *profileName* ] [ *filter* ]

- rsvp—Specifies the RSVP-TE profile
- tunnels—Specifies the tunnel profile
- *profileName*—Name of the profile to be displayed
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show mpls rsvp

---

**Description** Displays RSVP path control blocks, reservation state control blocks, or complete RSVP session information for the virtual router.

**Syntax** show mpls rsvp { psb | rsb | sessions }

- psb—Displays path state control blocks
- rsb—Displays reservation state control blocks
- sessions—Displays RSVP session information

**Mode** Privileged Exec, User Exec

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

## show mpls rsvp authentication

---

**Description** Displays information about RSVP authentication.

**Syntax** show mpls rsvp authentication [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show mpls rsvp bfd interfaces

---

**Description** Displays session information for RSVP-TE interfaces on which BFD is enabled, including minimum interval, minimum receive interval, minimum transmit interval, and multiplier values.

**Syntax** show mpls rsvp bfd interfaces [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show mpls rsvp counters

---

**Description** Displays various counters for RSVP interfaces.

**Syntax** show mpls rsvp counters [ interface *interfaceType interfaceSpecifier* ] [ *filter* ]

- *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*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*filter* variable added in JUNOS Release 7.1.0.

## show mpls rsvp hello graceful restart

---

**Description** Displays status of RSVP-TE graceful restart.

**Syntax** show mpls rsvp hello graceful restart [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show mpls rsvp hello instance

---

**Description** Displays information from RSVP-TE hello adjacency instances, either in summary or detailed format.

**Syntax** show mpls rsvp hello instance [ *detail* ] [ *peerAddress* ] [ *filter* ]

- *detail*—Displays the contents of a specific adjacency instance or of all adjacency instances
- *peerAddress*—IP address of an RSVP-TE hello adjacency peer
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show mpls tunnels

---

**Description** Displays status and configuration for all tunnels or for a specific tunnel in the current router context.

**Syntax** `show mpls [ traffic-eng ] tunnels [ name tunnelName ]  
[ role { all | head | tail | middle | remote } | up | down ]  
[ source-id sourceAddress [ srcId ] ] [ destination destAddr ]  
[ interface interfaceType interfaceSpecifier ] [ brief | count-only ] [ filter ]`

- *traffic-eng*—Specifies optional keyword for compatibility with non-E-series implementations
- *tunnelName*—Name of tunnel or minor interface to be displayed
- *role*—Displays tunnels in which the router has a specified role:
  - *all*—Displays all tunnels of which the router is a part
  - *head*—Displays tunnels where the router is the ingress router, or tunnel headend
  - *tail*—Displays tunnels where router is the egress router, or tunnel tailend (endpoint or destination of the tunnel)
  - *middle*—Displays tunnels where router is a transit router on the tunnel
  - *remote*—Displays tunnels where router is a transit router or egress router (tailend)
- *up*—Displays tunnels that are up
- *down*—Displays tunnels that are down
- *sourceAddress*—Source address of tunnels to be displayed
- *srcId*—Local ID associated with source address of tunnels to be displayed, an integer in the range 0–65535
- *destAddress*—Destination address of tunnels to be displayed
- *interface*—Displays information for the specified interface
  - *interfaceType*—Interface type; see *Interface Types and Specifiers* in *About This Guide*
  - *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *brief*—Displays only brief or summary information about the tunnels
- *count-only*—Displays a count for entries that match the specified conditions
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show mroute port count

---

**Description** Displays the mroute port outgoing interface limits and counts.

**Syntax** show mroute port [ *portNumber* ] count [ *filter* ]

- *portNumber*—Port number (in the form *slot/port*) for which you want to display information; if you omit the port number, the router displays information for all ports belonging to the bridge group
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show multicast group limit

---

**Description** Displays the number of IGMP or MLD groups associated with a port, and if configured, the maximum number of groups that a port can accept.

**Syntax** show multicast group limit [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show nbma arp

---

**Description** Displays ARP table entries for NBMA interfaces.

**Syntax** show nbma arp [ *interfaceType interfaceSpecifier* ]

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

**Mode** Privileged Exec, User Exec

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

## show ntp associations

---

**Description** Displays information about NTP servers.

**Syntax** show ntp associations [ detail ] [ filter ]

- detail—Provides expanded information about the ntp servers, rather than a summary
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ntp status

---

**Description** Displays the NTP configuration and status for the router.

**Syntax** show ntp status [ filter ]

- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show nvs

---

**Description** Displays information about NVS.

**Syntax** show nvs [ filter ]

- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show parent-group

---

**Description** Displays information about an external parent group. If you do not provide a parent group name, displays all parent groups.

**Syntax** show parent-group name *parentGroup* [ *brief* ] [ *filter* ]

- *parentGroup*—Name of parent group
- *brief*—Displays information in a condensed format
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

**Related Topics**

- Monitoring External Parent Groups

## show policy-list

---

**Description** Displays information about policy lists.

**Syntax** show policy-list [ *policyName* [ precedence *precValue* [ rule *ruleNumber* ] ] ] [ *brief* ] [ *filter* ]

- *policyName*—Name of policy
- *precValue*—Precedence for policy rule
- *ruleNumber*—Number of policy rule
- *brief*—Displays information in a condensed format
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

**Related Topics**

- Monitoring Policy Lists

## show policy-parameter

---

**Description** Displays information about a policy parameter. If you do not provide a parameter name, displays all parameters.

**Syntax** show policy-parameter [ *parameterName* ] [ brief ] [ *filter* ]

- *parameterName*—Name of parameter
- brief—Displays information in a condensed format
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

**Related Topics**

- Monitoring Policy List Parameters



## show ppp interface

---

**Description** Displays information about the PPP interface type that you specify.

**Syntax** `show ppp interface [ interfaceType interfaceSpecifier ]  
[ full | { dataRestriction }* [ protocolRestriction ]* ] [ state stateRestriction ]  
[ delta ] [ filter ]`

For multilinked PPP interfaces, the following options are additionally available:  
`show ppp interface mlppp [ interfaceSpecifier ] members [ filter ]`

`show ppp interface mlppp links [ filter ]`

- *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*
- *full*—Displays configuration, status, and statistics information for the interface, including information specific to LCP, IPCP, OSINLCP, MPLSCP, PAP, and CHAP; equivalent to specifying **config status statistics**
- *dataRestriction*—One or more of the following keywords; you can repeat a keyword without effect
  - *config*—Displays information about the PPP interface configuration
  - *status*—Displays information about the PPP interface operational status
  - *statistics*—Displays information about the PPP interface statistics
- *\**—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *protocolRestriction*—One or more of the following keywords
  - *eap*—Displays EAP-specific information
  - *lcp*—Displays LCP-specific information
  - *ip*—Displays IPCP-specific information
  - *ipv6*—Displays IPv6CP-specific information
  - *osi*—Displays OSINLCP-specific information
  - *mpls*—Displays MPLSCP-specific information
  - *pap*—Displays PAP-specific information
  - *chap*—Displays CHAP-specific information
- *stateRestriction*—Information is displayed only for interfaces in one of the following specified states:
  - *open*—Interface is administratively enabled, meaning that the **no ppp shutdown** command is operational
  - *closed*—Interface is administratively disabled, meaning that the **ppp shutdown** command is operational
  - *up*—Interface on which the LCP has been negotiated

- down—Interface on which the LCP has not been negotiated, the negotiations have failed, or the connection has been ended
- lower-layer-down—Interface that is not up and is waiting for the lower layer to come up to initiate negotiations for LCP
- not-present—Interface that is not present because the hardware is not available. When the interface is in this state, no detailed information is available.
- passive—Interface with the operational status passive
- tunneled—Tunneled PPP interfaces
- no-ip—Interface on which IPCP is not configured
- ip-open—Interface on which IPCP is administratively enabled, meaning that the **no ppp shutdown ip** command is operational
- ip-closed—Interface on which IPCP is administratively disabled, meaning that the **ppp shutdown ip** command is operational
- ip-up—Interface on which the IPCP has been negotiated
- ip-down—Interface on which the IPCP has not been negotiated, the negotiations failed, or the connection has been ended
- no-ipv6—Interface on which IPv6CP is not configured
- ipv6-open—Interface on which IPv6CP is administratively enabled, meaning that the **no ppp shutdown ipv6** command is operational
- ipv6-closed—Interface on which IPv6CP is administratively disabled, meaning that the **ppp shutdown ipv6** command is operational
- ipv6-up—Interface on which the IPv6CP has been negotiated
- ipv6-down—Interface on which the IPv6CP has not been negotiated, the negotiations failed, or the connection has been ended
- no-osi—Interface on which OSINLCP is not configured
- osi-open—Interface on which OSINLCP is administratively enabled, meaning that the **no ppp shutdown osi** command is operational
- osi-closed—Interface on which OSINLCP is administratively disabled, meaning that the **ppp shutdown osi** command is operational
- osi-up—Interface on which the OSINLCP has been negotiated
- osi-down—Interface on which the OSINLCP has not been negotiated, the negotiations failed, or the connection has been ended
- no-mpls—Interface on which MPLSCP is not configured
- mpls-open—Interface on which MPLSCP is administratively enabled, meaning that the **no ppp shutdown mpls** command is operational
- mpls-closed—Interface on which MPLSCP is administratively disabled, meaning that the **ppp shutdown mpls** command is operational
- mpls-up—Interface on which the MPLSCP has been negotiated
- mpls-down—Interface on which the MPLSCP has not been negotiated, the negotiations failed, or the connection has been ended
- delta—Displays baselined statistics

- *filter*—See *Filtering show Commands* in *About This Guide*
- *members*—Lists all MLPPP member links, or only those for a specified MLPPP bundle
- *links*—Lists all MLPPP encapsulated links, regardless of whether the links are members of an MLPPP bundle

**Mode** Privileged Exec, User Exec

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

## show ppp interface summary

---

**Description** Displays a summary of all nonmultilinked and multilinked PPP interfaces configured on the router.

**Syntax** show ppp interface summary [ config | admin | oper ] [ *filter* ]

- *config*—Displays summary information about PPP configuration status
- *admin*—Displays summary information about PPP administration status
- *oper*—Displays summary information about PPP operational status
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show pppoe interface

---

- Description** Displays information about the PPPoE interface you specify. Use the **summary** keyword to display information for all configured PPPoE interfaces.
- Syntax** `show pppoe interface [ interfaceType interfaceSpecifier ] [ delta ] [ filter ]`  
`show pppoe interface [ full ] [ summary ]`
- *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*
  - *delta*—Displays baselined statistics
  - *filter*—See *Filtering show Commands* in *About This Guide*
  - *full*—Displays configuration, status, and statistics information
  - *summary*—Displays administrative and operational status of all configured PPPoE interfaces
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

## show pppoe interface lockout-time

---

- Description** In configurations with dynamic PPPoE subinterfaces over static PPPoE major interfaces, displays detailed information about the current encapsulation type lockout condition for each PPPoE client associated with the dynamic PPPoE subinterface column.
- Syntax** show pppoe interface [ *interfaceType* *interfaceSpecifier* ] lockout-time [ *filter* ]
- *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*
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced in JUNOS Release 7.2.0.

## show pppoe-service-name-table

---

- Description** Displays the contents of the specified PPPoE service name table.
- Syntax** show pppoe-service-name-table { *brief* | *name tableName* } [ *filter* ]
- *brief*—Displays the names of all PPPoE service name tables configured on the router
  - *tableName*—Name of the PPPoE service name table; string of up to 32 alphanumeric characters
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

## show pppoe subinterface

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays all available data for a specific PPPoE subinterface. Use the <b>summary</b> keyword to display information for all configured PPPoE subinterfaces.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Syntax</b>              | <pre>show pppoe subinterface [ interfaceType interfaceSpecifier ] [ delta ] [ filter ]</pre> <pre>show pppoe subinterface [ full ] [ summary ] [ filter ]</pre> <ul style="list-style-type: none"> <li>■ <i>interfaceType</i>—One of the following interface types listed in <i>Interface Types and Specifiers</i> in <i>About This Guide</i>: <ul style="list-style-type: none"> <li>■ atm</li> <li>■ fastEthernet</li> <li>■ gigabitEthernet</li> <li>■ lag</li> <li>■ serial—PPPoE is not currently supported on serial interfaces</li> <li>■ tenGigabitEthernet</li> </ul> </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>■ delta—Displays baselined statistics</li> <li>■ filter—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> <li>■ full—Displays configuration, status, and statistics information</li> <li>■ summary—Displays administrative and operational status of all configured PPPoE subinterfaces</li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## show privilege

---

|                            |                                                   |
|----------------------------|---------------------------------------------------|
| <b>Description</b>         | Displays the privilege level of the current user. |
| <b>Syntax</b>              | show privilege                                    |
| <b>Mode</b>                | Privileged Exec, User Exec                        |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.    |

## show privilege group

---

**Description** Displays information for all privilege groups or for the specified privilege group.

**Syntax** show privilege group *privilegeGroupName*

- *privilegeGroupName*—Name of the privilege group

**Mode** Privileged Exec

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

## show processes cpu

---

**Description** Displays CPU resources used by system processes.

**Syntax** show processes [ *cpu* ] [ *filter* ]

- *cpu*—Displays CPU use; default display if you omit any keyword
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show processes memory

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays the amount of memory-related resources used by system processes. Because the router allocates memory to system processes in chunks, issuing this command performs a cleanup process to gather unused, available memory for reallocation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Syntax</b>              | <pre>show processes memory [ detail ] [ filter ]</pre> <pre>show processes memory [ slot { slotNumber   all } ] application [ applicationName [ virtual-router [ virtualRouterName [ :vrfName ] ] ] ] [ detail ] [ filter ]</pre> <pre>show processes memory [ slot { slotNumber   all } ] virtual-router [ virtualRouterName [ :vrfName ] ] [ application [ applicationName ] ] [ detail ] [ filter ]</pre> <pre>show processes memory slot { slotNumber   all } detail</pre> <ul style="list-style-type: none"> <li>■ detail—Displays detailed system memory listing</li> <li>■ filter—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> <li>■ slot slotNumber—Displays memory usage for just the controller in the specified slot</li> <li>■ slot all—Displays memory usage for all slot controllers</li> <li>■ application—Displays system memory usage on a per-application basis</li> <li>■ applicationName—Name of the application for which you want to view system memory usage</li> <li>■ virtual-router—Displays memory usage for all virtual routers on a per-router basis</li> <li>■ virtual-router virtualRouterName—Displays memory usage for each data store associated with the specified router</li> <li>■ vrfName—Name of the VRF (note the use of the colon before you specify a VRF name)</li> </ul> |
| <b>Mode</b>                | Privileged Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## show profile

---

|                            |                                                                                                                                                                                                                         |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays information about a specific IP profile, such as the available PPPoE profile information: PPPoE URL string, PPPoE MOTM string, or both. If neither exists, the fields do not appear in the display.            |
| <b>Syntax</b>              | <pre>show profile name profileName [ filter ]</pre> <ul style="list-style-type: none"> <li>■ profileName—Name of the profile</li> <li>■ filter—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                              |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                          |



## show profile brief

---

**Description** Displays the names of all IP profiles.

**Syntax** show profile brief [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show qos interface-hierarchy

---

**Description** Displays information about the router's QoS interface hierarchy.

**Syntax** To display the interface hierarchy for interfaces:  
show qos interface-hierarchy interface *interfaceType* *interfaceSpecifier* [ *atmVpi* | *s-vlanIdValue* ] [ *filter* ]  
  
To display the interface hierarchy for L2TP sessions:  
show qos interface-hierarchy l2tp session *sessionName* [ *filter* ]  
  
To display the interface hierarchy for tunnel-service interfaces:  
show qos interface-hierarchy tunnel-server *interfaceSpecifier* [ *filter* ]  
  
■ *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*  
■ *atmVpi*—Virtual path identifier of this PVC; number in the range 0–255  
■ *s-vlanIdValue*—S-VLAN ID number in the range 0–4095  
■ *sessionName* —Name of the L2TP session  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*atmVpi* and *s-vlanIdValue* variables added in JUNOS Release 7.1.0.

### Related Topics

- Monitoring the QoS Profiles Attached to an Interface

## show qos-parameter

---

**Description** Displays QoS parameter instance settings for QoS clients.

**Syntax** To display settings for a specific parameter instance with references:  
`show qos-parameter [ qosParameterInstanceName ] references [ brief | full ] [ filter ]`

To display references globally:  
`show qos-parameter [ qosParameterInstanceName ] references global [ qosParameterInstanceName ] [ brief | full ] [ filter ]`

To display references for interfaces:  
`show qos-parameter [ qosParameterInstanceName ] references [ interface interfaceType interfaceSpecifier [ atmVpi | s-vlanIdValue ] ] [ explicit ] [ brief | full ] [ filter ]`

To display references for L2TP sessions:  
`show qos-parameter [ qosParameterInstanceName ] references lt2p session sessionName [ explicit ] [ filter ]`

- *qosParameterInstanceName*—Name of the parameter instance
- *references*—Displays interfaces that reference this parameter instance
- *global*—Displays information about global parameter instances
- *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*
- *atmVpi*—Virtual path identifier of this PVC; number in the range 0–255
- *s-vlanIdValue*—S-VLAN ID number in the range 0–4095
- *sessionName* —Name of the L2TP session
- *brief*—Displays information in a condensed format
- *full*—Displays information in expanded format
- *explicit*—Displays parameter instances only on the specified interface and not parameter instances stacked above the interface
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced in JUNOS Release 7.1.0.  
**full** keyword added in JUNOS Release 7.2.0.

### Related Topics

- Monitoring QoS Parameter Instances

## show qos-parameter-define

---

**Description** Displays QoS parameter definition settings for QoS administrators.

**Syntax** show qos-parameter-define [ *qosParameterDefinitionName* ] [ brief | references ] [ *filter* ]

- *qosParameterDefinitionName*—Name of the parameter definition
- brief—Displays information in a condensed format
- references—Display references to this parameter definition
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Monitoring QoS Parameter Definitions

## show qos-port-type-profile

---

**Description** Displays information about the QoS port-type profile for particular interface type.

**Syntax** show qos-port-type-profile [ *typeOfInterface* ] [ *filter* ]

- *typeOfInterface*—One of the following interface types to be associated with the QoS port-type profile: atm, ethernet, lag, serial, server-port
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Monitoring the Configuration of QoS Port-Type Profiles

## show qos-profile

---

**Description** Displays information about QoS profiles configured on the router. Use the **references** keyword to display information about QoS profiles attached to an interface, L2TP session, or tunnel-service interface.

**Syntax** To display information about all QoS profiles or a specific QoS profile:  
`show qos-profile [ qosProfileName ] [ brief ] [ filter ]`

To display information about the QoS profiles attached to a specific interface:  
`show qos-profile references interface interfaceType interfaceSpecifier  
[ atmVpi | s-vlanIdValue ] [ explicit ] [ brief ] [ filter ]`

To display information about the QoS profiles attached to a specific L2TP session:  
`show qos-profile references lt2p session sessionName [ explicit ] [ brief ] [ filter ]`

To display information about the QoS profiles attached to a specific tunnel-service interface:  
`show qos-profile references tunnel-server interfaceType [ explicit ] [ brief ] [ filter ]`

- *qosProfileName*—Name of the QoS profile
- *references*—Displays interface profiles that reference this profile
- *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*
- *atmVpi*—Virtual path identifier of this PVC; number in the range 0–255
- *s-vlanIdValue*—S-VLAN ID number in the range 0–4095
- *sessionName* —Name of the L2TP session
- *explicit*—Displays attachments for QoS profiles only on the specified interface and not QoS profiles stacked above the interface
- *brief*—Displays information in a condensed format
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Monitoring the Configuration of QoS Profiles

## show qos queue-thresholds

---

**Description** Displays the color-based thresholds for queues on each egress slot.

Displaying queue thresholds by queue profile shows buffer memory information by queue profile, and, within that profile, shows the thresholds for each region.

Displaying queue thresholds by region organizes the buffer memory information by queue region, and, within each region, shows the buffer allocations for each queue profile.

**Syntax** `show qos queue-thresholds egress-slot egressSlot  
[ queue-profile [ queueProfileName ] | region [ regionNumber ] ] [ filter ]`

- `queue-thresholds`—Displays color-based thresholds for queues on an egress slot
- `egressSlot`—Displays color-based thresholds for an egress slot
- `queue-profile`—Displays thresholds for each region of the queue profile
- `queueProfileName`—Name of the queue profile
- `region`—Displays egress memory or buffer region oversubscription
- `regionNumber`—Number identifying the egress memory or buffer region on the line module
- `filter`—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- [Monitoring Queue Thresholds](#)

## show qos scheduler-hierarchy

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays information about the scheduler hierarchy on a specified interface, L2TP session, or tunnel-service interface.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Syntax</b>              | <p>To display information about the scheduler hierarchy on a specified interface:</p> <pre>show qos scheduler-hierarchy <i>interfaceType</i> <i>interfaceSpecifier</i> [ <i>atmVpi</i>   <i>s-vlanIdValue</i> ] [ <i>explicit</i>   <i>level levelNumber</i> ] [ <i>traffic-class-group</i> { <i>trafficClassGroupName</i>   <i>default</i> } ] [ <i>brief</i>   <i>full</i>   <i>summary</i> ] [ <i>filter</i> ]</pre> <p>To display information about the scheduler hierarchy on a specified tunnel-service interface:</p> <pre>show qos scheduler-hierarchy tunnel-server <i>interfaceType</i> [ <i>explicit</i>   <i>level levelNumber</i> ] [ <i>traffic-class-group</i> { <i>trafficClassGroupName</i>   <i>default</i> } ] [ <i>brief</i>   <i>full</i>   <i>summary</i> ] [ <i>filter</i> ]</pre> <p>To display information about the scheduler hierarchy on a specified L2TP session:</p> <pre>show qos scheduler-hierarchy lt2p session <i>sessionName</i> [ <i>explicit</i>   <i>level levelNumber</i> ] [ <i>traffic-class-group</i> { <i>trafficClassGroupName</i>   <i>default</i> } ] [ <i>brief</i>   <i>full</i>   <i>summary</i> ] [ <i>filter</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>atmVpi</i>—Virtual path identifier of this PVC; number in the range 0–255</li> <li>■ <i>s-vlanIdValue</i>—S-VLAN ID number in the range 0–4095</li> <li>■ <i>explicit</i>—Displays scheduler profiles for the specified interface rather than those stacked above the interface</li> <li>■ <i>levelNumber</i>—Number of scheduler levels above specified interface to report; 0 indicates the specified interface</li> <li>■ <i>trafficClassGroupName</i>—Name of the traffic-class group for which to display the scheduler hierarchy</li> <li>■ <i>sessionName</i> —Name of the L2TP session</li> <li>■ <i>default</i>—Displays the scheduler hierarchy of the default traffic-class group</li> <li>■ <i>brief</i>—Displays information in condensed format</li> <li>■ <i>full</i>—Displays information in expanded format</li> <li>■ <i>summary</i>—Displays summary of scheduler profiles stacked above the specified interface</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Release Information</b> | Command introduced in JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Related Topics</b>      | <ul style="list-style-type: none"> <li>■ Monitoring the QoS Scheduler Hierarchy</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## show qos shared-shaper

---

**Description** Displays information about shared shapers for an interface, L2TP session, or tunnel-service interface.

**Syntax** To display information about shared shapers for a specified interface:

```
show qos shared-shaper interface interfaceType interfaceSpecifier  
[ atmVpi | s-vlanIdValue ] [ summary ] [ explicit ] [ brief | full ] [ filter ]
```

To display information about shared shapers on an L2TP session:

```
show qos shared-shaper lt2p session sessionName  
[ summary ] [ explicit ] [ brief | full ] [ filter ]
```

To display information about shared shapers on a tunnel-service interface:

```
show qos shared-shaper tunnel-server interfaceType  
[ summary ] [ explicit ] [ brief | full ] [ filter ]
```

- *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*
- *atmVpi*—Virtual path identifier of this PVC; number in the range 0–255
- *s-vlanIdValue*—S-VLAN ID number in the range 0–4095
- *sessionName* —Name of the L2TP session
- *summary*—Displays summary of shared shapers stacked above the specified interface
- *explicit*—Displays shared shapers for the specified interface rather than those stacked above the interface
- *brief*—Displays information in condensed format
- *full*—Displays information in expanded format
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
*atmVpi* and *s-vlanIdValue* variables added in JUNOS Release 7.1.0.

### Related Topics

- Monitoring Shared Shapers

## show qos-shared-shaper-control

---

|                            |                                                                                                                |
|----------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays information about the user-configurable variables for controlling the simple shared shaper algorithm. |
| <b>Syntax</b>              | show qos-shared-shaper-control                                                                                 |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                     |
| <b>Release Information</b> | Command introduced in JUNOS Release 8.0.0.                                                                     |
| <b>Related Topics</b>      | <ul style="list-style-type: none"> <li>■ Monitoring Shared Shaper Algorithm Variables</li> </ul>               |

## show queue-profile

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays information about queue profiles configured on the E-series router.                                                                                                                                                                                                                                                                                                                                             |
| <b>Syntax</b>              | show queue-profile [ <i>queueProfileName</i> ] [ brief   references ] [ <i>filter</i> ] <ul style="list-style-type: none"> <li>■ <i>queueProfileName</i>—Name of the queue profile</li> <li>■ brief—Displays information in a condensed format</li> <li>■ references—Displays QoS profiles that reference this profile</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Related Topics</b>      | <ul style="list-style-type: none"> <li>■ Monitoring Queue Profiles</li> </ul>                                                                                                                                                                                                                                                                                                                                            |

## show radius acct-session-id-format

---

|                            |                                                                                                                                                                                      |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays RADIUS Acct-Session-Id format used for RADIUS attribute 44, Acct-Session-Id.                                                                                                |
| <b>Syntax</b>              | show radius acct-session-id-format [ <i>filter</i> ] <ul style="list-style-type: none"> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec                                                                                                                                                                      |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                       |



## show radius algorithm

---

**Description** Displays the RADIUS algorithm that the RADIUS servers use.

**Syntax** show radius algorithm [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius attributes-ignored

---

**Description** Displays whether the RADIUS server accepts or ignores RADIUS attributes in Access-Accept messages. See the **radius ignore** command.

**Syntax** show radius attributes-ignored [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius attributes-included

---

**Description** Displays the RADIUS attributes that are included in and excluded from Access-Request, Acct-Start, and Acct-Stop messages. You configure attribute inclusion using the **radius include** commands.

**Syntax** show radius attributes-included [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius calling-station-delimiter

---

**Description** Displays the delimiter used in RADIUS attribute 30, Calling-Station-Id, for the authenticated ATM PPP users.

**Syntax** show radius calling-station-delimiter [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius calling-station-format

---

**Description** Displays the format of RADIUS attribute 31, Calling-Station-Id.

**Syntax** show radius calling-station-format [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius connect-info-format

---

**Description** Displays the format of RADIUS attribute 77, Connect-Info.

**Syntax** show radius connect-info-format [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius dsl-port-type

---

**Description** Displays the DSL port type used in RADIUS attribute 61, NAS-Port-Type, for ATM users.

**Syntax** show radius dsl-port-type [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius ethernet-port-type

---

**Description** Display RADIUS attribute 61, NAS-Port-Type, for Ethernet interfaces.

**Syntax** show radius ethernet-port-type [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius nas-identifier

---

**Description** Displays the RADIUS client's value for RADIUS attribute 32, NAS-Identifier.

**Syntax** show radius nas-identifier [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius nas-port-format

---

**Description** Displays the format used for RADIUS attribute 5, NAS-Port.

**Syntax** show radius nas-port-format [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius nas-port-format extended

---

**Description** Displays the format used for RADIUS attribute 5, NAS-Port, on the E120 router and the E320 router.

**Syntax** show radius nas-port-format extended { atm | ethernet } [ *filter* ]

- atm—Displays information about ATM interfaces
- ethernet—Displays information about Gigabit Ethernet and 10-Gigabit Ethernet interfaces
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius override

---

**Description** Displays the current override settings configured on the RADIUS client (LNS) for the NAS-IP-Address [4], NAS-Port-Id [87], Calling-Station-Id [31], and NAS-Identifier [32] RADIUS attributes. The nas-info field in the command output indicates the virtual router that generates the NAS-IP-Address and NAS-Identifier attributes for AAA broadcast accounting packets.

**Syntax** show radius override [ *filter* ]

- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

## show radius pppoe nas-port-format

---

**Description** Displays the configuration of the NAS-Port-Format for PPPoE subscribers.

**Syntax** show radius pppoe nas-port-format [ *filter* ]

- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

## show radius relay

---

**Description** Displays information about RADIUS relay authentication and accounting servers.

**Syntax** show radius relay [ authentication | accounting ]  
 { servers | statistics [ *ipAddress* ] [ delta ] } [ *filter* ]

- authentication—Displays authentication information only
- accounting—Displays accounting information only
- servers—Displays a list of authentication and/or accounting servers
- statistics—Displays authentication and/or accounting statistics
- *ipAddress*—Address of a RADIUS relay client for which statistics are displayed
- delta—Displays baselined statistics
- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

## show radius relay udp-checksum

---

**Description** Displays information about RADIUS relay UDP checksums.

**Syntax** show radius relay udp-checksum [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius remote-circuit-id-delimiter

---

**Description** Displays the delimiter character that the router uses to set off components in the PPPoE remote circuit ID value sent from a DSLAM and captured on the router. The default delimiter character is #.

**Syntax** show radius remote-circuit-id-delimiter

**Mode** Privileged Exec

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

## show radius remote-circuit-id-format

---

**Description** Displays the format of the PPPoE remote circuit ID value sent from a DSLAM and captured on the router.

If the PPPoE remote circuit ID value is configured to include any or all of the agent-circuit-id, agent-remote-id, and nas-identifier components, the display lists the components included and the order in which they appear.

If the PPPoE remote circuit ID value is configured to use the format for the **dsl-forum-1** keyword of the **radius remote-circuit-id-format** command, the display indicates that this format is in effect.

**Syntax** show radius remote-circuit-id-format

**Mode** Privileged Exec

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

## show radius rollover-on-reject

---

**Description** Displays the configuration of the rollover-on-reject feature.

**Syntax** show radius rollover-on-reject [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius servers

---

**Description** Displays information about the RADIUS servers configured on the router.

**Syntax** show radius [ *serverType* ] servers [ *filter* ]

- *serverType*—One of the following RADIUS server types:
  - authentication—Displays authentication information only
  - accounting—Displays accounting information only
  - dynamic-request—Displays dynamic-request information only
  - pre-authentication—Displays preauthentication information only
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**pre-authentication** keyword added in JUNOS Release 8.1.0.

**Related Topics**

- Monitoring RADIUS Dynamic-Request Server Information

## show radius statistics

---

**Description** Displays statistics for the RADIUS servers configured on the router.

**Syntax** show radius [ *serverType* ] statistics [ *delta* ] [ *filter* ]

- *serverType*—One of the following RADIUS server types:
  - authentication—Displays authentication statistics only
  - accounting—Displays accounting statistics only
  - dynamic-request—Displays dynamic-request statistics only
  - pre-authentication—Displays preauthentication statistics only
- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**pre-authentication** keyword added in JUNOS Release 8.1.0.

**Related Topics**

- Monitoring RADIUS Dynamic-Request Server Information

## show radius trap

---

**Description** Displays the configuration of RADIUS SNMP traps.

**Syntax** show radius trap [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius tunnel-accounting

---

**Description** Displays information about RADIUS accounting for L2TP tunnels.

**Syntax** show radius tunnel-accounting [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius udp-checksum

---

**Description** Displays information about UDP checksums.

**Syntax** show radius udp-checksum [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius update-source-addr

---

**Description** Displays the IP source address of the RADIUS client.

**Syntax** show radius update-source-addr [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show radius vlan nas-port-format

---

**Description** Displays whether the S-VLAN ID is included in RADIUS attribute 5, NAS-Port.

**Syntax** show radius vlan nas-port-format [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show rate-limit-profile

---

**Description** Displays information about rate-limit profiles.

**Syntax** show rate-limit-profile [ *rateLimitProfileName* ] [ *filter* ]

- *rateLimitProfileName*—Name of a rate-limit profile
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

**Related Topics**

- Monitoring Rate-Limit Profiles



## show reboot-history

---

**Description** Displays information about the reboot history of the router.

**Syntax** show reboot-history [ *fileName.nty* ] [ *filter* ]

- *fileName*—Name of a history file to display; if not specified, displays the current reboot.nty file
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show redundancy

---

**Description** Displays the supported redundancy modes as well as other status relating to high availability. In particular, the output indicates any conditions that are preventing the operational mode from being high availability.

**Syntax** show redundancy [ *brief* | *detail* ] [ *filter* ]

- *brief*—Displays summary redundancy information for line modules, SRP modules, or both
- *detail*—Displays detailed information for line modules, SRP modules, or both
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show redundancy clients

---

**Description** Displays high availability clients and their various levels of high availability support.

**Syntax** show redundancy clients [ *all* | *supported* | *unsafe* | *unsupported* ] [ *filter* ]

- *all*—Displays all clients registered with high availability
- *supported*—Displays only clients that are supported by high availability
- *unsafe*—Displays only clients with an unsafe high availability state
- *unsupported*—Displays only clients that are not supported by high availability.
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show redundancy history

---

**Description** Displays information about dates, times, and the number of occurrences for starts and switchovers.

**Syntax** show redundancy history [ *srp* ] [ *detail* ] [ *filter* ]

- *srp*—Displays history information specific to the SRP modules
- *detail*—Displays detailed history information
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show redundancy line-card

---

**Description** Displays redundancy information specific to line modules.

**Syntax** show redundancy line-card [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show redundancy srp

---

**Description** Displays redundancy information specific to SRP modules.

**Syntax** show redundancy srp [ *brief* | *detail* ] [ *filter* ]

- *brief*—Displays summary redundancy information for SRP modules
- *detail*—Displays detailed information for SRP modules
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show redundancy switchover-history

---

**Description** Displays the high availability switchover history for the router.

**Syntax** show redundancy switchover-history [ *srp* ] [ *filter* ]

- *srp*—Displays history information specific to the SRP modules
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show reload

---

**Description** Displays the reload status on the router.

**Syntax** show reload [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show resource

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays statistical information about resources and their current threshold configurations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Syntax</b>              | <pre>show resource [ [ if-type { atm-active-sub-if   atm-sub-if   atm-vc   ip   ppp-link } [ system   slot slot ] ] ] [ threshold [ trap [ status ] ] ]</pre> <ul style="list-style-type: none"> <li>■ if-type—Indicates interface type; see <i>Interface Types and Specifiers</i> in <i>About This Guide</i></li> <li>■ atm-active-sub-if—Active ATM subinterfaces</li> <li>■ atm-sub-if—Both active and inactive ATM subinterfaces</li> <li>■ atm-vc—ATM virtual circuits</li> <li>■ ip—IP interfaces</li> <li>■ ppp-link—PPP link interfaces</li> <li>■ system—All slots on the system</li> <li>■ 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)</li> <li>■ threshold—Displays threshold information (optional keyword when used alone)</li> <li>■ trap—Displays threshold trap status</li> <li>■ status—Displays threshold trap status (optional keyword)</li> </ul> |
| <b>Mode</b>                | Privileged Exec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## show route-map

---

|                            |                                                                                                                                                                                                                    |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays all the route maps or the route map you specify. The default is all route maps.                                                                                                                           |
| <b>Syntax</b>              | <pre>show route-map [ listName ] [ filter ]</pre> <ul style="list-style-type: none"> <li>■ listName—Name of a route map</li> <li>■ filter—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec                                                                                                                                                                                                    |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                     |

## show rtr application

---

**Description** Displays RTR application information.

**Syntax** show rtr application [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show rtr collection-statistics

---

**Description** Displays RTR collection information.

**Syntax** show rtr collection-statistics [ *rtrIndex* ] [ *filter* ]  
■ *rtrIndex*—Number of the operation  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show rtr configuration

---

**Description** Displays the configuration for all RTR entries or for a specified entry.

**Syntax** show rtr configuration [ *rtrIndex* ] [ *filter* ]  
■ *rtrIndex*—Number of the operation  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show rtr history

---

**Description** Displays the history collected for all RTR entries or for a specified entry.

**Syntax** show rtr history [ *rtrIndex* ] [ *filter* ]

- *rtrIndex*—Number of the operation
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show rtr hops

---

**Description** Displays information discovered on each of the hops.

**Syntax** show rtr hops [ *rtrIndex* ] [ *filter* ]

- *rtrIndex*—Number of the operation
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show rtr operational-state

---

**Description** Displays the operational state for all RTR entries or for a specified entry.

**Syntax** show rtr operational-state [ *rtrIndex* ] [ *filter* ]

- *rtrIndex*—Number of the operation
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show running-configuration

---

**Description** Displays the configuration currently running on the router, a specified virtual router, a specified interface, or a specified category of router settings. Available only if the router is in Manual Commit mode (configuration changes affect only the current system configuration).

**Syntax** show running-configuration [ interface *interfaceType* *interfaceSpecifier* ] | [ category *categoryName* [ *categoryName* ]\* ] [ virtual-router *routerName* ] [ [ exclude-category interface *interfaceType* ]\* ] [ include-defaults ] [ *filter* ]

- *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*
- *categoryName*—Name of the category or subcategory of router settings; first *categoryName* variable in the syntax represents the category; repeated *categoryName* variables represent subcategories of the category
- *routerName*—Name of the virtual router
- exclude-category—Excludes information associated with a particular type of interface
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- include-defaults—Includes commands that set default values for various parameters
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show scheduler-profile

---

**Description** Displays information about scheduler profiles configured on the E-series router.

**Syntax** show scheduler-profile [ *schedulerProfileName* ] [ brief | references ] [ *filter* ]

- *schedulerProfileName*—Name of the scheduler profile
- brief—Displays information in a condensed format
- references—Displays QoS profiles that reference this profile
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Monitoring the Configuration of Scheduler Profiles

## show secrets

---

**Description** Displays passwords and secrets.

**Syntax** show secrets [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show secure classifier-list

---

**Description** Displays information about secure classifier lists.

**Syntax** show secure classifier-list [ *classifierName* [ *classifierNumber* ] ] [ brief | detailed ] [ *filter* ]

- *classifierName*—Name of the secure classifier list
- *classifierNumber*—Number of the classifier list
- brief—Displays information in a condensed, summary format
- detailed—Provides a detailed description of the trace, rather than a summary
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Monitoring Secure CLACL Configurations

## show secure policy-list

---

**Description** Displays information about the secure policy lists that are configured for packet mirroring.

**Syntax** show secure policy-list [ name *policyName* ] [ brief ] [ *filter* ]

- *policyName*—Name of the secure policy-list
- brief—Displays information in a condensed format
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Monitoring Secure Policy Lists



## show service-management owner-session

---

**Description** Displays subscriber session information based on the session owner.

**Syntax** show service-management owner-session { *brief* | *subscriberId* | *ownerName* *ownerId* [ *service-session* *serviceName* ] } [ *filter* ]

- *brief*—Displays limited information about the owner sessions
- *subscriberId*—ID of the subscriber
- *ownerName*—Name of the owner for the owner session; AAA for RADIUS-based subscribers
- *ownerId*—Unique ID of the owner for the owner session; Acct-Session-ID for RADIUS-based subscribers
- *serviceName*—Name of the service session used for the owner session
- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

## show service-management service-definition

---

**Description** Displays information for all service definitions or for the specified service definition.

**Syntax** show service-management service-definition { *fileName.mac* | *brief* } [ *filter* ]

- *fileName*—Name of the service definition macro file
- *brief*—Displays limited information about the service definitions
- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

## show service-management service-session-profile

---

**Description** Displays information for user sessions.

**Syntax** show service-management service-session-profile { *profileName* | *brief* } [ *filter* ]

- *profileName*—Name of the service session profile
- *brief*—Displays limited information about the user sessions
- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

## show service-management subscriber-session

---

**Description** Displays information for subscriber sessions.

**Syntax** show service-management subscriber-session { *brief* | *subscriberId* | *subscriberName* [ *interface* *interfaceType* *interfaceSpecifier* [ *service-session* *serviceName* ] ] } [ *filter* ]

- *brief*—Displays limited information about the user sessions
- *subscriberId*—ID of the subscriber
- *subscriberName*—Name of the subscriber
- *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*
- *serviceName*—Name of the service session used for the subscriber session
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show service-management summary

---

**Description** Displays summary information for all subscriber and service sessions.

**Syntax** show service-management summary [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show snmp

---

**Description** Displays information about the status of communications between the SNMP agent and the SNMP manager.

**Syntax** show snmp [ *delta* ] [ *filter* ]

- *delta*—Displays baselined statistics
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show snmp access

---

|                            |                                                                                                                                                                                                                                                           |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays information about the groups you configured.                                                                                                                                                                                                     |
| <b>Syntax</b>              | <code>show snmp access [ storage ] [ filter ]</code> <ul style="list-style-type: none"><li>■ <code>storage</code>—Displays SNMP storage information</li><li>■ <code>filter</code>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec                                                                                                                                                                                                                                           |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.<br><b>storage</b> keyword added in JUNOS Release 7.2.0.                                                                                                                                                    |

## show snmp agent

---

|                            |                                                                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays information about the SNMP MIB agent.                                                                                                                              |
| <b>Syntax</b>              | <code>show snmp agent [ filter ]</code> <ul style="list-style-type: none"><li>■ <code>filter</code>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec                                                                                                                                                             |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                              |

## show snmp community

---

|                            |                                                                                                                                                                                 |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays information about configured communities.                                                                                                                              |
| <b>Syntax</b>              | <code>show snmp community [ filter ]</code> <ul style="list-style-type: none"><li>■ <code>filter</code>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec                                                                                                                                                                 |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                  |

## show snmp group

---

|                            |                                                                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays the list of available groups (dynamic and static). Detailed information is available through the <b>show snmp access</b> command.                                  |
| <b>Syntax</b>              | <code>show snmp group [ filter ]</code> <ul style="list-style-type: none"><li>■ <code>filter</code>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li></ul> |
| <b>Mode</b>                | Privileged Exec                                                                                                                                                             |
| <b>Release Information</b> | Command introduced in JUNOS Release 7.1.0.                                                                                                                                  |

## show snmp interfaces

---

**Description** Displays the configuration of the SNMP interface tables.

**Syntax** show snmp interfaces [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show snmp management-event

---

**Description** Displays statistical SNMP event information for event table entries, router resources, and trigger table entries.

**Syntax** show snmp management-event [ *events* | *resource* | *triggers* | *statistics* [ *error* | *event* ] [ *trigger triggerOwner triggerName* ] [ *filter* ]

- *events*—Displays event table entries
- *resource*—Displays resource information
- *triggers*—Displays trigger table entries
- *statistics*—Displays statistical information
- *error*—Displays error statistics
- *event*—Displays event statistics
- *triggerOwner*—Owner of trigger for which statistics are displayed; string of up to 32 alphanumeric characters
- *triggerName*—Name of trigger for which statistics are displayed; string of up to 32 alphanumeric characters
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show snmp notificationLog

---

**Description** Displays the configuration of the SNMP notification log.

**Syntax** show snmp notificationLog [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show snmp secure-log

---

**Description** Displays the contents of the SNMP secure audit log.

**Syntax** show snmp secure-log [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**  
■ Monitoring SNMP Secure Audit Logs

## show snmp trap

---

**Description** Displays information about configured traps and trap destinations.

**Syntax** show snmp trap [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

**Related Topics**  
■ Monitoring SNMP Secure Packet Mirroring Traps

## show snmp trap statistics

---

**Description** Displays statistics on SNMP traps sent and received on the router.

**Syntax** show snmp trap statistics [ *filter* ]  
■ *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show snmp user

---

**Description** Displays information about users.

**Syntax** show snmp user [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show snmp view

---

**Description** Displays information about the views you created.

**Syntax** show snmp view [ *storage* ] [ *filter* ]

- *storage*—Displays SNMP storage information
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show socket statistics

---

**Description** Displays BSD socket-emulation statistics.

**Syntax** show socket statistics [ *detailed* ] [ *filter* ]

- *detailed*—Displays detailed statistics for each TCP socket
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show sssc info

---

**Description** Displays information about SDX (formerly SSC) servers and SDX client (formerly SSCC) statistics.

**Syntax** show sssc info [ *brief* ] [ *filter* ]

- *brief*—Displays abbreviated SDX client and server information
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ssc statistics

---

**Description** Displays statistics about SDX (formerly SSC) servers and SDX client (formerly SSCC) statistics.

**Syntax** show ssc statistics [ delta ] [ filter ]

- delta—Displays baselined statistics
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show ssc version

---

**Description** Displays the SDX client (formerly SSCC) version number.

**Syntax** show ssc version [ filter ]

- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show statistics-profile

---

**Description** Displays information about statistics profiles configured on the E-series router.

**Syntax** show statistics-profile [ statisticsProfileName ] [ brief | references ] [ filter ]

- statisticsProfileName—Name of the statistics profile
- brief—Displays information in a condensed format
- references—Displays QoS profiles that reference this profile
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

**Related Topics**

- Monitoring the Configuration of Statistics Profiles

## show statistics tacacs

---

**Description** Displays TACACS+ server or TACACS+ statistics information.

**Syntax** show statistics tacacs [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show subscriber-policy

---

**Description** Displays the set of forwarding (permit) and filtering (deny) rules for all subscriber policies configured on the router, or for a specified subscriber policy. If you omit the policy name, the router displays information about the default subscriber (client) policy, the default trunk (server) policy, and any nondefault subscriber policies that are configured for a subscriber interface associated with a bridge group or VPLS instance.

**Syntax** show subscriber-policy [ *subscriberPolicyName* ] [ *filter* ]

- *subscriberPolicyName*—Name of the subscriber policy specified with the **subscriber-policy** command
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

**Related Topics**

- Monitoring Subscriber Policy Rules



## show subscribers

---

**Description** Displays the active subscribers on your router.

**Syntax** To display detailed information:  
show subscribers [ ipv6 [ *ipv6Prefix* ] ]  
[ domain *domainName* | interface { atm | ethernet } *interfaceSpecifier* |  
port *interfaceSpecifier* | slot *slotNumber* | username *userName* | virtual-router *vrName* ]  
[ *filter* ]

To display summary information:

show subscribers summary [ domain | interface | port | slot | virtual-router ] [ *filter* ]

- *ipv6*—Displays IPv6 subscribers for the domain
- *ipv6Prefix*—Prefix that defines the IPv6 network that you want to filter
- *userName*—Username of active subscriber
- *domain*—Displays active subscribers for the domain
- *domainName*—Domain name matching usernames of active subscribers
- *interface*—Displays active subscribers for the the specified interface, **atm** or **ethernet**, or in the **summary** version, displays active subscribers for all ATM and Ethernet interfaces
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *port*—Displays active subscribers for the port
- *slot*—Displays active subscribers for the slot
- *slotNumber*—Number of the chassis slot of the line module in the range 0–2 (ERX-310 model), 0–6 (ERX-7xx models), 0–13 (ERX-14xx models), 0–5 (E120 router), and 0–16 (E320 router)
- *virtual-router*—Displays active subscribers for the VR
- *vrName*—Name of the VR to which interfaces of active subscribers are bound
- *filter*—See *Filtering show Commands* in *About This Guide*
- *summary*—Displays the active subscribers for each domain, interface, port, slot, or virtual router

**Mode** Privileged Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**interface**, **atm**, and **ethernet** keywords added in JUNOS Release 7.3.0.  
**slot** keyword and *slotNumber* variable added in JUNOS Release 7.3.0.

## show subsystems

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays the names of subsystem files in the current software release or in a specified release file.                                                                                                                                                                                                                                                                                          |
| <b>Syntax</b>              | show subsystems [ file <i>fileName.rel</i> ] [ <i>filter</i> ] <ul style="list-style-type: none"> <li>■ <i>fileName</i>—Name of the software release file; you can specify a file on a remote server by including the path as part of the filename; absence of a path indicates a local file</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                 |

## show suspicious-control-flow-detection counts

---

|                            |                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays statistics for the suspicious flow control detection system.                                                                                                                                                                                                                                                                                     |
| <b>Syntax</b>              | show suspicious-control-flow-detection counts [ slot <i>slotNumber</i> ] [ delta ] [ <i>filter</i> ] <ul style="list-style-type: none"> <li>■ <i>delta</i>—Displays statistics for the current baseline</li> <li>■ <i>slotNumber</i>—Number of the slot</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                                                                                                |
| <b>Release Information</b> | Command introduced in JUNOS Release 7.3.0.                                                                                                                                                                                                                                                                                                                |

## show suspicious-control-flow-detection flows

---

|                            |                                                                                                                                                                                                                                                                           |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Displays suspicious flows.                                                                                                                                                                                                                                                |
| <b>Syntax</b>              | show suspicious-control-flow-detection flows [ slot <i>slotNumber</i> ] [ <i>filter</i> ] <ul style="list-style-type: none"> <li>■ <i>slotNumber</i>—Number of the slot</li> <li>■ <i>filter</i>—See <i>Filtering show Commands</i> in <i>About This Guide</i></li> </ul> |
| <b>Mode</b>                | Privileged Exec, User Exec                                                                                                                                                                                                                                                |
| <b>Release Information</b> | Command introduced in JUNOS Release 7.3.0.                                                                                                                                                                                                                                |

## show suspicious-control-flow-detection info

---

- Description** Displays information about the suspicious flow control detection system.
- Syntax** show suspicious-control-flow-detection info [ slot *slotNumber* ] [ brief ] [ delta ] [ filter ]
- brief—Displays only suspicious information
  - delta—Displays statistics for the current baseline
  - *slotNumber*—Number of the slot for which information is displayed
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced in JUNOS Release 7.3.0.

## show suspicious-control-flow-detection protocol

---

- Description** Displays suspicious control flow information for a specific protocol. If no protocol is specified, information is displayed for all protocols.
- Syntax** show suspicious-control-flow-detection protocol [ *protocolValue* ] [ filter ]
- *protocolValue*—Name of the protocol
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec, User Exec
- Release Information** Command introduced in JUNOS Release 7.3.0.

## show tacacs

---

- Description** Displays general or detailed TACACS + information.
- Syntax** show tacacs [ statistics | delta ] [ filter ]
- statistics—Specifies TACACS + server statistics
  - delta—Displays baselined statistics
  - *filter*—See *Filtering show Commands* in *About This Guide*
- Mode** Privileged Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

## show tcp ack-rst-and-syn

---

**Description** Displays the status of TCP ACK, RST, and SYN protection.

**Syntax** show [ ip ] tcp ack-rst-and-syn [ vrf *vrfName* ] [ *filter* ]

- *vrfName*—Name of the VRF
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0  
ip keyword made optional in JUNOS Release 7.2.0.

## show tcp path-mtu-discovery

---

**Description** Displays the path MTU information.

**Syntax** show [ ip ] tcp path-mtu-discovery [ vrf *vrfName* ]

- *vrfName*—Name of the VRF

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0  
ip keyword made optional in JUNOS Release 7.2.0.

## show tcp paws

---

**Description** Displays TCP PAWS status information.

**Syntax** show [ ip ] tcp paws [ vrf *vrfName* ]

- *vrfName*—Displays the PAWS information associated with a VRF

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced in JUNOS Release 7.1.0  
ip keyword made optional in JUNOS Release 7.2.0.

## show tcp resequence-buffers

---

**Description** Displays the configuration, current per-VR and per-router state of the TCP resequencing buffer management functions.

**Syntax** show [ ip ] tcp resequence-buffers [ vrf *vrfName* ]  
■ *vrfName*—Name of the VRF

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0  
**ip** keyword made optional in JUNOS Release 7.2.0.

## show tcp statistics

---

**Description** Displays all TCP statistics or only IPv4 or IPv6 TCP statistics.



**NOTE:** Order is important when you enter options for this command. Even though you can skip options, you cannot enter options out of sequence.

**Syntax** show [ ip | ipv6 ] tcp statistics [ vrf *vrfName* ] [ brief | detailed | diagnostic ] [ delta ]  
[ local-address *localAddress* ] [ local-port *localPort* ]  
[ remote-address *remoteAddress* ] [ remote-port *remotePort* ] [ *filter* ]

- ip—Displays only IPv4 TCP statistics
- ipv6—Displays only IPv6 TCP statistics
- *vrfName*—Name of the VRF
- brief—Displays a brief summary of each TCP connection
- detailed—Displays detailed statistics for each TCP connection
- diagnostic—Displays diagnostic information collected on all TCP connections, including per-connection logging information
- delta—Displays baselined statistics
- *localAddress*—Local IPv4 or IPv6 address for which session statistics are displayed
- *localPort*—Local port number for which session statistics are displayed
- *remoteAddress*—Remote IP v4 or IPv6 address for which session statistics are displayed
- *remotePort*—Remote port number for which session statistics are displayed
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**ip** keyword made optional in JUNOS Release 7.2.0.  
**ipv6** keyword added in JUNOS Release 7.2.0.

## show tech-support

---

**Description** Displays technical support information for use in troubleshooting the router. Runs various commands to collect the information. By default, this command requires level 15 access.

**Syntax** `show tech-support [ [ description ] [ filter ] | defunct-commands ]`

- *description*—Any string you wish to include that describes the problem that prompted you to run the command
- *filter*—See *Filtering show Commands* in *About This Guide*
- *defunct-commands*—Displays commands that hang the system and cause the commands to be ignored until the hang condition for that command clears; clearing the hang condition can require a reboot of the router

**Mode** Privileged Exec

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

## show telnet

---

**Description** Displays telnet daemons.

**Syntax** `show telnet`

**Mode** Privileged Exec

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

## show terminal

---

**Description** Displays information about terminal configuration settings for the current terminal line.

**Syntax** `show terminal [ filter ]`

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show terminate-code

---

**Description** Displays information about the current mappings of application terminate reasons to standards-based terminate codes.

**Syntax** show terminate-code { *application* [ *terminateReason* | *translationApplication* ] | *translationApplication* [ *terminateCode* ] } [ *filter* ]

- *application*— Application; AAA, L2TP, PPP, or RADIUS client
- *terminateReason*—Reason that the subscriber's session was terminated
- *translationApplication*—Application whose terminate code is used for the mapping; for example, RADIUS
- *terminateCode*—Code used by the translation application to identify the terminate reason; for example, a RADIUS Acct-Terminate-Cause code
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show timing

---

**Description** Displays router timing settings and operational status.

**Syntax** show timing [ *filter* ]

- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show track

---

**Description** Displays tracking details for the object you specify.

**Syntax** show track *objectName* [ *filter* ]

- *objectName*—Name of the IPv4 prefix object
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Global Configuration

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

## show track brief

---

**Description** Displays a one-line summary of all IPv4 prefix objects being tracked.

**Syntax** show track brief

**Mode** Global Configuration

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

## show traffic-class

---

**Description** Displays information about traffic class(es) configured on the E-series router.

**Syntax** show traffic-class [ *trafficClassName* ] [ brief | references ] [ *filter* ]

- *trafficClassName*—Name of the traffic class
- brief—Displays information in a condensed format
- references—Displays QoS profiles and traffic class groups that reference this profile
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

**Related Topics**

- Monitoring Service Levels with Traffic Classes



## show traffic-class-group

---

**Description** Displays information about a traffic class group configured on the E-series router.

**Syntax** show traffic-class-group  
[ *trafficClassGroupName* [ slot [ *trafficClassGroupSlotNumber* ] ] ]  
[ brief | references ] [ *filter* ]

- *trafficClassGroupName*—Name of the traffic class group
- *trafficClassGroupSlotNumber*—Number of the slot associated with the group, in the range 0–17
- brief—Displays information in a condensed format
- references—Displays QoS profiles and traffic class groups that reference this profile
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

### Related Topics

- Monitoring Service Levels with Traffic-Class Groups

## show tunnel-server

---

**Description** Displays status and configuration information for dedicated and shared tunnel-server ports configured on the router. You can display information for a specific tunnel-server port or for all tunnel-server ports.

**Syntax** show tunnel-server [ config ] [ *interfaceSpecifier* ] [ *filter* ]

- config—Displays configuration information about available and provisioned tunnel-service interfaces on each port, and indicates whether modules that support dedicated or shared tunnel-server ports are currently installed in the router
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*; port number specified must have the dedicated or shared tunnel-server port assigned to it
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show users

---

**Description** Displays information about users of the vty lines.

**Syntax** show users [ detail ] [ all ] [ filter ]

- detail—Displays detailed information
- all—Displays information about all lines
- filter—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

## show utilization

---

**Description** Displays information about the resources that the installed modules consume and forces the router to release available memory on the SRP module. The **detail** keyword displays additional information about the average CPU utilization percentage calculated over 5-second, 1-minute, and 5-minute intervals for each module installed in the router.



**NOTE:** When you issue this command, the router releases available memory on the SRP module immediately, but takes a few seconds to display the resources.

**Syntax** show utilization [ detail ] [ filter ]

- detail—Displays the average CPU utilization percentage for 5-second, 1-minute, and 5-minute intervals for each installed module
- filter—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**detail** keyword added in JUNOS Release 8.0.0.

## show version

---

**Description** Displays armed and running releases for every slot in the router and also displays the operational status of the SRP module and line modules for all E-series routers. The **all** keyword displays the operational status of the IOAs for the E120 router and the E320 router.

**Syntax** show version [ all ] [ filter ]

- all—Displays the version of the SRP modules, line modules, and IOAs on the E120 and E320 routers
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show virtual-router

---

**Description** Displays virtual routers configured on the router.

**Syntax** show virtual-router [ routerName ] [ summary ] [ detail ] [ filter ]

- routerName—Name of the virtual router
- summary—Displays only the total number of virtual routers and the total number of VRF instances
- detail—Displays detailed information about the virtual router
- filter—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## show vlan bulk-config

---

**Description** Displays information, including base profile assignments, for the bulk-configured VLAN ranges on a VLAN subinterface. You can display information for all VLAN ranges on the router, for all VLAN ranges on a particular VLAN subinterface, or for the VLAN range associated with a particular bulk configuration name.

**Syntax** `show vlan bulk-config [ { interfaceType } interfaceSpecifier ] [ name bulkConfigName ] [ filter ]`

- *interfaceType*—One of the following interface types listed in *Interface Types and Specifiers* in *About This Guide*:
  - fastEthernet
  - gigabitEthernet
  - tenGigabitEthernet
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *bulkConfigName*—Name associated with a VLAN range, as specified in the **vlan bulk-config** command
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

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

## show vlan profile

---

**Description** Displays information about overriding profile assignments for the bulk-configured VLAN ranges on a VLAN subinterface. Information about base profile assignments is not displayed. You can display information for all VLAN ranges on the router, for all VLAN ranges on a particular VLAN subinterface, or for the VLAN range associated with a particular bulk configuration name.

**Syntax** show vlan [ bulk-config ] profile [ { *interfaceType* } *interfaceSpecifier* ] override [ *filter* ]

- *bulk-config*—Displays information about bulk-configured ranges
- *interfaceType*—One of the following interface types listed in *Interface Types and Specifiers* in *About This Guide*:
  - fastEthernet
  - gigabitEthernet
  - tenGigabitEthernet
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced in JUNOS Release 7.1.0.  
**bulk-config** keyword and *interfaceType* variable added in JUNOS Release 7.3.0.

## show vlan subinterface

---

**Description** Displays configuration and status information for a specified VLAN subinterface or for all VLAN subinterfaces configured on the router. Alternatively, you can use the **summary** keyword to display only brief summary information for all VLAN interfaces. You can also display information about the VLAN IDs or S-VLAN IDs for the specified VLAN subinterface.

**Syntax** `show vlan subinterface [ interfaceType interfaceSpecifier ] [ mac-address ] [ filter ]`

To display summary information:  
`show vlan subinterface summary`

To display by VLAN ID or S-VLAN ID:  
`show vlan subinterface { svlan s-vlanIdValue | vlan } { vlanIdValue | any } [ mac-address ] [ filter ]`

To display VLAN subinterfaces that are created based on agent-circuit-identifier information:  
`show vlan subinterface [ interfaceType interfaceSpecifier | svlan s-vlanIdValue ] agent-circuit-identifier [ filter ]`

- *interfaceType*—One of the following interface types listed in *Interface Types and Specifiers* in *About This Guide*:
  - atm
  - fastEthernet
  - gigabitEthernet
  - lag
  - tenGigabitEthernet
- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- *mac-address*—Displays VLAN subinterfaces configured with unique MAC addresses
- *filter*—See *Filtering show Commands* in *About This Guide*
- *summary*—Displays only the total number of VLAN subinterfaces and the total number of VLAN major interfaces configured on the router
- *s-vlanIdValue*—S-VLAN ID number in the range 0–4095
- *vlanIdValue*—VLAN ID number in the range 0–4095
- *any*—Specifies the VLAN ID as a wildcard
- *agent-circuit-identifier*—Specifies VLAN subinterfaces that are created based on agent-circuit-identifier information

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**s-vlan** keyword and *s-vlanIdValue* variable added in JUNOS Release 7.1.0.  
**vlan** keyword and *vlanIdValue* variable added in JUNOS Release 7.1.0.  
**any** and **mac-address** keywords added in JUNOS Release 7.1.0.  
**agent-circuit-identifier** keyword added in JUNOS Release 7.3.0.

## show vpls connections

---

**Description** Displays connection information for a specified VPLS instance configured on the router, or for all VPLS instances configured on the router. You can display detailed configuration and status information for one or for all VPLS connections on the router, or you can display information only for VPLS connections with a specified operational state (up or down) or remote site ID.

**Syntax** `show vpls connections [ state up | state down | details | bridge-group vplsName | remote-site siteId ]* [ filter ]`

- `state up`—Displays information only for operational (up) VPLS connections
- `state down`—Displays information only for nonoperational (down) VPLS connections
- `details`—Displays detailed configuration and status information for VPLS connections
- `vplsName`—Name of a specific VPLS instance created with the **bridge vpls transport-virtual-router** command; if you omit the **bridge-group** keyword and VPLS instance name, the command displays connection information for all VPLS instances configured on the router
- `siteId`—Integer, in the range 1–65535, that uniquely identifies the remote site for a VPLS instance; the site ID is configured with the **bridge vpls site-name site-id** command
- `*`—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- `filter`—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec

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

### Related Topics

- Monitoring VPLS-Specific Settings

## shutdown

---

**Description** In Controller Configuration Mode, disables CT3, E3, SONET, and T3 controllers. These controllers are disabled by default. In Interface Configuration mode, disables Ethernet interfaces, the HDLC layer of serial interfaces, and the SONET layer of ATM or POS interfaces. These interfaces are enabled by default. In Subinterface Configuration mode, disables ATM 1483, Ethernet, Frame Relay, PPPoE, and VLAN subinterfaces. These subinterfaces are enabled by default. The **no** version restarts disabled controllers, interfaces, and subinterfaces.

**Syntax** `[ no ] shutdown`

**Mode** Controller Configuration, Interface Configuration, Subinterface Configuration

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

## single-shot-tunnel

---

**Description** Configures the L2TP/IPSec tunnels associated with a particular L2TP host profile as single-shot tunnels. The underlying IPSec connection for a single-shot tunnel can carry no more than a single L2TP tunnel for the duration of its existence, and the L2TP tunnel can carry no more than a single L2TP session for the duration of its existence. The **no** version restores the default behavior for L2TP/IPSec tunnels, which disables the single-shot attribute.



**NOTE:** Although configuration of single-shot tunnels is more typically used with secure L2TP/IPSec tunnels, you can also configure single-shot tunnels for nonsecure L2TP tunnels that do *not* run over an IPSec transport connection.

---

**Syntax** [ no ] single-shot-tunnel

**Mode** L2TP Destination Profile Host Configuration

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

## sleep

---

**Description** Causes the CLI to pause for a specified period of time. There is no **no** version.

**Syntax** sleep *sleepFor*

- *sleepFor*—Number of seconds in the range 0–4294967295

**Mode** All modes

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



## slot accept

---

**Description** Erases from NVS the type and configuration of the previous module in the specified slot, and allows you to configure a new module. Issue this command after you have installed a different type of module in a slot. You can use this command only when the state of the module in the slot is not present or disabled (mismatch). There is no **no** version.

**Syntax** slot accept *slotNum* [ *subsystem* ]

- *slotNum*—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 1–2; for the E120 router, a number in the range 0–5; for the E320 router, a number in the range 0–16
- *subsystem*—Type of subsystem on the E120 and E320 routers; use when the specified *slotNumber* is a slot that contains an SRP module
  - *srp*—Indicates the SC on one or both SRP modules; specify this keyword to accept only the configuration of 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 accept only the configuration of an individual fabric slice

**Mode** Global Configuration

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

## slot disable

---

**Description** Disables the module installed in the specified slot. You cannot use this command on a slot that contains a primary SRP module. There is no **no** version.

**Syntax** slot disable *slotNum* [ *subsystem* ]

- *slotNum*—Number of the 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 1–2; for the E120 router, a number in the range 0–5; for the E320 router, a number in the range 0–16
- *subsystem*—Type of subsystem on the E120 and E320 routers; use when the specified *slotNumber* is a slot that contains an SRP module
  - *srp*—Indicates the SC on one or both SRP modules; specify this keyword to disable 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 disable only an individual fabric slice

**Mode** Global Configuration

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

## slot enable

---

**Description** Enables the module installed in the specified slot. You cannot use this command on a slot that contains a primary SRP module. There is no **no** version.

**Syntax** `slot enable slotNum [ subsystem ]`

- *slotNum*—Number of the 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 1–2; for the E120 router, a number in the range 0–5; for the E320 router, a number in the range 0–16
- *subsystem*—Type of subsystem on the E320 router; use when the specified *slotNumber* is a slot that contains an SRP module
  - *srp*—Indicates the SC on one or both SRP modules; specify this keyword to enable 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 enable only an individual fabric slice

**Mode** Global Configuration

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

## slot erase

---

**Description** Erases from NVS the type and configuration of the previous module in the specified slot, and allows you to configure a new module. Issue this command before you install a different type of module in a slot. There is no **no** version.

**Syntax** `slot erase slotNum [ subsystem ]`

- *slotNum*—Number of the 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 1–2; for the E120 router, a number in the range 0–5; for the E320 router, a number in the range 0–16
- *subsystem*—Type of subsystem on the E120 and E320 routers; use when the specified *slotNumber* is a slot that contains an SRP module
  - *srp*—Indicates the SC on one or both SRP modules; specify this keyword to erase only the configuration of 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 erase only the configuration of an individual fabric slice

**Mode** Global Configuration

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

## slot replace

---

**Description** Enables you to replace an ES2 4G LM or an ES2 10G LM with a different type of module without erasing the interface configuration on the slot. You can use this command to replace these line modules if they both are paired with the ES2-S1 GE-8 IOA or the ES2-S1 Redund IOA installed. Issue this command after you install the new type of line module in the slot. There is no **no** version.

**Syntax** slot replace *slotNum*

- *slotNum*—Number of the selected slot in the router; for the E120 router, a number in the range 0–5; for the E320 router, a number in the range 0–5 or 11–16

**Mode** Global Configuration

**Release Information** Command introduced in JUNOS Release 9.1.0.

## snmp-server

---

**Description** Enables the SNMP agent operation. The **no** version disables this operation.

**Syntax** [ no ] snmp-server

**Mode** Global Configuration

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

## snmp-server clear secure-log

---

**Description** Clears SNMP secure logs, which are used by the JUNOS software packet mirroring feature. There is no **no** version.

**Syntax** snmp-server clear secure-log

**Mode** Global Configuration

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

**Related Topics**

- Monitoring SNMP Secure Audit Logs

## snmp-server community

---

- Description** Configures an authorized SNMP community and associates SNMPv1/v2c communities with SNMPv3 views. The **no** version removes an authorized community from the list of communities.
- Syntax** `snmp-server community commString [ view viewName ] [ priv ] [ accessListName ]`  
`no snmp-server community commString`
- *commString*—Name of the SNMPv1/v2c community
  - *viewName*—Name of the SNMPv3 view, which allows configuration using available dynamic views
  - *priv*—Privileged Exec level: ro (read-only), rw (read-write), or admin (administrator)
  - *accessListName*—Name of IP access list to filter SNMP clients
- Mode** Global Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.  
**view** keyword and *viewName* variable added in JUNOS Release 7.1.0.

## snmp-server contact

---

- Description** Sets the router's contact information. The **no** version clears the router's contact information.
- Syntax** `snmp-server contact text`  
`no snmp-server contact`
- *text*—String that describes the router's contact person
- Mode** Global Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.

## snmp-server enable traps

---

**Description** Enables and configures global SNMP trap generation. The **no** version disables SNMP trap generation.

**Syntax** [ no ] snmp-server enable traps [ *trapCategory* | snmp authentication ]  
[ trapfilters *trapFilter* ]

- *trapCategory*—SNMP trap category
  - *addrPool*—Local address pool traps
  - *atmPing*—E-series router proprietary ATM ping traps
  - *bfdmib*—BFD MIB traps
  - *bgp*—BGP state change traps
  - *bulkstats*—Bulkstats file full and nearly full traps
  - *cliSecurityAlert*—Security alerts traps
  - *dhcp*—DHCP traps
  - *dismanEvent*—Distributed management (disman) event traps
  - *dosProtectionPlatform*—DoS protection platform traps
  - *dvmrp*—DVMRP traps
  - *dvmrpProp*—E-series router proprietary DVMRP traps
  - *environment*—Power, temperature, fan, and memory utilization traps
  - *fileXfer*—File transfer status change traps
  - *haRedundancy*—High availability and redundancy traps
  - *inventory*—Router inventory and status traps
  - *ip*—Internet Protocol traps
  - *ldp*—LDP traps
  - *link*—SNMP linkUp and linkDown traps
  - *log*—System log capacity traps
  - *mobileIpv4*—Mobile IPv4 traps
  - *mplste*—Mplste traps
  - *mrouter*—Mrouter traps
  - *ntp*—E-series router proprietary traps
  - *ospf*—OSPF traps
  - *packetMirror*—Secure packet mirroring traps; visible only if packet mirroring is enabled

- pim—PIM traps
- ping—Ping operation traps (in disman remops MIB)
- radius—RADIUS authentication and authorization servers
- routeTable—Maximum route limit and warning threshold traps; when this trap is generated, the actual value of the exceeded warning threshold is displayed
- sonet—SONET traps
- snmp—SNMP coldStart, warmStart, link, and authenticationFailure traps
- traceroute—Traceroute operation traps (in disman remops MIB)
- vrrp—VRRP traps
- snmp—Specifies the SNMP coldStart, warmStart, and authenticationFailure traps
- authentication—Specifies the SNMP authenticationFailure trap
- *trapFilter*—Minimum severity level for filtering traps
  - emergency—Severity level 0
  - alert—Severity level 1
  - critical—Severity level 2
  - error—Severity level 3
  - warning—Severity level 4
  - notice—Severity level 5
  - informational—Severity level 6
  - debug—Severity level 7

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**ip** keyword added in JUNOS Release 7.1.0.  
**packetMirror** keyword added in JUNOS Release 7.2.0.

**Related Topics**

- Monitoring SNMP Secure Packet Mirroring Traps

## snmp-server group

---

**Description** Dynamically configures an SNMP server group. The **no** version removes the dynamically created group.



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

---

**Syntax** `snmp-server group groupName securityModel authenticationLevel [ read readView ] [ write writeView ] [ notify notifyView ] [ storageType ]`

`no snmp-server group groupName securityModel authenticationLevel`

- *groupName*—Name of the SNMPv3 group
- *securityModel*—Security model
  - v1—SNMPv1
  - v2c—SNMPv2c
  - usm—SNMPv3
- *authenticationLevel*—Method for authentication and privacy
  - none—No authentication and no privacy
  - auth—Authentication only
  - priv—Authentication and privacy
- *readView*—Name of the view for read access; the default is no access
- *writeView*—Name of the view for write access; the default is no access
- *notifyView*—Name of the view for notification; the default is no access
- *storageType*—Storage type
  - volatile—Loses contents on warm or cold start
  - nonvolatile—Preserves contents across warm or cold start. This is the default.

**Mode** Global Configuration

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

## snmp-server host

**Description** Configures one or more hosts to receive an SNMP trap. The **no** version removes the specified host from the list of recipients.

**Syntax** To specify the SNMP version, community, UDP port, trap category and trap severity:  
 snmp-server host *ipAddress* [ *version ver* ] *securityString* [ *udp-port port* ]  
 [ *trapCategory* ]\* [ *trapFilters trapFilter* ]

no snmp-server host *ipAddress*

To specify the ping timeout and trap queue:

snmp-server host *ipAddress* pingTimeout *timeOutValue*  
 [ trapQueue { *drainRate queueDrainRate* | full *queueFull* | size *queueSize* }  
 [ *drainRate queueDrainRate* | full *queueFull* | size *queueSize* ]\*]

snmp-server host *ipAddress* trapQueue  
 { *drainRate queueDrainRate* | full *queueFull* | size *queueSize* }  
 [ *drainRate queueDrainRate* | full *queueFull* | size *queueSize* ]\*  
 [ pingTimeout *timeOutValue* ]

no snmp-server host *ipAddress* { pingTimeout | trapQueue { *drainRate* | full | size } }

- *ipAddress*—IP address of the SNMP trap recipient
- *ver*—SNMP protocol version for traps sent to host; one of the following values:  
v1, v2c, or v3
- *securityString*—SNMP community string
- *port*—UDP port number of SNMP trap recipient
- *trapCategory*—SNMP trap category
  - *addrPool*—Local address pool traps
  - *atmPing*—E-series router proprietary ATM ping traps
  - *bfdmib*—BFD MIB traps
  - *bgp*—BGP state change traps
  - *bulkstats*—Bulkstats file full and nearly full traps
  - *cliSecurityAlert*—Security alerts traps
  - *dosProtectionPlatform*—DoS protection platform traps
  - *dvmrp*—DVMRP traps
  - *dvmrpUni*—E-series router proprietary DVMRP traps
  - *environment*—Power/temperature/fan traps
  - *fileXfer*—File transfer status change traps
  - *inventory*—Router inventory/status traps
  - *ip*—Internet Protocol traps
  - *ldp*—LDP traps
  - *link*—SNMP linkUp/linkDown traps
  - *log*—System log capacity traps



- mobileIpv4—Mobile IPv4 traps
- mplste—Mplste traps
- mrouter—Mrouter traps
- packetMirror—Secure packet mirroring traps; visible only if packet mirroring is enabled
- ospf—OSPF traps
- ping—Ping operation traps (in disman remops MIB)
- radius—RADIUS traps
- snmp—SNMP coldstart, warmstart, link, authenticationFailure traps
- traceroute—Traceroute operation traps (in disman remops MIB)
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *trapFilter*—Minimum severity level for filtering traps sent to this host
  - alert—Severity level 1
  - critical—Severity level 2
  - debug—Severity level 7
  - emergency—Severity level 0
  - error—Severity level 3
  - informational—Severity level 6
  - notice—Severity level 5
  - warning—Severity level 4
- *timeOutValue*—Ping timeout in minutes, in the range 1–90; default value is 1
- *trapQueue*—Configures the SNMP trap queue for traps sent to this host
- *queueDrainRate*—Maximum number of traps per second to be sent to the host, in the range 0–2147483647; default value is 0
- *queueFull*—Method used to drop traps when the trap queue is full
  - dropFirstIn—Drops the oldest trap in the queue
  - dropLastIn—Drops the most recent trap added to the queue
- *queueSize*—Maximum number of traps to be kept in the trap queue, in the range 32–214748364; default value is 32

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**ip** keyword added in JUNOS Release 7.1.0.  
**packetMirror** keyword added in JUNOS Release 7.2.0.

#### Related Topics

- Monitoring SNMP Secure Packet Mirroring Traps

## snmp-server interfaces compress

---

**Description** Removes a set of sublayers from the ifTable, the ifStackTable, and the ipAddrTable. You can enter this command multiple times to remove multiple interfaces. The **no** version negates the compression.

**Syntax** [ no ] snmp-server interfaces compress [ *interfaceLayer* ]\*

- *interfaceLayer*—Interface layer that you want to remove from the ifTable, the ifStackTable, and the ipAddrTable. If you do not specify an interface layer, the router removes the following interface layers:
  - ip
  - ppp
  - ethernetSubinterface
  - hdlc
  - pppoeInterface
  - ipLoopback
  - ipVirtual
  - pppLinkInterface
  - slepInterface/ciscoHdlc
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line

**Mode** Global Configuration

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

## snmp-server interfaces compress-restriction

---

**Description** Excludes interfaces from the ifTable, the ifStackTable, and the ipAddrTable if the ifAdminStatus of the interfaces is down. The **no** version negates the restriction.

**Syntax** [ no ] snmp-server interfaces compress-restriction ifAdminStatusDown

**Mode** Global Configuration

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

## snmp-server interfaces description-format

---

**Description** Sets the encoding scheme of the ifDescr and ifName objects. The **no** version returns the encoding method to the proprietary encoding scheme.

**Syntax** [ no ] snmp-server interfaces description-format { common | legacy | proprietary }

- common—Sets the encoding scheme to the conventional industry method, and provides compatibility with software that uses the industry encoding scheme
- legacy—Sets the encoding scheme for legacy E-series routers
- proprietary—Sets the encoding scheme to a method that is proprietary to the E-series router

**Mode** Global Configuration

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

## snmp-server interfaces rfc1213

---

**Description** Specifies that the router bases numbering in the IfTable on RFC 1213. The **no** version restores the default value, which is to use RFC 1573 style numbering in interface tables.



**CAUTION:** Reducing the value of the *maxIfIndex*, the *maxIfNumber*, or both, causes the router to automatically reboot to factory default settings.

---

The router does *not* reboot to factory defaults if you:

- Increase the values of *maxIfIndex* and/or *maxIfNumber*.
- Issue a **no** version of the **snmp-server interfaces rfc1213** command when the router is already set up for RFC 1573 style numbering.
- Enter the **snmp-server interfaces rfc1213** command with the same options multiple times.

**Syntax** snmp-server interfaces rfc1213 [ *maxIfIndex* ] [ *maxIfNumber* ]  
[ no ] snmp-server interfaces rfc1213

- *maxIfIndex*—Maximum value of index numbers in the interface tables, in the range 100–65535; default value is 65535
- *maxIfNumber*—Maximum number of interfaces in each interface table, in the range 100–65535; default value is 65535

**Mode** Global Configuration

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

## snmp-server location

---

|                            |                                                                                                                                                                         |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Sets information about the router's location. The <b>no</b> version clears this information.                                                                            |
| <b>Syntax</b>              | snmp-server location <i>text</i><br>no snmp-server location <ul style="list-style-type: none"> <li>■ <i>text</i>—String that describes the router's location</li> </ul> |
| <b>Mode</b>                | Global Configuration                                                                                                                                                    |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                          |

## snmp-server management-event

---

|                            |                                                                                                                 |
|----------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Launches the SNMP server event manager. The <b>no</b> version removes all configuration from the event manager. |
| <b>Syntax</b>              | [ no ] snmp-server management-event                                                                             |
| <b>Mode</b>                | Global Configuration                                                                                            |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                  |

## snmp-server notificationLog ageOut

---

|                            |                                                                                                                                                                                                                                                 |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Specifies when the notification log ages out. The <b>no</b> version returns the ageout limit to the default value, 1440 minutes.                                                                                                                |
| <b>Syntax</b>              | snmp-server notificationLog ageOut <i>ageOut</i><br>no snmp-server notificationLog ageOut <ul style="list-style-type: none"> <li>■ <i>ageOut</i>—Notification log ageout in minutes, in the range 0–214748364; default value is 1440</li> </ul> |
| <b>Mode</b>                | Global Configuration                                                                                                                                                                                                                            |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                  |

## snmp-server notificationLog entryLimit

---

**Description** Specifies the maximum number of notifications kept. The **no** version returns the limit to the default value, 500.

**Syntax** snmp-server notificationLog entryLimit *entryLimit*  
no snmp-server notificationLog entryLimit

- *entryLimit*—Maximum number of notifications kept, in the range 1–500; default value is 500



**NOTE:** You can allocate up to 500 notifications across all virtual routers on the router. As you allocate entry limits for virtual routers, the available range changes to reflect the number of notifications that you have allocated.

---

**Mode** Global Configuration

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

## snmp-server notificationLog log

---

**Description** Configures the SNMP notification log tables. The **no** version removes the notification log configuration.

**Syntax** [ no ] snmp-server notificationLog log *ipAddress* [ *adminStatus* ] [ *includeVarbinds* ]

- *ipAddress*—IP address of the host for which the notification logs are kept
- *adminStatus*—Enables administrative status
- *includeVarbinds*—Specifies that log names and log indexes are included in the trap's variable bindings

**Mode** Global Configuration

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

## snmp-server packetsize

---

**Description** Specifies the maximum SNMP packet size in bytes. The **no** version restores the default value.

**Syntax** snmp-server packetsize *byteCount*  
no snmp-server packetsize

- *byteCount*—Size of an SNMP packet in bytes

**Mode** Global Configuration

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

## snmp-server secure-log

---

|                            |                                                                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Enables secure logs, which are used by the JUNOS software's packet mirroring feature. The <b>no</b> version disables secure logs. |
| <b>Syntax</b>              | [ no ] snmp-server secure-log                                                                                                     |
| <b>Mode</b>                | Global Configuration                                                                                                              |
| <b>Release Information</b> | Command introduced in JUNOS Release 7.2.0.                                                                                        |
| <b>Related Topics</b>      | <ul style="list-style-type: none"> <li>■ Monitoring SNMP Secure Packet Mirroring Traps</li> </ul>                                 |

## snmp-server security

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Specifies a security access level for the SNMP agent. The <b>no</b> version returns the SNMP security level to its default, no access.                                                                                                                                                                                                                                                                                                                       |
| <b>Syntax</b>              | snmp-server security { no-access   read   read-write }<br>no snmp-server security <ul style="list-style-type: none"> <li>■ no-access—Specifies that no other virtual routers can access this router for read or write actions</li> <li>■ read—Specifies that other virtual routers can access this router for read only actions</li> <li>■ read-write—Specifies that other virtual routers can access this router for both read and write actions</li> </ul> |
| <b>Mode</b>                | Global Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                               |

## snmp-server trap-proxy

---

|                            |                                                                                                                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Enables or disables the SNMP trap proxy. The <b>no</b> version disables the SNMP trap proxy.                                                                                      |
| <b>Syntax</b>              | [ no ] snmp-server trap-proxy { enable   disable } <ul style="list-style-type: none"> <li>■ enable—Enables SNMP trap proxy</li> <li>■ disable—Disables SNMP trap proxy</li> </ul> |
| <b>Mode</b>                | Global Configuration                                                                                                                                                              |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                    |

## snmp-server trap-source

---

**Description** Specifies the interface whose IP address is the source address for SNMP traps. The **no** version disables this feature.

**Syntax** snmp-server trap-source *interfaceType interfaceSpecifier*  
no snmp-server trap-source

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

**Mode** Global Configuration

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

## snmp-server user

---

**Description** Creates and modifies SNMPv3 users. The **no** version removes the user.

**Syntax** snmp-server user *userName* group *groupName*  
[ authentication *authType* *authKey* [ privacy des *privKey* ] ]  
no snmp-server user *userName*

- *userName*—Name of the SNMPv3 user
- *groupName*—Name of the group to which the user belongs
  - one of the three predefined groups (admin, public, or private) or a custom group created with SNMPv3 commands
- *authType*—One of the following authentication protocols:
  - md5—HMAC-MD5-96
  - sha—HMAC-SHA-96
- *authKey*—Password for the authentication procedure; use a 16-character password for HMAC-MD5-96 and a 20-character password for HMAC-SHA-96
- des—Specifies CBC-DES encryption algorithm for privacy
- *privKey*—Password for the privacy verification; use a 16-character password for CBC-DES

**Mode** Global Configuration

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

## snmp-server view

---

**Description** Dynamically configures an SNMP server view. The **no** version removes the dynamically created view.



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

---

**Syntax** `snmp-server view viewName oidTree [ viewType ] [ storageType ]`

`no snmp-server view viewName oid-tree`

- *viewName*—SNMP dynamic view name
- *oidTree*—Name of the object identifier (OID) tree
- *viewType*—OID type
  - included—OID is included
  - excluded—OID is excluded
- *storageType*—Storage type
  - volatile—Loses contents on warm or cold start
  - nonvolatile—Preserves contents across warm or cold start. This is the default.

**Mode** Global Configuration

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

## snmpTrap

---

**Description** Enables SNMP traps for DHCP local address pool utilization. You can set the maximum and minimum threshold values for local address pool utilization by using the **warning** command. The **no** version disables SNMP traps for local address pool utilization.

**Syntax** `[ no ] snmpTrap`

**Mode** DHCP Local Pool Configuration

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



## snmp trap frame-relay link-status

---

**Description** Enables processing of SNMP link status information about a Frame Relay major interface (if issued from Interface Configuration mode) or subinterface (if issued from Subinterface Configuration mode). The **no** version disables the processing of SNMP link status information.

**Syntax** [ no ] snmp trap frame-relay link-status

**Mode** Interface Configuration, Subinterface Configuration

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

## snmp trap ip link-status

---

**Description** Enables link status traps on an IP interface. The **no** version disables link status traps on an IP interface.

**Syntax** snmp trap ip link-status  
no snmp trap ip

**Mode** Interface Configuration

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

## snmp trap link-status

---

**Description** Enables processing of SNMP link status information about an interface. The **no** version disables the processing of SNMP link status information.

**Syntax** [ no ] snmp trap link-status

**Mode** Controller Configuration, Interface Configuration

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

## source-address

---

**Description** Specifies a source IP address for the LAC tunnel endpoint. The **no** version removes the source address.

**Syntax** source-address *sourceAddress*  
no source-address

- *sourceAddress*—Address of the local tunnel endpoint (the LAC); can be up to 32 characters (no spaces)

**Mode** Domain Map Tunnel Configuration, Tunnel Group Tunnel Configuration

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

## speed

---

**Description** When used from Line Configuration mode, sets the speed for the current and all new console sessions immediately. The **no** version reverts to the default value, 9600 bps.

When used from Interface Configuration mode, specifies the line speed for an Ethernet interface. This command works with the **duplex** command; if you set or accept the automatically negotiate setting for either duplex mode or speed, the router negotiates both parameters with the remote device. The **no** version specifies the default, automatically negotiate or 100 Mbps (FE-8 SFP I/O module only). This command is not available for the Ethernet interface on the SRP module.

**Syntax** For console sessions:

**speed** *baudRate*

**no speed**

- *baudRate*—Terminal speed for the current console session; one of the following values: 2400, 4800, 9600, 14400, 19200, 28800, 38400, 57600, 115200

For Ethernet interfaces on line modules:

**speed** *speedValue*

**no speed**

- *speedValue*—Line speed; one of the following values:
  - automatically negotiate—Specifies that the router negotiates the line speed with the remote device; not valid for the FE-8 SFP I/O module
  - 10—Specifies that the router uses a line speed of 10 Mbps on a Fast Ethernet interface; not valid for Gigabit Ethernet interfaces or the FE-8 SFP I/O module
  - 100—Specifies that the router uses a line speed of 100 Mbps on a Fast Ethernet interface; not valid for Gigabit Ethernet interfaces
  - 1000—Specifies that the router uses a line speed of 1000 Mbps on a Gigabit Ethernet interface; not valid for Fast Ethernet interfaces

**Mode** Interface Configuration, Line Configuration

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

## spf-interval

---

**Description** Specifies the maximum wait time between two successive IS-IS shortest-path-first calculations. If you do not specify a level, the interval applies to both level 1 and level 2. The **no** version restores the default value, 5 seconds.

**Syntax** `spf-interval [ level-1 | level-2 ] seconds`  
`no spf-interval [ level-1 | level-2 ]`

- `level-1`—Specifies a level 1 SPF
- `level-2`—Specifies a level 2 SPF
- `seconds`—Maximum time between SPF calculations in the range 0–120 seconds; default value is 5

**Mode** Router Configuration

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

## split-horizon

---

**Description** Controls the split horizon and poison reverse features for RIP remote neighbors. Split horizon is enabled by default; poison reverse routing updates are disabled by default. The **no** version disables the split horizon and enables poison reverse routing updates, which set the metric for routes originating on the interface to infinity to explicitly advertise that the network is unreachable, reducing the possibility of routing loops.

**Syntax** `[ no ] split-horizon`

**Mode** Remote Neighbor Configuration

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

## srp switch

**Description** Switches from the primary SRP module to the standby. This command is equivalent to the **redundancy force-switchover** command with the **srp** option. There is no **no** version.



**NOTE:** When the high availability state is active, this command does not take effect until all transaction data, up to when you issue the command, has been mirrored to the standby SRP module. This behavior preserves legacy behavior that requires SRP modules to be synchronized before the switchover.

**Syntax** `srp switch [ [ force ] [ reason ] ]`

- **force**—Prompts the user to confirm that the router should switch from the primary SRP module to the standby if the SRP modules are in certain states, such as writing configuration data to NVS, that could lead to loss of configuration data or corruption of NVS
- **reason**—Reason for the change

**Mode** Privileged Exec

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

## sscc address

**Description** Configures the SDX client (formerly SSCC) with the IP addresses of the SDX servers and the ports on which the servers listen for activity. The **no** version removes the specified server (primary, secondary, or tertiary) from the list of SDX servers.

**Syntax** `sscc { primary | secondary | tertiary } address ipAddress [ port portNumber ]`  
`no ssc { primary | secondary | tertiary } address [ ipAddress [ port portNumber ] ]`

- **primary**—Primary SDX server
- **secondary**—Secondary SDX server
- **tertiary**—Tertiary SDX server
- ***ipAddress***—IP address of an SDX server
- ***portNumber***—SDX server port number on which the server listens for activity; default port is 3288

**Mode** Global Configuration

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

## sscc enable

---

**Description** Enables the SDX client's COPS support, which is used when the SDX service application engine communicates with a policy decision point, such as the SDX application. The **no** version disables COPS support.

**Syntax** `sscc enable [ cops-pr ]`  
`no ssc enable`

- `cops-pr`—Enables COPS-policy provisioning operation. If the **cops-pr** option is not used, proprietary XDR-based COPS support is enabled.

**Mode** Global Configuration

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

## sscc protocol ipv6

---

**Description** Configures the SDX client to support policy and QoS configuration on IPv6 interfaces. The **no** version disables IPv6 support.

**Syntax** `[ no ] ssc protocol ipv6`

**Mode** Global Configuration

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

## sscc retryTimer

---

**Description** Configures the delay period during which the SDX client (formerly SSCC) waits for a response from an SDX (formerly SSC) server. When the timer expires, the client submits the request to the next server and waits again for the timer to expire. The request is sent to each timer in rotation until there is a response. The **no** version restores the default delay period, 90 seconds.

**Syntax** `sscc retryTimer timer`  
`no ssc retryTimer [ timer ]`

- `timer`—Time in the range 5–300 seconds

**Mode** Global Configuration

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

## sscc sourceAddress

---

**Description** Specifies a fixed source address for the TCP/COPS connection. The **no** version removes the address specification.

**Syntax** `sscc sourceAddress ipAddress`  
`no sscc sourceAddress [ ipAddress ]`

- *ipAddress*—Source (or local) IP address of the TCP/COPS connection

**Mode** Global Configuration

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

## sscc sourceInterface

---

**Description** Specifies a fixed source (local) interface for the TCP/COPS connection. The **no** version removes the interface.

**Syntax** `sscc sourceInterface interfaceType interfaceSpecifier`  
`no sscc sourceInterface [ interfaceType interfaceSpecifier ]`

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

**Mode** Global Configuration

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

## sscc transportRouter

---

**Description** Configures the router on which the TCP/COPS connection is to be established. The **no** version removes the SDX client transport router.

**Syntax** `sscc transportRouter name`  
`no sscc transportRouter [ name ]`

- *name*—Name of a transport router

**Mode** Global Configuration

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

## statistics

---

**Description** Enables statistics for the service session profile. The **no** version disables statistics for the service session profile.

**Syntax** statistics { time | volume-time }  
no statistics

- time—Displays statistics for the time attribute
- volume-time—Displays statistics for both the volume and time attributes

**Mode** Service Session Profile Configuration

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

## statistics-profile

---

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

**Syntax** [ no ] statistics-profile *statisticsProfileName*

- *statisticsProfileName*—Name of the statistics profile

**Mode** Global Configuration

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

### Related Topics

- Configuring Statistic Profiles for QoS
- Configuring Rate Statistics
- Configuring Event Statistics

## strict-priority

---

**Description** Sets strict-priority scheduling for the scheduler node. The **no** version deletes the strict priority setting.

**Syntax** [ no ] strict-priority

**Mode** Scheduler Profile Configuration

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

### Related Topics

- Configuring Strict-Priority Scheduling

## strip-domain

---

**Description** Strips the domain name from the username before sending an access-request message to the RADIUS server. The domain name is the text after the last @ character. For example, xyz.com is the domain name of the following: fred@abc.com@xyz.com. To stop stripping the domain name, use the **disable** keyword. The **no** version resets the default, **disable**.

**Syntax** strip-domain { enable | disable }  
no strip-domain

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

**Mode** Domain Map Configuration

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

## subscriber

---

**Description** Configures a local subscriber (when one cannot be obtained externally, as in PPP) on the E-series router to support authentication and configuration from the RADIUS server. The **no** version negates the command.

**Syntax** subscriber { bridgedEthernet | ip } { user | user-prefix } *userName*  
domain *domainName* [ { password | password-prefix } *password* ] [ no-authenticate ]  
no subscriber { bridgedEthernet | ip }

- bridgedEthernet—Specifies bridgedEthernet as the upper interface type
- ip—Specifies IP as the upper interface type
- user—Employs the username as specified
- user-prefix—Appends the interface physical location to the username
- *userName*—RADIUS username
- *domainName*—Domain name
- password—Employs the password as specified
- password-prefix—Appends the interface physical location to the password
- *password*—RADIUS password
- no-authenticate—Disables authentication

**Mode** Interface Configuration, Subinterface Configuration

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



## subscriber disconnect

---

**Description** Enables the E-series router to receive RADIUS-initiated disconnect messages from the RADIUS server. The **no** version restores the default, in which support for RADIUS-initiated disconnect messages is disabled on the router.



**NOTE:** This command and the RADIUS dynamic-request server feature replace the **radius disconnect client** command, which has been deprecated and may be removed completely in a future release. The RADIUS Disconnect Configuration mode has also been deprecated.

---

**Syntax** [ no ] subscriber disconnect

**Mode** RADIUS Configuration

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

## subscriber-interface-type

---

**Description** Assigns a subscriber-interface type to a QoS parameter definition. Subscriber-interface types represent subscriber interfaces to which QoS clients can apply QoS parameter instances obtained through RADIUS, SRC, or QoS profiles. You can specify up to four subscriber-interface types for each parameter definition. The **no** version removes the subscriber-interface type from the parameter definition.

**Syntax** subscriber-interface-type *subscriberInterfaceType*  
no subscriber-interface-type { *subscriberInterfaceType* | all }

- *subscriberInterfaceType*—One of the following subscriber-interface types:  
atm-vc, ip, ipv6, l2tp-session, vlan
- all—Removes all subscriber-interface types

**Mode** QoS Parameter Definition

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

### Related Topics

- Configuring a Basic Parameter Definition for QoS Administrators

## subscriber-policy

---

**Description** Creates a nondefault subscriber policy for a subscriber (client) interface that belongs to a bridge group or to a VPLS instance, and accesses Subscriber Policy Configuration mode from which you define the policy. A subscriber policy is a set of forwarding and filtering rules that specifies how the subscriber interface handles various packet types. The **no** version removes the nondefault subscriber policy from the router.

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** [ no ] subscriber-policy *subscriberPolicyName*

- *subscriberPolicyName*—Name of the subscriber policy; alphanumeric string of up to 32 characters

**Mode** Global Configuration

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

## summary-address

---

**Description** Creates aggregate addresses for IS-IS or aggregates external routes at the border of the OSPF domain. The **no** version restores the default.

**Syntax** IS-IS:  
summary-address *address mask* [ *level-1* | *level-1-2* | *level-2* ] [ *metric* ] [ *tag tagValue* ]  
no summary-address *address mask* [ *level-1* | *level-1-2* | *level-2* ]

- *address*—Summary IP address designated for a range of addresses
- *mask*—IP subnet mask used for the summary route
- *level-1*—Summarizes routes redistributed into level 1; when distributing routes domain wide, summarizes routes leaked from level 2 into level 1
- *level-1-2*—Summarizes routes redistributed into level 1 and level 2 IS-IS, and routes leaked between levels
- *level-2*—Summarizes routes learned by level 1 routing into the level 2 backbone with the configured address/mask value; also summarizes routes redistributed into level 2 IS-IS
- *metric*—Number in the range 1–16777215; the default metric value. The summary uses this value when advertising the summary address. When no metric is supplied, uses the value of the lowest-cost route that this is summarizing (default).
- *tagValue*—Number in the range 1–4294967295 that identifies the route tag assigned to the IS-IS summary address

OSPF:

[ **no** ] summary-address *address mask*

- *address*—Summary address designated for a range of addresses
- *mask*—IP subnet mask used for the summary route

**Mode** Router Configuration

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

## summary-prefix

---

**Description** In Address Family configuration mode, aggregates external IPv6 routes at the border of the IS-IS domain. In Router Configuration mode, aggregates external IPv6 routes at the border of the OSPFv3 domain. The **no** version restores the default.

**Syntax** For IS-IS from Address Family Configuration mode:  
summary-prefix *ipv6Prefix* [ level-1 | level-1-2 | level-2 ] [ *metricValue* ] [ *tagValue* ]  
no summary-prefix *ipv6Prefix*

For OSPFv3 from Router Configuration mode:  
[ no ] summary-prefix *ipv6Prefix/ipv6prefixLength*

- level-1—Specifies the aggregation of IPv6 routes into IS-IS level 1
- level-1-2—Specifies the aggregation of IPv6 routes into IS-IS level 1 and level 2
- level-2—Specifies the aggregation of IPv6 routes into IS-IS level 2
- *metricValue*—Metric (cost) for the interface to links at the specified level; number in the range 1–16777215
- *tagValue*—Number in the range 1–4294967295 that identifies the route tag assigned to the IS-IS interface
- *ipv6Prefix*—IPv6 network number
- *ipv6PrefixLength*—Length of the IPv6 prefix; a decimal value that indicates how many of the higher-order contiguous bits of the IPv6 address comprise the prefix (the network portion of the IPv6 address). A slash (/) must precede this value.

**Mode** Address Family Configuration (IS-IS), Router Configuration (OSPFv3)

**Release Information** Command introduced before JUNOS Release 7.1.0.  
IS-IS version added in JUNOS Release 8.2.0.

## suppress-default

---

**Description** Suppresses an IS-IS level 1-2 router from indicating that it can reach destinations outside the area, thus preventing level 1 routers from installing a default route to the level 1-2 router. The **no** version disables suppression of default routes.

**Syntax** [ no ] suppress-default

**Mode** Router Configuration

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

## suspicious-control-flow-detection grouping-off

---

**Description** Turns off suspicious control flow detection overflow protection; flows are grouped into larger entities when the line module flow table overflows. The **no** version turns on overflow protection, which is the default.

**Syntax** [ no ] suspicious-control-flow-detection grouping-off

**Mode** Global Configuration

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

## suspicious-control-flow-detection off

---

**Description** Turns off suspicious control flow detection. The **no** version turns on suspicious control flow detection, which is the default.

**Syntax** [ no ] suspicious-control-flow-detection off

**Mode** Global Configuration

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

## suspicious-control-flow-detection protocol backoff-time

---

**Description** Sets the backoff expiration time when the flow is no longer considered suspicious for a specific protocol. The **no** version restores the default value of 300 seconds for a protocol.

**Syntax** suspicious-control-flow-detection protocol *protocolValue* backoff-time *backoffTimeValue*  
no suspicious-control-flow-detection protocol *protocolValue* backoff-time

- *protocolValue*—Name of the protocol
- *backoffTimeValue*—Period of time in seconds; 0 or a number in the range 10–1000; a value of zero means that a suspicious flow does not change to the nonsuspicious state because of a timeout; if the low threshold value is zero and the backoff time is zero, the flow is only considered no longer suspicious if the rate (in packets per second) goes to zero

**Mode** Global Configuration

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

## suspicious-control-flow-detection protocol low-threshold

---

**Description** Sets the low threshold rate at which a suspicious flow becomes no longer suspicious for a specific protocol. The **no** version restores the default for a protocol, which is a protocol-dependent non-zero numeric value.

**Syntax** suspicious-control-flow-detection protocol *protocolValue*  
low-threshold *lowThresholdValue*  
no suspicious-control-flow-detection protocol *protocolValue* low-threshold

- *protocolValue*—Name of the protocol
- *lowThresholdValue*—Threshold value in packets per second; 0 or a number in the range 1–32767; a value of zero means that a suspicious flow cannot change to the nonsuspicious state via a threshold; a flow can only become nonsuspicious via a backoff time; if the low threshold value is zero and the backoff time is zero, the flow can only be considered nonsuspicious if the rate (in packets per second) goes to zero

**Mode** Global Configuration

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

## suspicious-control-flow-detection protocol threshold

---

**Description** Sets a threshold rate at which a flow becomes suspicious for a specific protocol. The **no** version restores the default for a protocol, which is a protocol-dependent numeric value.

**Syntax** suspicious-control-flow-detection protocol *protocolValue* threshold *thresholdValue*  
no suspicious-control-flow-detection protocol *protocolValue* threshold

- *protocolValue*—Name of the protocol
- *thresholdValue*—Zero or a number in the range 3–65535; when set to zero, no flows for the protocol type are considered suspicious

**Mode** Global Configuration

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

## svlan ethertype

---

**Description** In Interface Configuration mode, specifies the EtherType of an S-VLAN. The **no** version restores the default value, 9100.

In Profile Configuration mode, specifies the available EtherTypes that the packet must use to create a dynamic VLAN subinterface. The **no** version restores the default value, autoconfig.

**Syntax** `svlan ethertype ethertypeValue`  
`no svlan ethertype`

- *ethertypeValue*—One of the following EtherType values:
  - 8100—Specifies EtherType value 0x8100, as defined in IEEE Standard 802.1q
  - 88a8—Specifies EtherType value 0x88a8, as defined in draft IEEE Standard 802.1ad
  - 9100—Specifies EtherType value 0x9100, which is the default for Interface Configuration mode
  - autoconfig—Specifies in a VLAN profile that the packet can use any EtherType to create a dynamic VLAN subinterface; this is the default for Profile Configuration mode

**Mode** Interface Configuration, Profile Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**88a8** keyword added in JUNOS Release 7.1.0.

### Related Topics

- [Configuring S-VLAN Tunnels for Layer 2 Services](#)

## svlan id

---

**Description** Assigns an S-VLAN ID and a VLAN ID to a VLAN subinterface, or, with the use of the **any** keyword, create an S-VLAN tunnel. There is no **no** version.

**Syntax** `svlan id s-vlanIdValue { vlanIdValue | any } [ mac-address macAddress ]`

- *s-vlanIdValue*—S-VLAN ID number in the range 0–4095, which is unique within the Ethernet interface
- *vlanIdValue*—VLAN ID number in the range 0–4095, which is unique within the Ethernet interface
- *any*—Tunnels traffic from VLANs configured with the specified S-VLAN ID and any VLAN ID to the same destination across an MPLS network
- *macAddress*—MAC address of the interface; when you do not specify a unique MAC address, the S-VLAN uses the MAC address of the Ethernet interface

**Mode** Interface Configuration

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

### Related Topics

- Configuring S-VLAN Tunnels for Layer 2 Services

## svlan qos-parameter

---

**Description** Attaches a QoS parameter instance to the specified S-VLAN ID on the Ethernet major interface. The **no** version detaches the parameter instance from the S-VLAN ID.

**Syntax** `svlan s-vlanIdValue qos-parameter qosParameterInstanceName qosParameterValue`  
`no svlan s-vlanIdValue qos-parameter qosParameterInstanceName`

- *s-vlanIdValue*—S-VLAN ID number in the range 0–4095
- *qosParameterInstanceName*—Name of the parameter instance that you want to attach to the VP
- *qosParameterInstanceValue*—Number of the scheduler rate for the parameter instance; the default value is the minimum value defined in the parameter definition

**Mode** Interface Configuration

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

### Related Topics

- Creating Parameter Instances



## svlan qos-profile

---

**Description** Attaches a QoS profile to the specified S-VLAN ID on the interface. The **no** version detaches the QoS profile from the S-VLAN ID.

**Syntax** [ no ] svlan *s-vlanIdValue* qos-profile *qosProfileName*

- *s-vlanIdValue*—S-VLAN ID number in the range 0–4095
- *qosProfileName*—Name of the QoS profile that you want to attach to the S-VLAN ID

**Mode** Interface Configuration

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

**Related Topics**

- Attaching a QoS Profile to an Interface

## switch-profile

---

**Description** From Domain Map Tunnel Configuration mode, applies the specified L2TP tunnel switch profile to sessions associated with an AAA domain map. From Tunnel Group Tunnel Configuration mode, applies the specified L2TP tunnel switch profile to sessions associated with an AAA tunnel group. An L2TP tunnel switch profile defines the L2TP tunnel switching behavior for the interfaces to which this profile is assigned. The **no** version removes the tunnel switch profile assignment from the AAA domain map or AAA tunnel group.

**Syntax** switch-profile *profileName*  
no switch-profile

- *profileName*—Name of the tunnel switch profile; a string of up to 64 alphanumeric characters

**Mode** Domain Map Tunnel Configuration, Tunnel Group Tunnel Configuration

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

## synchronization

---

**Description** Enables synchronization between BGP and your IGP. The **no** version advertises a network route without waiting for the IGP.

**Syntax** [ no ] synchronization

**Mode** Address Family Configuration, Router Configuration

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

## synchronize

---

**Description** Forces the NVS file system of the redundant SRP module to synchronize with the NVS file system of the primary SRP module. Optionally, you can use the **low-level-check** keyword to force the system to validate all files or only configuration files in NVS, and to synchronize all files that failed the checksum validation test during the **flash-disk compare** command as well as any other files that are unsynchronized. There is no **no** version.

**Syntax** To force the NVS file system of the redundant SRP module to synchronize with the NVS file system of the primary SRP module:

synchronize

To force the system to validate all NVS files or only configuration files, and to synchronize all files that failed the checksum test as well as any other unsynchronized files:

synchronize low-level-check { all | configuration }

- all—Validates all files in NVS, and synchronizes all files that failed the checksum test as well as any other unsynchronized files; this option can take several minutes to complete
- configuration—Validates all configuration files in NVS, and synchronizes all files that failed the checksum test as well as any other unsynchronized files; this option takes less time to complete because it validates only a subset of the files in the NVS file system

**Mode** Privileged Exec

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

## t1 bert

---

**Description** Enables bit error rate tests using the specified pattern on a T1 line on a CT3 module. The **no** version stops the test that is running.

**Syntax** `t1 channel bert pattern pattern interval time [ unframed ]`  
`no t1 channel bert`

- *channel*—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
  - 0s—Repetitive test pattern of all zeros, 00000...
  - 1s—Repetitive test pattern of all ones, 11111...
  - 2^11—Pseudorandom test pattern, 2047 bits in length
  - 2^15—Pseudorandom test pattern, 32767 bits in length
  - 2^20-O153—Pseudorandom test pattern, 1048575 bits in length
  - 2^20-QRSS—Pseudorandom QRSS test pattern, 1048575 bits in length
  - 2^23—Pseudorandom test pattern, 8388607 bits in length
  - alt-0-1—Repetitive alternating test pattern of zeros and ones, 01010101...
- *time*—Duration of the test in the range 1–1440 minutes
- *unframed*—Specifies that the test bit pattern occupies all bits on the link, overwriting the framing bits. If you do not specify the **unframed** keyword, then the test bit pattern occupies only T1 payload bits.

**Mode** Controller Configuration

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

## t1 clock source

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Determines which end of the T1 interface provides clocking. The <b>no</b> version uses the default value, <b>line</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Syntax</b>              | <pre>t1 channel clock source { line   internal { module   chassis } }</pre> <pre>no t1 channel clock source</pre> <ul style="list-style-type: none"> <li>■ <i>channel</i>—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</li> <li>■ <i>line</i>—Interface transmits data from a clock recovered from the line's receive data stream</li> <li>■ <i>internal</i>—Interface transmits data using its internal clock. You must specify one of the following for internal clocking: <ul style="list-style-type: none"> <li>■ <i>module</i>—Internal clock is from the line module itself</li> <li>■ <i>chassis</i>—Internal clock is from the configured system clock</li> </ul> </li> </ul> |
| <b>Mode</b>                | Controller Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## t1 description

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Assigns a text description or an alias to a T1 or fractional T1 channel on a CT3 module. Use the <b>show controllers t1</b> command to display the text description. The <b>no</b> version removes the description or alias.                                                                                                                                                                                                                                                                                                                                     |
| <b>Syntax</b>              | <pre>t1 channel [ /subchannel ] description name</pre> <pre>no t1 channel [ /subchannel ] description</pre> <ul style="list-style-type: none"> <li>■ <i>channel</i>—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</li> <li>■ <i>subchannel</i>—FT1 subchannel on a T1 interface in the range 1–24</li> <li>■ <i>name</i>—Text string or alias of up to 80 characters for the T1 or fractional T1 channel on the CT3 module</li> </ul> |
| <b>Mode</b>                | Controller Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## t1 fdl

---

**Description** Specifies the FDL standard used by a specific T1 channel on the CT3 interface. The **no** version restores the default, none.

**Syntax** `t1 channel fdl { ansi | att | all | none }`  
`no t1 channel fdl [ ansi | att | all ]`

- *channel*—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.

## t1 fdl carrier

---

**Description** Specifies that an interface is used in the carrier environment of a T1 channel on a CT3 interface. The **no** version restores the default situation, in which an interface does not operate in the carrier environment.

**Syntax** `[ no ] t1 channel fdl carrier`

- *channel*—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.

## t1 fdl string

---

**Description** Defines an FDL message on a T1 channel on a CT3 interface as defined in the ANSI T1.403 specification. Currently, FDL strings can be configured only locally. The **no** version restores the default value to the specified FDL message or to all FDL messages.

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

- *channel*—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.

## t1 fdl transmit

---

**Description** Configures the router to send the specified FDL message on a T1 channel on a CT3 interface. The **no** version stops the router from sending the specified FDL message or all FDL messages.

**Syntax** `t1 channel fdl transmit { path-id | idle-signal | test-signal }`  
`no t1 channel fdl transmit [ path-id | idle-signal | test-signal ]`

- *channel*—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.

## t1 framing

---

**Description** Specifies the type of framing used by a specific T1 channel on a CT3 interface. The **no** version restores the default value, esf.

**Syntax** `t1 channel framing { esf | sf }`  
`no t1 channel framing`

- *channel*—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
- *esf*—Specifies extended superframe
- *sf*—Specifies superframe

**Mode** Controller Configuration

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

## t1 lineCoding

---

**Description** Specifies the type of line coding used by a specific T1 channel on a CT3 interface. The **no** version restores the default value, b8zs.



**NOTE:** This command is deprecated and may be removed completely in a future release. No alternate command exists, because line coding can be specified only on the bottom layer.

---

**Syntax** `t1 channel lineCoding { ami | b8zs }`  
`no t1 channel lineCoding`

- *channel*—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
- *ami*—Specifies alternate mark inversion
- *b8zs*—Specifies bipolar with eight-zero substitution

**Mode** Controller Configuration

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



## t1 loopback

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Configures a loopback test for a T1 line on a CT3 module. The <b>no</b> version deactivates the loopback test; if you specify the <b>remote</b> keyword, the <b>no</b> version sends the 16-bit ESF data link code word or inband pattern to deactivate the loopback at the remote end based on the last activate request sent to the remote end. If you do not specify the <b>remote</b> keyword, the <b>no</b> version clears the local loopback configuration.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Syntax</b>              | <pre>t1 t1Channel loopback [ local   network { line   payload } ]<br/>no t1 t1Channel loopback<br/><br/>t1 t1Channel loopback remote { line { fdl { ansi   bellcore }   inband }  <br/>payload [ fdl ] [ ansi ] }<br/>no t1 t1Channel loopback remote</pre> <ul style="list-style-type: none"><li>■ <i>t1Channel</i>—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</li><li>■ <i>local</i>—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. This is the default setting if you specify no optional keywords.</li><li>■ <i>network line</i>—Loops the data back toward the network before the T1 framer and automatically sets a local loopback at the HDLC controllers</li><li>■ <i>network payload</i>—Loops the payload data back toward the network at the T1 framer and automatically sets a local loopback at the HDLC controllers</li><li>■ <i>remote line fdl ansi</i>—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. The <b>ansi</b> keyword enables the remote line FDL ANSI bit loopback on the T1 channel, according to the ANSI T1.403 specification.</li><li>■ <i>remote line fdl bellcore</i>—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. The <b>bellcore</b> keyword enables the remote line FDL Bellcore bit loopback on the T1 channel, according to the Bellcore TR-TSY-000312 specification.</li><li>■ <i>remote line inband</i>—Sends a repeating 5-bit inband pattern (00001) to the remote end, requesting that it enter into a network line loopback</li><li>■ <i>remote payload [ fdl ] [ ansi ]</i>—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 <i>fdl</i> and <i>ansi</i>, but it is not necessary.</li></ul> |
| <b>Mode</b>                | Controller Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## t1 remote-loopback

---

**Description** Enables the acceptance of loopback commands issued from a remote router. The **no** version restores the default value, which is to reject loopback commands issued from a remote router.

**Syntax** [ no ] t1 *channel* remote-loopback

- *channel*—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.

## t1 shutdown

---

**Description** Disables a T1 or fractional T1 channel on a CT3 interface. The **no** version restarts a disabled interface.

**Syntax** [ no ] t1 *channel* [ /*subchannel* ] shutdown

- *channel*—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*—FT1 subchannel on a T1 interface, in the range 1–24

**Mode** Controller Configuration

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

## t1 snmp trap link-status

---

**Description** Enables processing of SNMP link status information about a T1 or fractional T1 channel on a CT3 interface. The **no** version disables the processing of SNMP link status information.

**Syntax** [ no ] t1 *channel* [ /*subchannel* ] snmp trap link-status

- *channel*—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*—Specifies the FT1 subchannel on a T1 interface, in the range 1–24

**Mode** Controller Configuration

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

## t1 timeslots

---

- Description** Configures the timeslots and data rate used on each T1 channel on the CT3 interface. The **no** version deletes the fractional T1 circuit.
- Syntax** `t1 channel/subchannel timeslots range [ speed { 56 | 64 } ]`  
`no t1 subchannel`
- *channel*—T1 channel number in the range 1–28
  - *subchannel*—Subchannel specifies the logical subchannel on a T1 in the range 1–24
  - *range*—Specifies the timeslot 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 through 10 and 15 through 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.

## t1 yellow

---

- Description** Generates or detects a yellow alarm for a T1 channel on a CT3 interface. The **no** version restores the default value, to not generate or to not detect a yellow alarm.
- Syntax** `[ no ] t1 channel yellow { generate | detect }`
- *channel*—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.

## table-map

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Applies the specified route map to all BGP, IS-IS, OSPF, or RIP routes about to be added to the IP routing table. The <b>no</b> version halts application of the route map.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Syntax</b>              | <p><b>table-map</b> <i>mapTag</i></p> <p>For removing route maps for IS-IS IPv6 only:<br/> <b>no table-map</b></p> <p>For removing route maps for all other cases:<br/> <b>no table-map</b> [ <i>mapTag</i> ]</p> <ul style="list-style-type: none"> <li>■ <i>mapTag</i>—A string of up to 32 alphanumeric characters that specifies the name of the route map; for each protocol, the route map can set only the following values: <ul style="list-style-type: none"> <li>■ BGP—Distance, IP next hop, level, metric, metric type, route type, and tag values</li> <li>■ IS-IS—Distance, level, metric, metric type, origin, preference, route type, and tag values; IS-IS IPv6 supports only a single route map</li> <li>■ OSPF—Distance, metric, metric type, route type, and tag values</li> <li>■ RIP—Distance, metric, and tag values</li> </ul> </li> </ul> |
| <b>Mode</b>                | Address Family Configuration (BGP, IS-IS, RIP), Router Configuration (BGP, IS-IS, OSPF, RIP)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## tacacs-server host

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Adds or deletes a host to or from the list of TACACS + servers. If the host is not assigned as the primary host, the router assigns an existing host as the primary. The <b>no</b> version deletes the host from the list of TACACS + servers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Syntax</b>              | <p><b>tacacs-server host</b> <i>ipAddress</i> [ <i>port</i> <i>portNumber</i> ]<br/> [ <i>timeout</i> <i>timeoutValue</i> ] [ <i>key</i> <i>keyValueString</i> ] [ <i>primary</i> ]</p> <p><b>no tacacs-server host</b> <i>ipAddress</i></p> <ul style="list-style-type: none"> <li>■ <i>ipAddress</i>—IP address of the TACACS + server</li> <li>■ <i>portNumber</i>—TACACS + server's TCP port number in the range 1–65535</li> <li>■ <i>timeoutValue</i>—Response timeout interval for the TACACS + client to server exchange; number in the range 1–255; default value is 5</li> <li>■ <i>keyValueString</i>—Secret used in TACACS + client to server exchange; string of up to 100 characters</li> <li>■ <i>primary</i>—Assigns the host as the primary host</li> </ul> |
| <b>Mode</b>                | Global Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## tacacs-server key

---

**Description** Sets or resets the authentication and encryption key value shared by all TACACS + servers that do not have a server-specific key set up by the **tacacs-server host** command. The **no** version removes the key value shared by all TACACS + servers.

**Syntax** tacacs-server key *keyValueString*  
no tacacs-server key

- *keyValueString*—String of up to 100 characters; must match key configured on the TACACS + daemon

**Mode** Global Configuration

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

## tacacs-server source-address

---

**Description** Sets or resets an alternative source address to be used for TACACS + server communications. The **no** version removes the address.

**Syntax** tacacs-server source-address *ipAddress*  
no tacacs-server source-address

- *ipAddress*—IP address used as source by the TACACS + server

**Mode** Global Configuration

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

## tacacs-server timeout

---

**Description** Sets the interval in seconds that the server waits for the TACACS + server host to reply. This value is shared by those TACACS + servers that do not have a timeout interval set by the **tacacs-server host** command. The **no** version resets the timeout interval shared by all TACACS + servers.

**Syntax** tacacs-server timeout *timeoutValue*  
no tacacs-server timeout

- *timeoutValue*—Response timeout interval for the TACACS + client to server exchange; number in the range 1–255; default value is 5

**Mode** Global Configuration

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

## tag

---

**Description** Specifies a user-defined tag. You can configure a tag for both echo and echoPath types. The **no** version removes the tag from the operation.

**Syntax** tag *tagValue*  
no tag

- *tagValue*—Name of a group to which the operation belongs; string of 0–255 ASCII characters; default value is to have no tag

**Mode** RTR Configuration

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

## tag-group

---

**Description** Configures an interface tag group. The **no** version removes the tag group.

**Syntax** tag-group *tagGroup*  
no tag-group

- *tagGroup*—Name of the interface tag group

**Mode** Interface Configuration

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

## tcp ack-rst-and-syn

---

**Description** Enables TCP ACK message validation along with TCP RST and SYN attack protection on the virtual router. The **no** version disables this protection.

**Syntax** [ no ] [ ip ] tcp ack-rst-and-syn [ vrf *vrfName* ]

- ip—Optional keyword for use with older scripts
- *vrfName*—Name of the VRF; string of 1–32 alphanumeric characters

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0  
ip keyword made optional in JUNOS Release 7.2.0.

## tcp mss

---

**Description** Specifies the MSS value for TCP to use. The **no** version removes the MSS value, and the router uses the advertised MSS derived from the MTU of the output interface.

---



**NOTE:** The MSS value is equal to the MTU value minus the IP or IPv6 and TCP headers. This means that the MSS value is generally 40 bytes less than the MTU (for IPv4) and 60 bytes less than the MTU (for IPv6).

---

**Syntax** [ ip ] tcp mss [ vrf *vrfName* ] *mssValue*

no [ ip ] tcp mss [ vrf *vrfName* ]

- *ip*—Optional keyword for use with older scripts
- *vrfName*—Name of the VRF; string of 1–32 alphanumeric characters
- *mssValue*—Value for MSS that you want TCP to use; in the range 536–65495 bytes for IPv4 and 1280–65495 bytes for IPv6

**Mode** Interface Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**ip** keyword made optional in JUNOS Release 7.2.0.

## tcp path-mtu-discovery

---

**Description** Enables and configures path MTU discovery on the virtual router. Issuing the command without any keywords enables path MTU discovery. Using the keywords with the command configures specified values. The **no** version, when issued with a keyword, deletes the value. When issued without any keywords, the **no** version disables path MTU discovery on the virtual router.

**Syntax** [ ip ] tcp path-mtu-discovery [ vrf *vrfName* ] [ age-timer [ indefinite | *minutes* [ *minutes\_2* ] ] | max-mtu *maxMtu* | min-mtu *minMtu* | black-hole-detect-threshold *blackHoleThreshold* ]

no [ ip ] tcp path-mtu-discovery [ vrf *vrfName* ] [ age-timer | max-mtu | min-mtu | black-hole-detect-threshold ]

- *ip*—Optional keyword for use with older scripts
- *vrfName*—Name of the VRF; string of 1–32 alphanumeric characters
- *indefinite*—Disables aging functions. That is, TCP does not attempt to increase the path MTU; the path MTU decreases only in response to received ICMP Too Big messages.
- *minutes*—Time (in minutes) that TCP waits after receiving an ICMP Too Big message before attempting to increase the path MTU. The timer range is 1–30 minutes.
- *minutes\_2*—Time (in minutes) that TCP waits after a successful path MTU increase before attempting to increase it again. The timer range is 1–30 minutes.
- *maxMtu*—Maximum MTU size that the virtual router can accept; number, in the range 68–65535; default value is no limit
- *minMtu*—Minimum MTU value that the virtual router can accept; number, in the range 68–65535; default value is no limit
- *blackHoleThreshold*—Black hole threshold value that you want all connections on this virtual router to use. The range is 0–65535.

**Mode** Router Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**ip** keyword made optional in JUNOS Release 7.2.0.



## tcp paws-disable

---

**Description** Disables the Protect Against Wrapped Sequence (PAWS) number option in TCP segments. The **no** version restores PAWS processing (the default mode).

**Syntax** [ no ] [ ip ] tcp paws-disable [ vrf *vrfName* ]

- *ip*—Optional keyword for use with older scripts
- *vrfName*—Name of the VRF; string of 1–32 alphanumeric characters

**Mode** Global Configuration

**Release Information** Command introduced in JUNOS Release 7.1.0.  
**ip** keyword made optional in JUNOS Release 7.2.0.

## tcp resequence-buffers connection-maximum

---

**Description** Defines the maximum number of buffers that connections on the current or specified virtual router can use. Specifying a value of zero (0) turns off the connection maximum. The **no** version reverts the connection maximum value to its default (10 buffers).

**Syntax** [ ip ] tcp resequence-buffers [ vrf *vrfName* ] connection-maximum *connMaxValue*  
no [ ip ] tcp resequence-buffers [ vrf *vrfName* ] connection-maximum

- *ip*—Optional keyword for use with older scripts
- *vrfName*—Name of the VRF; string of 1–32 alphanumeric characters
- *connMaxValue*—Maximum number of buffers for each virtual router connection, in the range 1–65535

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**ip** keyword made optional in JUNOS Release 7.2.0.

## tcp resequence-buffers default-connection-maximum

---

**Description** Specifies the default buffer limit assigned to all TCP connections on a virtual router unless a specific limit is set for the VR in which the connection is established. Specifying a value of zero (0) buffers turns off the default limit. The **no** version reverts the connection maximum value to its default (10 buffers).

**Syntax** [ ip ] tcp resequence-buffers default-connection-maximum *defaultConnMaxValue*  
 no [ ip ] tcp resequence-buffers default-connection-maximum

- ip—Optional keyword for use with older scripts
- *defaultConnMaxValue*—Default number of maximum buffers for newly created connections on a virtual router, in the range 1–65535

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
 ip keyword made optional in JUNOS Release 7.2.0.

## tcp resequence-buffers default-vr-maximum

---

**Description** Specifies the default buffer limit assigned to all virtual routers when the virtual router is established. Specifying a value of zero (0) turns off the limit assignment. The **no** version reverts the virtual router maximum value to its default (100 buffers).

**Syntax** [ ip ] tcp resequence-buffers default-vr-maximum *defaultVrMaxValue*  
 no [ ip ] tcp resequence-buffers default-vr-maximum

- ip—Optional keyword for use with older scripts
- *defaultVrMaxValue*—Default number of maximum buffers for newly established virtual routers, in the range 1–65535

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
 ip keyword made optional in JUNOS Release 7.2.0.

## tcp resequence-buffers global-maximum

---

**Description** Specifies a router-wide maximum number of buffers that resequencing queues can contain. Specifying a value of zero (0) turns off the limit. The **no** version reverts the global maximum buffer value to its default (1000 buffers).

**Syntax** ip tcp resequence-buffers global-maximum *globalMaxValue*  
no [ ip ] tcp resequence-buffers global-maximum

- ip—Optional keyword for use with older scripts
- *globalMaxValue*—Maximum number of buffers in the range 1–65535

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
ip keyword made optional in JUNOS Release 7.2.0.

## tcp resequence-buffers vr-maximum

---

**Description** Defines the maximum number of buffers that the current or specified virtual router can use. Specifying a value of zero (0) turns off the limit assignment. The **no** version reverts the virtual router maximum value to its default (100 buffers).

**Syntax** [ ip ] tcp resequence-buffers [ vrf *vrfName* ] vr-maximum *vrMaxValue*  
no [ ip ] tcp resequence-buffers [ vrf *vrfName* ] vr-maximum

- ip—Optional keyword for use with older scripts
- *vrfName*—Name of the VRF; string of 1–32 alphanumeric characters
- *vrMaxValue*—Virtual router maximum in the range 1–65535

**Mode** Global Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
ip keyword made optional in JUNOS Release 7.2.0.

## tech-support encoded-string

---

**Description** Executes the specified encoded command string to gather information to return to Juniper Networks customer support. Use this command only under the direction of Juniper Networks customer support. By default, this command requires level 15 access. There is no **no** version.

**Syntax** tech-support slot *slotNumber* [ connection { reliable | fast } ] encoded-string *string*

- *slotNumber*—Number of a selected slot in the router
- connection—Specifies the connection type:
  - reliable—Use a reliable connection with a slower response time, which is the default
  - fast—Use a less reliable connection with a faster response time, which could be unsuccessful for certain conditions
- *string*—Encoded string provided by Juniper Networks Customer Support

**Mode** Privileged Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**slot** and **connection** keywords added in JUNOS Release 9.1.0.

## telnet

---

**Description** Enables connections to remote routers via the embedded Telnet client. There is no **no** version.

**Syntax** `telnet ipAddress | hostname [ vrf vrfName ] [ ipPortNumber | ipPortType ]`  
`[ source-interface interfaceType interfaceSpecifier | noecho | line | debug | verbose ]*`

- *ipAddress*—IP address of the remote router
- *hostname*—Name of the remote router
- *vrfName*—Name of the VRF to which the command applies; string of 1–32 alphanumeric characters
- *ipPortNumber*—Number of the port for the connection to the remote router, in the range 0–65535; default value is port number 23, the Telnet port. For more information about port numbers and associated processes, see [www.iana.org](http://www.iana.org).
- *ipPortType*—Name of a well-known port, as follows:
  - `bgp`—Border Gateway Protocol (port 179)
  - `chargen`—Character generator (port 19)
  - `cmd`—Remote commands (port 514)
  - `daytime`—Daytime (port 13)
  - `discard`—Discard (port 9)
  - `domain`—Domain Name Service (port 53)
  - `echo`—Echo (port 7)
  - `exec`—Exec (port 512)
  - `finger`—Finger (port 79)
  - `ftp`—File Transfer Protocol (port 21)
  - `ftp-data`—FTP data connections (port 20)
  - `gopher`—Gopher (port 70)
  - `hostname`—NIC hostname server (port 101)
  - `ident`—Ident Protocol (port 113)
  - `irc`—Internet Relay Chat (port 194)
  - `klogin`—Kerberos login (port 543)

- kshell—Kerberos shell (port 544)
- login—Login (port 513)
- lpd—Printer service (port 515)
- nntp—Network News Transport Protocol (port 119)
- pim-auto-rp—Protocol Independent Multicast Auto RP (port 496)
- pop2—Post Office Protocol version 2 (port 109)
- pop3—Post Office Protocol version 2 (port 110)
- smtp—Simple Mail Transport Protocol (port 25)
- sunrpc—Sun Remote Procedure Call (port 111)
- syslog—Syslog (port 514)
- tacacs—Terminal Access Concentrator Access Control System (port 49)
- talk—Talk (port 517)
- telnet—Telnet (port 23)
- time—Time (port 37)
- uucp—Unix-to-Unix Copy Program (port 540)
- whois—Nickname (port 43)
- www —World Wide Web (port 80)
- source-interface—Forces Telnet to use the IP address of the specified interface as the source address for the Telnet connection
  - *interfaceType*—Type of interface to use to obtain the source address for the Telnet connection; see *Interface Types and Specifiers* in *About This Guide*
  - *interfaceSpecifier*—Number of interface to use to obtain the source address for the Telnet connection; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*
- noecho—Disables local echo of user input
- line—Enables line mode
- debug—Enables debugging
- verbose—Enables verbose mode
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line

**Mode** Privileged Exec

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

## telnet listen

---

**Description** Sets the Telnet daemon to listen in a virtual router other than the default. The **no** version deletes the Telnet daemon.

**Syntax** telnet listen [ port *portValue* ]  
no telnet listen

- *portValue*—TCP port on which the Telnet daemon listens; if not specified, uses the default, port 23

**Mode** Global Configuration

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

## terminal data-character-bits

---

**Description** Sets the number of data bits available for characters for the current session on the terminal screen. There is no **no** version.

**Syntax** terminal data-character-bits { 7 | 8 }

- 7—Seven data bits per character; this setting supports only characters in the standard ASCII set
- 8—Eight data bits per character; this is the default setting, which supports the full set of 8-bit international characters

**Mode** Privileged Exec, User Exec

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

## terminal length

---

**Description** Sets the number of lines on the current terminal screen for the current session. There is no **no** version.

**Syntax** terminal length *value*

- *value*—Number for the screen length in the range 0–512. If 0, the router does not pause between screens of output. If not 0, the router pauses between screens.

**Mode** Privileged Exec, User Exec

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

## terminal speed

---

**Description** Sets the speed for the current console session. There is no **no** version.

**Syntax** terminal speed *baudRate*

- *baudRate*—Terminal speed for the current console session; one of the following values: 2400, 4800, 9600, 14400, 19200, 28800, 38400, 57600, 115200

**Mode** Privileged Exec

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

## terminal width

---

**Description** Sets the number of character columns on the current terminal screen for the current line for a session. There is no **no** version.

**Syntax** terminal width *value*

- *value*—Number of characters in the range 30–512

**Mode** Privileged Exec, User Exec

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

## terminate-code

---

**Description** Configures custom mappings of application terminate reasons to RADIUS Acct-Terminate-Cause codes. The **no** version restores the default mappings.

**Syntax** terminate-code *application terminateReason translationApplication terminateCode*  
no terminate-code *application terminateReason translationApplication*

- *application*—Application; AAA, L2TP, PPP, or RADIUS client
- *terminateReason*—Reason that the subscriber's session was terminated
- *translationApplication*—Application whose terminate code is used for the mapping; for example, RADIUS
- *terminateCode*—Standards-based code used by the translation application to identify the terminate reason; for example, a RADIUS Acct-Terminate-Cause code

**Mode** Global Configuration

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



## test aaa

---

**Description** Verifies RADIUS authentication and accounting and IP (or IPv6) address assignment setup. The test uses a username and password and attempts to authenticate a user, get an address assignment, and issue a start accounting request. The test immediately terminates the session by issuing a stop accounting request and an address release. Optionally, a virtual router context may be specified. There is no **no** version.

**Syntax** `test aaa { ppp | mlppp } userName [ password ] [ virtual-router vrContext ] [ aaa-profile profileName ] [ zero-stats ] [ filter ]`

- `ppp`—Indicates a PPP user
- `mlppp`—Simulates Multilink PPP
- `userName`—Username to test
- `password`—Password to associate with username; the password is optional—when omitted, the RADIUS access request has no User-Password attribute
- `vrContext`—Virtual router context in which to authenticate the user
- `profileName`—Name of AAA profile for the user
- `zero-stats`—Specifies that accounting statistics should be set to zero for this test
- `filter`—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec

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

## test bgp ipv6 neighbor

---

**Description** Tests BGP policy for IPv6 BGP routes advertised to or received from peers without implementing the policy. There is no **no** version.

**Syntax** test bgp ipv6  
 [ unicast | multicast | vpnv6 all | vpnv6 vrf *vrfName* | route-target signaling ]  
 neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* }  
 { advertised-routes | routes } [ *ipv6Prefix* ]  
 [ distribute-list *accessListName* |  
 filter-list *asPathAccessListName* [ weight *weightValue* ] |  
 prefix-list *prefixListName* | prefix-tree *prefixTreeName* | route-map *mapTag* ]\*  
 [ fields { *fieldOptions* } ] [ *filter* ]

- unicast—Specifies the IPv6 unicast address family and routing table; the default option
- multicast—Specifies the IPv6 multicast address family and routing table
- vpnv6 all—Specifies the VPN-IPv6 address family and all IPv6 VPN routing and forwarding instances
- vpnv6 vrf *vrfName*—Specifies the VPN-IPv6 address family and only the IPv6 VPN routing and forwarding instance with the name *vrfName*
- route-target signaling—Specifies the route-target address family
- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group
- advertised-routes—Tests only the outgoing advertisements to the specified BGP neighbor or peer group
- routes—Tests only the incoming routes originating from the specified BGP neighbor or peer group
- *ipv6Prefix*—IPv6 prefix for which you want information displayed
- *accessListName*—Name of the access list to use as the distribute list to filter routes by prefix; string of up to 32 alphanumeric characters
- *asPathAccessListName*—Name of a single AS path access list used to filter routes by AS path; string of up to 32 characters
- *weightValue*—Weight assigned to incoming routes matched by the AS path access list; integer in the range 0–4294967295
- *prefixListName*—Name of a BGP prefix list used to filter routes by prefix
- *prefixTreeName*—Name of a BGP prefix tree used to filter routes by prefix
- *mapTag*—Name of a route map; string of up to 32 alphanumeric characters
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- fields—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them

- *fieldOptions*—Fields to be displayed, in the format  
all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters |  
communities | extended-communities | imported | intro | in-label | loc-pref |  
med | next-hop | next-hop-cost | origin | originator-id | out-label | peer |  
peer-type | rd | safi | stale | unknown-types | weight ]\*
- all—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
- afi—Address family identifier
- aggregator—AS number and IP address of aggregator
- as-path—AS path through which this route has been advertised
- atomic-aggregate—Whether the atomic aggregate attribute is present
- best—Whether this is the best route for the prefix
- clusters—List of cluster IDs through which the route has been advertised
- communities—Community number associated with the route
- extended-communities—Extended community
- imported—Whether the route was imported
- intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
- in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers
- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers

- `peer`—IP address of BGP peer from which route was learned
- `peer-type`—Type of BGP peer: internal, external, or confederation
- `rd`—Route distinguisher
- `safi`—Subsequent address family identifier
- `stale`—Route that has gone stale due to peer restart
- `unknown-types`—Attribute codes for unknown path attributes
- `weight`—Weight of the route
- `*`—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *filter*—See *Filtering show Commands in About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## test ip bgp neighbor

---

**Description** Tests BGP policy for routes advertised to or received from peers without implementing the policy. There is no **no** version.

**Syntax** test ip bgp  
[ ipv4 unicast | ipv4 multicast | vpnv6 all | vpnv6 vrf *vrfName* | route-target signaling ]  
neighbor { *ipAddress* | *ipv6Address* | *peerGroupName* } { advertised-routes | routes }  
[ routeAddr [ routeMask [ route-rd *distinguisher* ] ] ]  
[ distribute-list *accessListName* |  
filter-list *asPathAccessListName* [ weight *weightValue* ] |  
prefix-list *prefixListName* | prefix-tree *prefixTreeName* | route-map *mapTag* ]\*  
[ fields { *fieldOptions* } ] [ *filter* ]

- *ipv4 unicast*—Specifies the IPv4 unicast address family and routing table; the default option
- *ipv4 multicast*—Specifies the IPv4 multicast address family and routing table
- *vpnv4 all*—Specifies the IPv4 VPN address family and all IPv4 VPN routing and forwarding instances
- *vpnv4 vrf vrfName*—Specifies the IPv4 VPN address family and only the IPv4 VPN routing and forwarding instance with the name *vrfName*
- *route-target signaling*—Specifies the route-target address family
- *ipAddress*—IP address of BGP neighbor
- *ipv6Address*—IPv6 address of BGP neighbor
- *peerGroupName*—Name of a BGP peer group. If you specify a BGP peer group by using the *peerGroupName* argument, all the members of the peer group inherit the characteristic configured with this command, unless it is overridden for a specific peer.
- *advertised-routes*—Tests only outgoing advertisements to the specified neighbor
- *routes*—Tests only the incoming advertisements from the specified neighbor
- *routeAddr*—Prefix advertised by BGP
- *routeMask*—Subnet mask associated with prefix; if not specified, a best match on *routeAddr* is performed
- *distinguisher*—Unique two-part identifier of the format *number1:number2* where:
  - *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

If not specified, considers all destinations with the same *routeAddress* and *routeMask*.

- *accessListName*—Name of an access list used as a distribute list to filter routes by prefix; string of up to 32 alphanumeric characters
- *asPathAccessListName*—Name of a single AS path access list used to filter routes by AS path; string of up to 32 characters
- *weightValue*—Weight assigned to incoming routes matched by the AS path access list; integer in the range 0–4294967295
- *prefixListName*—Name of a BGP prefix list used to filter routes by prefix
- *prefixTreeName*—Name of a BGP prefix tree used to filter routes by prefix
- *mapTag*—Name of a route map; a string of up to 32 alphanumeric characters
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *fields*—Displays only the specified fields; the display order of the fields is hard-coded and not affected by the order in which you enter them
- *fieldOptions*—Fields to be displayed, in the format  
all | [ afi | aggregator | as-path | atomic-aggregate | best | clusters | communities | extended-communities | imported | intro | in-label | loc-pref | med | next-hop | next-hop-cost | origin | originator-id | out-label | peer | peer-type | rd | safi | stale | unknown-types | weight ]\*
  - all—All available information; not recommended, because this information for each network does not fit on a single line and is difficult to read
  - afi—Address family identifier
  - aggregator—AS number and IP address of aggregator
  - as-path—AS path through which this route has been advertised
  - atomic-aggregate—Whether the atomic aggregate attribute is present
  - best—Whether this is the best route for the prefix
  - clusters—List of cluster IDs through which the route has been advertised
  - communities—Community number associated with the route
  - extended-communities—Extended community
  - imported—Whether the route was imported
  - intro—Introductory information about the state of various BGP attributes; this information is displayed only if you specify this keyword
  - in-label—MPLS label for the route; the label received with incoming MPLS frames; typically, but not always, this is the label advertised to MP-BGP peers

- loc-pref—Local preference for the route
- med—Multiexit discriminator for the route
- next-hop—IP address of the next router that is used when forwarding a packet to the destination network
- next-hop-cost—Whether the indirect next hop of the route is unreachable, if not, displays IGP cost to the indirect next hop
- origin—Origin of the route
- originator-id—Router ID of the router in the local AS that originated the route
- out-label—MPLS label for the route; the label sent with outgoing MPLS frames; also the label received from MP-BGP peer; typically, but not always, this is the label received from MP-BGP peers
- peer—IP address of BGP peer from which route was learned
- peer-type—Type of BGP peer: internal, external, or confederation
- rd—Route distinguisher
- safi—Subsequent address family identifier
- stale—Route that has gone stale due to peer restart
- unknown-types—Attribute codes for unknown path attributes
- weight—Weight of the route
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- *filter*—See *Filtering show Commands* in *About This Guide*

**Mode** Privileged Exec, User Exec

**Release Information** Command introduced before JUNOS Release 7.1.0.  
**route-target signaling** keywords added in JUNOS Release 8.2.0.

## threshold

---

**Description** Sets the threshold values for bit error rates used in APS/MSP alarms. This command applies only to the protect interface, and not to the working interface. The **no** version restores the default value, 5 (for the sd-ber bit error rate) or 3 (for the sf-ber bit error rate), for the specified alarm.

**Syntax** threshold { sd-ber | sf-ber } *rate*  
no threshold { sd-ber | sf-ber }

- sd-ber—Bit error rate that specifies signal degradation
- sf-ber—Bit error rate that specifies signal failure
- *rate*—Integer *n* with available values depending on the bit error rate type you specify; a value of *n* corresponds to a rate of  $10^{-n}$  (10e-*n*) errors per second
  - For sd-ber, an integer in the range 5–9; default value is 5
  - For sf-ber, an integer in the range 3–5; default value is 3

**Mode** Controller Configuration

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



## threshold-test

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Defines the values for an SNMP threshold-test trigger. The <b>no</b> version deletes the threshold-test values for this trigger or removes either the threshold startup condition or event binding.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Syntax</b>              | <pre>threshold-test startup { falling   rising   risingorfalling } threshold-test absolute-value rising <i>risingValue</i> falling <i>fallingValue</i> threshold-test event { rising <i>eventOwner eventName</i>   falling <i>eventOwner eventName</i>   delta-rising <i>eventOwner eventName</i>   delta-falling <i>eventOwner eventName</i> } threshold-test delta-value rising <i>risingValue</i> falling <i>fallingValue</i> no threshold-test [ startup   absolute-value   delta-value   event rising   event falling   event delta-rising   event delta-falling ]</pre> <ul style="list-style-type: none"><li>■ startup—Startup threshold condition that you predict the sample to follow<ul style="list-style-type: none"><li>■ falling—Specifies that the sample values are expected to be falling values</li><li>■ rising—Specifies that the sample values are expected to be rising values</li><li>■ risingorfalling—Specifies that the sample values might be either rising values or falling values</li></ul></li><li>■ absolute-value—Specifies that the trigger is monitoring absolute threshold values</li><li>■ <i>risingValue</i>—Rising threshold value for the trigger, in the range -2147483648–2147483648</li><li>■ <i>fallingValue</i>—Falling threshold value for the trigger, in the range -2147483648–2147483648</li><li>■ event—Binds an event owner and name to specific events on which the threshold-test might trigger: rising values within a sample, falling values within a sample, rising values between samples, or falling values between samples</li><li>■ <i>eventOwner</i>—Event owner name; string of up to 32 alphanumeric characters</li><li>■ <i>eventName</i>—Event name; string of up to 32 alphanumeric characters</li><li>■ delta-value—Specifies that the trigger is monitoring the difference (delta)( between sample values</li></ul> |
| <b>Mode</b>                | SNMP Trigger Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## time

---

**Description** Configures the threshold for the amount of time that the service session can be active for a subscriber. The service is terminated when the time expires. The **no** version removes the time attribute from the service session profile.

**Syntax** time *seconds*  
no time

- *seconds*—Number of seconds in the range 0–16777251

**Mode** Service Session Profile Configuration

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

## timeout

---

**Description** When used from RADIUS Configuration mode, specifies the interval, in seconds, before the router retransmits a RADIUS packet to an authentication or accounting server. The **no** version uses the default.

When used from RTR Configuration mode, specifies the timeout for a Response Time Reporter operation. The **no** version returns the operation to the default value. You can apply this parameter only to *echo* entries.

**Syntax** RADIUS:  
timeout *waitTime*  
no timeout

- *waitTime*—Specifies the number of seconds in the range 3–30; default value is 3

RTR:  
timeout *timeoutValue*  
no timeout

- *timeoutValue*—Number in milliseconds that the operation waits for a response; if the value is set to 0 or is larger than frequency, it will be ignored; default value is 5000

**Mode** RADIUS Configuration, RTR Configuration

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

## timeout login response

---

**Description** Sets a time limit during which users must provide a password when they log into the console or a vty line. Specifying a value of 0 indicates that there is no time limit during which users must enter a password. The **no** version restores the default value, 30.

**Syntax** timeout login response *seconds*  
no timeout login response

- *seconds*—Length of the timeout in the range 0–300 seconds

**Mode** Line Configuration

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

## timers

---

**Description** Configures RIP timers. The **no** version restores the default values.

**Syntax** timers *update invalid holddown flush*  
no timers

- *update*—Interval in seconds at which routing updates are sent; default value is 30
- *invalid*—Interval in seconds after which a route is declared invalid (null); default value is 180
- *holddown*—Interval in seconds during which routing information regarding better paths is disregarded by the router; default value is 120
- *flush*—Interval in seconds that must pass before a route is removed from the routing table; set this value greater than the invalid value; default value is 300

**Mode** Address Family Configuration, Router Configuration

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

## timers bgp

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Sets keepalive and hold-time timers for all neighbors. The <b>no</b> version restores the default values.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Syntax</b>              | <pre>timers bgp <i>keepaliveTime</i> <i>holdTime</i> no timers bgp [ <i>keepaliveTime</i> [ <i>holdTime</i> ] ]</pre> <ul style="list-style-type: none"> <li>■ <i>keepaliveTime</i>—Interval in seconds between keepalive messages, in the range 0–65535 seconds; default value is 30; a value of zero prevents BGP from sending keepalive messages</li> <li>■ <i>holdTime</i>—Period in seconds that BGP waits for keepalive messages before declaring the neighbor to be unavailable, in the range 0–65535 seconds; default value is 90; a value of zero informs BGP not to expect any hold-time messages</li> </ul> |
| <b>Mode</b>                | Router Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## timers spf

---

|                            |                                                                                                                                                                                                                            |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Configures the delay time between when OSPF receives a topology change and when it starts an SPF calculation and the hold time between two consecutive SPF calculations. The <b>no</b> version restores the default value. |
| <b>Syntax</b>              | <pre>[ no ] timers spf <i>holdTime</i></pre> <ul style="list-style-type: none"> <li>■ <i>holdTime</i>—Number in the range 1–5 seconds; default value is 3; the hold time between consecutive SPF calculations</li> </ul>   |
| <b>Mode</b>                | Router Configuration                                                                                                                                                                                                       |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                             |

## time-to-live

---

|                            |                                                                                                                                                                           |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Specifies a hop count by setting the value of the time-to-live field used by packets sent to a RIP remote neighbor. The <b>no</b> version restores the default value.     |
| <b>Syntax</b>              | <pre>time-to-live <i>ttlValue</i> no time-to-live</pre> <ul style="list-style-type: none"> <li>■ <i>ttlValue</i>—Number in the range 1–16; default value is 16</li> </ul> |
| <b>Mode</b>                | Remote Neighbor Configuration                                                                                                                                             |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                            |

## timing disable-auto-upgrade

---

|                            |                                                                                                               |
|----------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Disables the autoupgrade feature of the router timing. The <b>no</b> version enables the autoupgrade feature. |
| <b>Syntax</b>              | [ no ] timing disable-auto-upgrade                                                                            |
| <b>Mode</b>                | Global Configuration                                                                                          |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                |

## timing select

---

|                            |                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Configures the preferred timing selector. There is no <b>no</b> version.                                                                                                                                                                                                                                                                            |
| <b>Syntax</b>              | timing select <i>selector</i> <ul style="list-style-type: none"><li>■ <i>selector</i>—Timing selector; one of the following:<ul style="list-style-type: none"><li>■ primary—Highest-priority preferred selection</li><li>■ secondary—Middle-priority preferred selection</li><li>■ tertiary—Lowest-priority preferred selection</li></ul></li></ul> |
| <b>Mode</b>                | Global Configuration                                                                                                                                                                                                                                                                                                                                |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                      |

## timing source

---

**Description** Configures the router's timing sources. Only one of these timing sources can be an external source received through an interface on an I/O module other than the SRP I/O module; the other two must be either internal sources or external sources received through the SRP I/O modules. There is no **no** version.

**Syntax** `timing source selector { internal | line lineType | uidType interfaceSpecifier }`

- *selector*—Priority of the timing source; in descending order: **primary**, **secondary**, or **tertiary**
- *internal*—Specifies the internal SC oscillator
- *line*—Specifies external timing input on the SRP module
- *lineType*—One of the following timing sources:
  - *e1:a*—E1 clock, port A on SRP module
  - *e1:b*—E1 clock, port B on SRP module
  - *t1:a*—T1 clock, port A on SRP module
  - *t1:b*—T1 clock, port B on SRP module
- *uidType*—One of the following interfaces:
  - *ds1*—Specifies a DS1 interface
  - *ds3*—Specifies a DS3 interface
  - *e1*—Specifies an E1 interface
  - *e3*—Specifies an E3 interface
  - *sonet*—Specifies a SONET interface
- *interfaceSpecifier*—Particular interface; in the form *slot/port[:subPort]*

**Mode** Global Configuration

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

## tos

---

**Description** Defines a type of service byte in the RTR operation's IP header. The **no** version returns the operation to the default value.

**Syntax** `tos tosValue`

`no tos`

- *tosValue*—ToS byte in the IP header; number in the range 0–255; default value is 0 for both RTR types

**Mode** RTR Configuration

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

## trace mpls ip

---

**Description** Sends MPLS echo request packets with successively higher TTL values to the specified IP or IPv6 address. Discovers the path MPLS packets follow to the destination. There is no **no** version.

**Syntax** `trace mpls ip [ vrf vrfName ]  
{ targetIpAddress targetIpv4Mask | targetIpv6Prefix }  
[ destination startIpAddress endIpAddress increment ]  
[ source address sourceAddr ]  
[ ttl ttlValue ] [ timeout timeOutVal ]  
[ reply mode { ipv4-udp | ipv4-udp-with-router-alert } ]  
[ reply pad-tlv ] [ reply dscp trafficClass ]  
[ 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
- *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
- *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
- *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.

## trace mpls l2transport

---

**Description** Sends MPLS echo request packets with successively higher TTL values to the specified layer 2 cross-connect virtual (Martini) circuit. Discovers the path MPLS packets follow to the destination. There is no **no** version.

**Syntax** `trace mpls l2transport [ vrf vrfName ]`  
`{ interfaceType interfaceSpecifier }`  
`[ destination startIpAddress endIpAddress increment ]`  
`[ source address sourceAddr ]`  
`[ ttl ttlValue ] [ timeout timeOutVal ]`  
`[ reply mode { ipv4-udp | ipv4-udp-with-router-alert } ]`  
`[ reply pad-tlv ] [ reply dscp trafficClass ]`  
`[ 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
- *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
- *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
- *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.



## trace mpls l3vpn

---

**Description** Sends MPLS echo request packets with successively higher TTL values to the specified L3VPN IP or IPv6 prefix. Discovers the path MPLS packets follow to the destination. There is no **no** version.

**Syntax** `trace mpls l3vpn [ vrf vrfName ]  
{ targetAddress targetMask | targetIpv6Prefix }  
[ destination startIpAddress endIpAddress increment ]  
[ source address sourceAddr ]  
[ ttl ttlValue ] [ timeout timeOutVal ]  
[ reply mode { ipv4-udp | ipv4-udp-with-router-alert } ]  
[ reply pad-tlv ] [ reply dscp trafficClass ]  
[ 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
- *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
- *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
- *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.

## trace mpls rsvp tunnel

---

**Description** Sends MPLS echo request packets with successively higher TTL values to the specified RSVP-TE tunnel. Discovers the path MPLS packets follow to the destination. There is no **no** version.

**Syntax** `trace mpls { traffic-eng | rsvp } [ vrf vrfName ] tunnel tunnelName  
 [ destination startIpAddress endIpAddress increment ]  
 [ source address sourceAddr ]  
 [ ttl ttlValue ] [ timeout timeOutVal ]  
 [ reply mode { ipv4-udp | ipv4-udp-with-router-alert } ]  
 [ reply pad-tlv ] [ reply dscp trafficClass ]  
 [ 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
- *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
- *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
- *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.

## trace mpls vpls

---

**Description** Sends MPLS echo request packets with successively higher TTL values to the specified VPLS instance. Discovers the path MPLS packets follow to the destination. There is no **no** version.

**Syntax** trace mpls vpls [ vrf *vrfName* ] *vplsName*  
[ sender-site-id *senderSiteId* ] remote-site-id *remoteSiteId*  
[ destination *startIpAddress* *endIpAddress* *increment* ]  
[ source address *sourceAddr* ]  
[ ttl *ttlValue* ] [ timeout *timeOutVal* ]  
[ reply mode { ipv4-udp | ipv4-udp-with-router-alert } ]  
[ reply pad-tlv ] [ reply dscp *trafficClass* ]  
[ 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
- *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
- 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

- *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.

## traceroute

---

**Description** Discovers the paths that router packets follow when traveling to their destinations. There is no **no** version.

**Syntax** `traceroute [ vrf vrfName ] destination [ ttl maxTTLCount ]  
[ timeout timeOutVal ] [ data-size sizeValue ]  
[ source { interface interfaceType interfaceSpecifier | address sourceAddress } ]  
[ extended [ tos tosVal ] [ set-dont-fragment-bit ] [ interface iType iNumber ]`

`traceroute ipv6 [ vrf vrfName ] destination [ hop-limit hopLimit ] [ timeout timeOutVal ]  
[ data-size sizeValue ] [ source { interface interfaceType interfaceSpecifier |  
address sourceAddress } ] [ extended [ dscp trafficClass ] [ flow-label flowLabel ] ]`

- *vrfName*—Name of the VRF context; string of 1–32 alphanumeric characters
- *ipv6*—Specifies the destination address as IPv6 format
- *destination*—IP address, IPv6 address, or domain name of the trace
- *hopLimit*—Maximum number of hops of the trace in the range 1–255; default value is 32
- *maxTTLCount*—Maximum number of hops of the trace in the range 1–255; default value is 32
- *timeOutVal*—Time in seconds to wait for trace responses in the range 1–20; default value is 2
- *sizeValue*—Number of bytes comprising the IP packet and reflected in the IP header in the range 0–64000
- source interface—Specifies an interface as the source for the transmitted 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 source for the transmitted packets
  - *sourceAddress*—IP address or domain name used as the source address

- **extended**—Specifies extended IP header attributes
  - *tosVal*—Value of the ToS byte
  - **set-dont-fragment-bit**—Specifies the don't-fragment bit
  - *iType*—Interface type
  - *iNumber*—Interface location
  - *trafficClass*—Specifies the traffic class value to match in the Traffic Class field of each IPv6 packet header, in the range 1–255
  - *flowLabel*—Specifies the flow label value to match in the Flow Label field of each IPv6 packet header, in the range 1–1048576

**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.

## track

---

**Description** Specifies the name of an object you want to track and tracks the reachability of that object by its IPv4 prefix. The **no** version deletes the object and stops tracking for that object.

**Syntax** `track objectName [ vrf vrfName ] ip-route ipPrefix reachability`  
`no track objectName`

- *objectName*—Name of the object you want to track; string of 1–32 alphanumeric characters
- *vrfName*—Name of the VRF on which the object resides; string of 1–32 alphanumeric characters
- *ipPrefix*—IP prefix (address and subnetwork mask) of the object you want to track

**Mode** Global Configuration

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

## traffic-class

---

**Description** In Classifier Group Configuration mode, specifies a traffic class in a policy list for policy management. The **no** version removes a traffic class from a policy list; the **suspend** version temporarily suspends the policy rule; the **no suspend** version resumes application of a suspended rule.



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

---

In Global Configuration mode, configures a traffic class in the E-series router. In Traffic Class Group Configuration mode, specifies a traffic class that belongs to the traffic-class group. The **no** version deletes the traffic class.

**Syntax** In Policy List Configuration mode:  
 [ no ] [ suspend ] **traffic-class** *trafficClassName*

- *trafficClassName*—Name of the traffic class; up to 40 characters

In Global Configuration and Traffic Class Group Configuration modes:  
 [ no ] **traffic-class** *trafficClassName*

- *trafficClassName*—Name of the traffic class; up to 31 characters

**Mode** Classifier Group Configuration, Global Configuration, Traffic Class Group Configuration

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

### Related Topics

- Configuring Traffic Classes That Define Service Levels
- Configuring Traffic-Class Groups That Define Service Levels
- Policy Rule Precedence

## traffic-class-group

---

**Description** Configures a traffic-class group. The **no** version deletes the selected traffic-class group. You must remove all local (slot-based) instances of a traffic-class group before you can remove the global group.

**Syntax** [ no ] traffic-class-group *trafficClassGroupName*  
[ slot *slotNumber* | auto-strict-priority | extended ]

- *trafficClassGroupName*—Name of the traffic class group; up to 31 characters
- *slotNumber*—Number of the slot associated with the group, in the range 0—17
- auto-strict-priority—Specifies strict-priority scheduling for the group, regardless of whether the scheduler profile associated with the group node specifies strict-priority scheduling. Only one auto-strict-priority group can exist; this is the default behavior for a group.
- extended—Specifies that strict-priority scheduling for the group is determined by the scheduler profile associated with the group node; scheduling is either hierarchical round-robin or strict priority, but if a strict-priority traffic-class group already exists, this group must be scheduled via HRR

**Mode** Global Configuration

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

### Related Topics

- Configuring Traffic Classes That Define Service Levels
- Configuring Traffic-Class Groups That Define Service Levels
- Configuring QoS for an L2TP Session

## transform

---

**Description** Specifies the eligible transforms for this profile for IPSec source address negotiations. You can specify up to six transform algorithms for this profile. The **no** version resets the transform to the default, esp-3des-sha1.

**Syntax** transform *transform0*  
[ *transform1* [ *transform2* [ *transform3* [ *transform4* [ *transform5* ] ] ] ] ]  
no transform

- *transform0* through *transform5*—AH or ESP transform

**Mode** IPSec Tunnel Profile Configuration

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

## transform-set

---

**Description** Specifies the transform set(s) that an IPSec transport connection can use to negotiate a transform algorithm. You can specify up to six transform algorithms. The **no** version resets the transform to the default, esp-3des-hmac-sha.

**Syntax** transform-set *transform0*  
 [ *transform1* [ *transform2* [ *transform3* [ *transform4* [ *transform5* ] ] ] ] ]  
 no transform-set

- *transform0* through *transform5*—AH or ESP transform; use the online Help to view available transforms

**Mode** IPSec Transport Profile Configuration

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

## translate

---

**Description** Maps the original domain name to the mapped domain name for domain map lookup. The **no** version negates the command.

**Syntax** translate *domainName mappedDomainName*  
 no translate *domainName*

- *domainName*—Name of the domain; maximum of 64 characters
- *mappedDomainName*—Name of the mapped domain name; maximum of 64 characters

**Mode** AAA Profile Configuration

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

## transmit-delay

---

**Description** Sets the estimated time it takes to transmit a link-state update packet on the OSPF remote-neighbor interface. The **no** version restores the default value.

**Syntax** transmit-delay *transmDelay*  
 no transmit-delay

- *transmDelay*—Link-state transmit delay in seconds; a number in the range 0–3600; default value is 1

**Mode** Remote Neighbor Configuration

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



## traps

---

**Description** Specifies OSPF trap settings. The **no** version removes all OSPF trap settings or any specified traps.

**Syntax** [ no ] traps { all | [ virtIfStateChange | nbrStateChange | virtNbrStateChange | ifConfigError | virtIfConfigError | ifAuthFailure | virtIfAuthFailure | ifRxBadPkt | virtIfRxBadPkt | txRetransmit | virtTxRetransmit | originateLsa | maxAgeLsa | ifStateChange ]\* }

- all—Enables all OSPF traps
- virtIfStateChange—Sets a trap to indicate a state change on an OSPF virtual interface
- nbrStateChange—Sets a trap to indicate a state change on a nonvirtual OSPF neighbor
- virtNbrStateChange—Sets a trap to indicate a state change on a virtual OSPF neighbor
- ifConfigError—Sets a trap to indicate a configuration mismatch with a nonvirtual neighbor
- virtIfConfigError—Sets a trap to indicate a configuration mismatch with a virtual neighbor
- ifAuthFailure—Sets a trap to indicate an authentication failure on a nonvirtual interface
- virtIfAuthFailure—Sets a trap to indicate an authentication failure on a virtual interface
- ifRxBadPkt—Sets a trap to indicate that a packet has been received that cannot be parsed
- virtIfRxBadPkt—Sets a trap to indicate that a packet has been received on a virtual interface that cannot be parsed
- txRetransmit—Sets a trap to indicate that a packet has been retransmitted on a nonvirtual interface
- virtTxRetransmit—Sets a trap to indicate that a packet has been retransmitted on a virtual interface
- originateLsa—Sets a trap to indicate that a new LSA has been originated by this router
- maxAgeLsa—Sets a trap to indicate that an LSA in this router LSDB has reached MaxAge
- ifStateChange—Sets a trap to indicate a state change on an OSPF interface
- \*—Indicates that one or more parameters can be repeated multiple times in a list in the command line

**Mode** Router Configuration

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

## trigger

---

**Description** Creates an event and launches the event configuration mode in the SNMP server event manager. The **no** version removes the trigger.

**Syntax** `trigger triggerOwner triggerName`

- *triggerOwner*—Owner associated with this trigger; string of up to 32 alphanumeric characters
- *triggerName*—Name associated with this trigger; string of up to 32 alphanumeric characters

**Mode** SNMP Event Manager Configuration

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

## trigger delay

---

**Description** Specifies the time duration used to determine when a SONET/SDH defect at the line or section layer becomes an alarm. The **no** version restores the default setting, 2500 milliseconds.

**Syntax** `trigger delay msec delayTime`  
`no trigger delay`

- *delayTime*—Time in the range 0–2500 milliseconds

**Mode** Controller Configuration

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

## triggered-update-disable

---

**Description** Specifies that RIP does not send triggered routing updates. The **no** version restores the default condition, wherein RIP does send triggered updates.

**Syntax** `[ no ] triggered-update-disable`

**Mode** Address Family Configuration, Router Configuration

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

## tth

---

**Description** Specifies a hop count by setting the value of the time-to-live field used by packets sent to an OSPF remote neighbor. The **no** version restores the default value.

**Syntax** `tth tthValue`  
`no tth`  
■ *tthValue*—Number in the range 1–255; default value is 1

**Mode** Remote Neighbor Configuration

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

## tunnel

---

**Description** Specifies an L2TP tunnel and changes the mode to Domain Map Tunnel Configuration. In Domain Map Tunnel Configuration mode, you can set the attributes of the tunnel. The **no** version deletes the L2TP tunnel configuration from the router.

From Tunnel Group Configuration mode, adds up to 31 tunnel definitions to the L2TP tunnel group and changes the mode to Tunnel Group Tunnel Configuration mode. In Tunnel Group Tunnel Configuration mode, you can set tunnel attributes. The **no** version deletes the L2TP tunnel group configuration from the router.

**Syntax** `[ no ] tunnel tag`  
■ *tag*—Number in the range 1–31

**Mode** Domain Map Configuration, Tunnel Group Configuration

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

## tunnel checksum

---

**Description** In Interface Configuration mode, enables end-to-end checksum computation for static GRE tunnels.

In IP Tunnel Destination Profile Configuration mode, enables end-to-end checksum computation for dynamic GRE tunnels. The **no** version disables the checksum option.

**Syntax** `[ no ] tunnel checksum`

**Mode** Interface Configuration, IP Tunnel Destination Profile Configuration

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

## tunnel destination

---

**Description** For DVMRP or GRE in Interface Configuration mode, configures the tunnel endpoint for static tunnels. The **no** version deletes the endpoint.

For DVMRP or GRE in IP Tunnel Destination Profile Configuration mode, configures the tunnel endpoint for dynamic tunnels. The **no** version deletes the endpoint.

For IPSec, configures the remote tunnel endpoint. You can identify the remote peer by either IP address or fully qualified domain name (FQDN). The **no** version deletes the endpoint.

For MPLS in Interface Configuration mode, configures the tunnel endpoint for static MPLS tunnels. The **no** version deletes the endpoint.

For MPLS in Tunnel Profile Configuration mode, configures the source of tunnel endpoints (destinations) within a tunnel profile. You can specify that the endpoints are to be learned from IS-IS or OSPF, or you can provide one or more IP addresses as the endpoint(s). If you specify the destination address, it must be the address of the MPLS interface or the router ID of the destination router. The **no** version deletes the endpoints.

**Syntax** For DVMRP and GRE in Interface Configuration mode:

tunnel destination { *ipAddress* | *hostname* }

no tunnel destination

- *ipAddress*—IP address of the interface on the remote router
- *hostname*—Name of the host to serve as the tunnel endpoint

For DVMRP and GRE in IP Tunnel Destination Profile Configuration mode:

tunnel destination { subnet *ipAddress mask* | range *ipAddressLow ipAddressHigh* }

- *ipAddress*—IP address of the tunnel destination address subnet
- *mask*—IP mask of the tunnel destination address subnet
- *ipAddressLow*—First IP address in a destination address range
- *ipAddressHigh*—Last IP address in a destination address range

For IPSec:

tunnel destination { *ipAddress* | identity *fqdn* }

no tunnel destination

- *ipAddress*—IP address of the interface on the remote router or the router ID of the destination router that serves as the tunnel endpoint
- *fqdn*—Fully qualified domain name of the interface on the remote router that serves as the tunnel endpoint; a maximum of 80 characters

For MPLS in Interface Configuration mode:

tunnel destination *ipAddress*

no tunnel destination

For MPLS in Tunnel Profile Configuration mode:

[ no ] tunnel destination

{ { isis-level-2 | ospf-bdr } [ { access-list | prefix-list } *listName* ] |

{ *ipAddress* [ *ipAddress* ]\* }

- *isis-level-2*—Specifies IS-IS level-2 routers as acceptable destinations
- *ospf-bdr*—Specifies OSPF border routers as acceptable destinations
- *listName*—Name of access list or prefix list that contains the IP addresses that are acceptable as tunnel endpoints
- *ipAddress*—IP address of the interface on the remote router or the router ID of the destination router that serves as the tunnel endpoint; for a tunnel profile, you can list multiple addresses
- *\**—Indicates that one or more parameters can be repeated multiple times in a list in the command line

**Mode** Interface Configuration, IP Tunnel Destination Profile Configuration, Tunnel Profile Configuration

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

## tunnel destination backup

---

**Description** Configures a backup tunnel destination for the remote IPsec tunnel endpoint. The backup tunnel is used when the IPsec tunnel destination is detected as unreachable by DPD. You can use either the IP address or fully qualified domain name (FQDN) to identify the backup tunnel; however, you must use the same type of identity that is used for the regular tunnel destination. The **no** version restores the default, in which the regular tunnel destination is also the backup tunnel destination.

**Syntax** tunnel destination backup [ *ipAddress* | identity *fqdn* ]  
no tunnel destination backup

- *ipAddress*—IP address of the interface on the destination router that serves as the backup IPsec tunnel endpoint
- *fqdn*—Fully qualified domain name of the interface on the destination router that serves as the backup IPsec tunnel endpoint; a maximum of 80 characters

**Mode** Interface Configuration

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

## tunnel group

---

**Description** Assigns the specified tunnel group to the domain map. The **no** version deletes the tunnel group.



**NOTE:** By default, no tunnel group is assigned to the domain map. You can assign a tunnel group to the domain map only if tunnels are not currently defined for the domain map in Domain Map Tunnel mode.

**Syntax** `tunnel group tunnelGroupName`  
`no tunnel group`

- *tunnelGroupName*—String of up to 64 characters (no spaces)

**Mode** Domain Map Configuration

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

## tunnel group-address-pool

---

**Description** Configures a group address pool for a data MDT tunnel. The **no** version deletes the group address pool.

**Syntax** `tunnel group-address-pool [ poolName ]`  
`no tunnel group-address-pool`

- *poolName*—Name of the group address pool

**Mode** IP PIM Data MDT Configuration

**Release Information** Command introduced in JUNOS Release 8.2.0.

## tunnel ip profile

---

**Description** Assigns an IP profile to the MPLS tunnel. The **no** version removes the IP profile from the tunnel. The **no mpls tunnels profile** command deletes the IP profile.

**Syntax** `tunnel ip profile ipProfileId`  
`no tunnel ip profile`

- *ipProfileId*—Name of an IP profile

**Mode** Tunnel Profile Configuration

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

## tunnel lifetime

---

**Description** Sets the lifetime of IPSec SAs running on this tunnel. You can specify the lifetime in seconds and/or volume of traffic. Before either limit is reached, the SA is renegotiated, ensuring that the tunnel does not go down before the renegotiation is finished. The **no** version sets the lifetime to the default lifetime of 28800 seconds and an unlimited volume.

**Syntax** tunnel lifetime { kilobytes *kbytes* | seconds *secs* | seconds *secs* kilobytes *kbytes* }  
no tunnel lifetime { seconds | kilobytes }

- *secs*—Number of seconds security SAs on this tunnel live before expiring, in the range 1800–864000
- *kbytes*—Volume of traffic in kilobytes that can pass between the tunnel endpoints using a given SA before the SA expires, in the range 102400–4294967295

**Mode** Interface Configuration

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

## tunnel local-identity

---

**Description** Specifies the local identity of the IPSec tunnel. The **no** version removes the local endpoint and sets the default identity, which is subnet 0.0.0.0 0.0.0.0.

**Syntax** tunnel local-identity { address *ipAddress* | subnet *ipAddress subnetMask* | range *ipAddressLow ipAddressHigh* }  
no tunnel local-identity

- *ipAddress*—IP address of the local identity
- *subnetMask*—Mask applied to the subnet IP address of the local identity
- *ipAddressLow*—Lower bound of the range of IP addresses of the local identity
- *ipAddressHigh*—Upper bound of the range of IP addresses of the local identity

**Mode** Interface Configuration

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

## tunnel mdt

---

|                            |                                                                                                                                                                                                                                            |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Enables multicast distribution tree operation by allowing the IP tunnel component to create an MDT interface. This command functions for static GRE and DVMRP tunnel interfaces only. The <b>no</b> version disables MDT on the interface. |
| <b>Syntax</b>              | [ no ] tunnel mdt                                                                                                                                                                                                                          |
| <b>Mode</b>                | Interface Configuration                                                                                                                                                                                                                    |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                             |

## tunnel mdt profile

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Enables multicast distribution tree operation by enabling the IP tunnel component to create an MDT interface. This command also defines an IP profile with parameters that are used to stack an upper IP interface over a dynamic GRE or DVMRP tunnel. This command functions for dynamic GRE and DVMRP tunnel interfaces only. The <b>no</b> version disables MDT on the interface. |
| <b>Syntax</b>              | [ no ] tunnel mdt profile <i>profileName</i> <ul style="list-style-type: none"> <li>■ <i>profileName</i>—Profile name of up to 80 characters</li> </ul>                                                                                                                                                                                                                              |
| <b>Mode</b>                | IP Tunnel Destination Profile Configuration                                                                                                                                                                                                                                                                                                                                          |
| <b>Release Information</b> | Command introduced in JUNOS Release 8.2.0.                                                                                                                                                                                                                                                                                                                                           |

## tunnel mpls affinity

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Assigns an affinity to the tunnel. The <b>no</b> version removes the affinity from the tunnel.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Syntax</b>              | tunnel mpls [ traffic-eng ] affinity <i>affinity</i> [ mask <i>mask</i> ]<br>no tunnel mpls [ traffic-eng ] affinity <ul style="list-style-type: none"> <li>■ <i>traffic-eng</i>—Specifies optional keyword for compatibility with non-E-series implementations</li> <li>■ <i>affinity</i>—Attributes that must be configured on the interface in order to be considered by the tunnel; in the range 0x0–0xFFFFFFFF; default value is 0x0</li> <li>■ <i>mask</i>—Mask to identify attributes to be checked; a 1 signifies that the attribute value must match, a 0 signifies that the attribute value does not matter; in the range 0x0–0xFFFFFFFF; default value is 0x0000FFFF</li> </ul> |
| <b>Mode</b>                | Interface Configuration, Tunnel Profile Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |



## tunnel mpls autoroute announce

---

**Description** Configures the LSP tunnel to register its endpoint (the egress router) with the configured routing protocol. If you do not specify a routing protocol, the default is IS-IS and OSPF. The **no** version disables endpoint announcements.

**Syntax** [ no ] tunnel mpls [ traffic-eng ] autoroute announce [ ospf | isis ]

- traffic-eng—Specifies optional keyword for compatibility with non-E-series implementations
- ospf—Endpoint is announced to OSPF
- isis—Endpoint is announced to IS-IS

**Mode** Interface Configuration, Tunnel Profile Configuration

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

## tunnel mpls autoroute metric

---

**Description** Specifies the tunnel metric. The value determines tunnel preference when there is more than one tunnel or native IP path to a tunnel endpoint. A lower value is preferred to a higher value. When you set up multiple tunnels, if the primary tunnel goes down, the existing tunnel with the lowest metric is used immediately. If you specify an absolute value from 1–2147483647, this value overrides the metric for the path provided by the IGP. If you specify a relative value from –10 to +10, this value is subtracted from (–) or added to (+) the metric for the path provided by the IGP. The **no** version restores the default value, relative 0, meaning that the tunnel metric is the IGP value.

**Syntax** tunnel mpls [ traffic-eng ] autoroute metric { absolute | relative } *metricValue*  
no tunnel mpls [ traffic-eng ] autoroute metric

- traffic-eng—Specifies optional keyword for compatibility with non-E-series implementations
- absolute—Specifies that the metric is an absolute value
- relative—Specifies that the metric is a signed relative value
- *metricValue*—Preference value for a path; absolute values are in the range 1–2147483647; relative values are in the range –10– +10

**Mode** Interface Configuration, Tunnel Profile Configuration

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

## tunnel mpls bandwidth

---

**Description** Specifies the bandwidth required for the tunnel. The **no** version removes the bandwidth constraint from the tunnel.

**Syntax** tunnel mpls [ traffic-eng ] bandwidth *bandwidth*  
no tunnel mpls [ traffic-eng ] bandwidth

- *traffic-eng*—Specifies optional keyword for compatibility with non-E-series implementations
- *bandwidth*—Amount of bandwidth required for the tunnel in kilobits per second, in the range 0–4294967295; default value is 0

**Mode** Interface Configuration, Tunnel Profile Configuration

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

## tunnel mpls description

---

**Description** Associates a description with the MPLS tunnel. The **no** version deletes the description.

**Syntax** tunnel mpls description *textString*  
no tunnel mpls description

- *textString*—Description or name of the tunnel; string of up to 40 alphanumeric characters

**Mode** Interface Configuration, Tunnel Profile Configuration

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

## tunnel mpls diff-serv phb-id

---

**Description** Specifies the PHB supported by a signaled tunnel.

For E-LSPs, this command also maps the PHB to the specified EXP bits *bitValue*. You can repeat the command for up to eight PHB mappings.

For L-LSPs, the exp-bits keyword is not used. If you repeat the command, the most recent command overwrites the previous command.

The **no** version removes the mapping association.

**Syntax** tunnel mpls diff-serv phb-id { private *privateId* | standard *standardId* } [ exp-bits *expBits* ]  
no tunnel mpls diff-serv phb-id { private *privateId* | standard *standardId* }

- *privateId*—Number, in the range 0–4095, designating the private PHB identifier
- *standardId*—Number, in the range 0–63, designating the standard identifier using the DSCP bits
- *expBits*—Number, in the range 0–7, designating the EXP bits

**Mode** Interface Configuration, Tunnel Profile Configuration

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

## tunnel mpls fast-reroute

---

**Description** Configures local protection for the ingress router of the primary LSP by causing RSVP-TE to signal at LSP setup that the primary LSP needs local protection. The **no** version removes the configuration.

**Syntax** [ no ] tunnel mpls [ traffic-eng ] fast-reroute

- traffic-eng—Specifies optional keyword for compatibility with non-E-series implementations

**Mode** Interface Configuration

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

## tunnel mpls no-route retries

---

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

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

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

**Mode** Interface Configuration, Tunnel Profile Configuration

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

## tunnel mpls no-route retry-time

---

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

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

- *retryTime*—Number of seconds in the range 1–60

**Mode** Interface Configuration, Tunnel Profile Configuration

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

## tunnel mpls path-option

---

**Description** Specifies the path options for a tunnel. You can configure one or more path options—each identified by a unique number—for a given tunnel. The path option number expresses the preference for that option; lower numbers have a higher preference, with 1 having the highest preference. The **no** version deletes the path options.

**Syntax** tunnel mpls [ traffic-eng ] path-option *number*  
{ dynamic | explicit { name *pathName* | identifier *idNumber* } }  
[ hop-by-hop | ospf | isis ] [ lockdown ]

no tunnel mpls [ traffic-eng ] path-option *number*

- traffic-eng—Specifies optional keyword for compatibility with non-E-series implementations
- *number*—Identifier for a set of path options
- dynamic—Specifies that the path is dynamically calculated
- explicit—Specifies that an explicit path is used
- *pathName*—Name of the explicit path; string of up to 20 characters
- *idNumber*—Number identifying the explicit path; in the range 1–65535
- hop-by-hop—Specifies that hop-by-hop routing is used for this path option
- ospf—Specifies that OSPF routing is used for this path option
- isis—Specifies that IS-IS routing is used for this path option
- lockdown—Specifies that optimization is not done for this path option

**Mode** Interface Configuration, Tunnel Profile Configuration

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

## tunnel mpls priority

---

**Description** Assigns a setup priority and optionally a hold priority to the tunnel. The priority can range from 0 (the highest) to 7 (the lowest). The hold priority, if set, must be equal to or better (lower numerically) than the setup priority. In the event of insufficient resources when a tunnel is being established, its setup priority is evaluated against the hold priorities of existing tunnels. Tunnels with lower hold priorities (higher values) are preempted and torn down to free their resources for the new tunnel. The **no** version restores the default value.

**Syntax** `tunnel mpls [ traffic-eng ] priority setupPriority [ holdPriority ]`  
`no tunnel mpls [ traffic-eng ] priority`

- *traffic-eng*—Specifies optional keyword for compatibility with non-E-series implementations
- *setupPriority*—Priority for the tunnel as it is being established; default value is 4
- *holdPriority*—Priority for the tunnel after it has been established; default value is equal to the configured value of the setup priority

**Mode** Interface Configuration, Tunnel Profile Configuration

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

## tunnel mpls retries

---

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

**Syntax** `tunnel mpls retries retryNum`  
`no tunnel mpls retries`

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

**Mode** Interface Configuration, Tunnel Profile Configuration

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

## tunnel mpls retry-time

---

|                            |                                                                                                                                                                                                                                |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Specifies for a particular tunnel the interval in seconds between attempts to set up an LSP for RSVP-TE after a failure other than one due to no available route. The <b>no</b> version restores the default value, 5 seconds. |
| <b>Syntax</b>              | tunnel mpls [ no-route ] retry-time <i>retryTime</i><br>no tunnel mpls retry-time <ul style="list-style-type: none"><li>■ <i>retryTime</i>—Number of seconds in the range 1–60</li></ul>                                       |
| <b>Mode</b>                | Interface Configuration, Tunnel Profile Configuration                                                                                                                                                                          |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                 |

## tunnel mtu

---

|                            |                                                                                                                                                                                                                                                                                        |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Configures the maximum transmission unit size for the particular tunnel. The <b>no</b> version restores the default value, 1024 for static DVMRP and GRE tunnels, 10240 for dynamic DVMRP and GRE tunnels, 1440 for static IPsec tunnels, and 1400 for dynamic IPsec tunnels.          |
| <b>Syntax</b>              | tunnel mtu <i>mtuSize</i><br>no tunnel mtu <ul style="list-style-type: none"><li>■ <i>mtuSize</i>—Packet size in bytes allowed for transmission through the tunnel in the range; in the range 1024–10240 for DVMRP and GRE tunnels, in the range 160–9000 for IPsec tunnels.</li></ul> |
| <b>Mode</b>                | Interface Configuration, IP Tunnel Destination Profile Configuration, IPsec Tunnel Profile Configuration                                                                                                                                                                               |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0<br>IPsec Tunnel Profile Configuration mode added in JUNOS Release 7.3.0.<br>IP Tunnel Destination Profile Configuration mode added in JUNOS Release 8.2.0.                                                                               |

## tunnel password

---

|                            |                                                                                                                                                                                                                                            |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Configures a password for the L2TP tunnel. The <b>no</b> version removes the password.                                                                                                                                                     |
| <b>Syntax</b>              | tunnel password <i>tunnelPassword</i><br>no tunnel password <ul style="list-style-type: none"><li>■ <i>tunnelPassword</i>—Password used for challenge response to the tunnel peer; in the domain map, it is used only by the LAC</li></ul> |
| <b>Mode</b>                | L2TP Destination Profile Host Configuration                                                                                                                                                                                                |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                             |

## tunnel peer-identity

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Specifies the peer identity of the IPsec tunnel. The <b>no</b> version removes the peer endpoint.                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Syntax</b>              | tunnel peer-identity { address <i>ipAddress</i>   subnet <i>ipAddress subnetMask</i>   range <i>ipAddressLow ipAddressHigh</i> }<br>no tunnel peer-identity <ul style="list-style-type: none"> <li>■ <i>ipAddress</i>—IP address of the peer identity</li> <li>■ <i>subnetMask</i>—Mask applied to the subnet IP address of the peer identity</li> <li>■ <i>ipAddressLow</i>—Lower bound of the range of IP addresses of the peer identity</li> <li>■ <i>ipAddressHigh</i>—Upper bound of the range of IP addresses of the peer identity</li> </ul> |
| <b>Mode</b>                | Interface Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## tunnel pfs group

---

|                            |                                                                                                                                                                                                                                                                                                        |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Configures perfect forward secrecy for the IPsec tunnel by assigning a Diffie-Hellman prime modulus group. The <b>no</b> version removes PFS from this tunnel.                                                                                                                                         |
| <b>Syntax</b>              | tunnel pfs group { 1   2   5 }<br>no tunnel pfs group <ul style="list-style-type: none"> <li>■ 1—Assigns a 768-bit Diffie-Hellman prime modulus group</li> <li>■ 2—Assigns a 1024-bit Diffie-Hellman prime modulus group</li> <li>■ 5—Assigns a 1536-bit Diffie-Hellman prime modulus group</li> </ul> |
| <b>Mode</b>                | Interface Configuration                                                                                                                                                                                                                                                                                |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                         |

## tunnel sequence-datagrams

---

|                            |                                                                                                                                  |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Enables the use of GRE sequence numbers. The <b>no</b> version disables the use of GRE sequence numbers.                         |
| <b>Syntax</b>              | [ no ] tunnel sequence-datagrams                                                                                                 |
| <b>Mode</b>                | Global Configuration, IP Tunnel Destination Profile Configuration                                                                |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.<br>IP Tunnel Destination Profile Configuration mode added in JUNOS Release 8.2.0. |



## tunnel-server

---

**Description** Specifies the location of a dedicated or shared tunnel-server port on a module and accesses Tunnel Server Configuration mode, which enables you to provision the maximum number of tunnel-service interfaces to be used on the tunnel-server port. The **default** version restores the default configuration. On dedicated tunnel-server ports, the default configuration is the maximum number of tunnel-service interfaces that the tunnel-service module supports. On shared tunnel-server ports, the default configuration is zero tunnel-service interfaces provisioned. The **no** version unprovisions the tunnel-server port by reducing the number of provisioned tunnel-service interfaces to zero.

**Syntax** [ no ] tunnel-server *interfaceSpecifier*

- *interfaceSpecifier*—Particular interface; format varies according to interface type; see *Interface Types and Specifiers* in *About This Guide*; port number specified must have the tunnel-server port assigned to it

**Mode** Global Configuration

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

### Related Topics

- Configuring QoS for Tunnel-Server Ports for L2TP LNS Sessions

## tunnel session-key-inbound

---

**Description** Specifies the encryption and authentication algorithm set and session keys for manual inbound SAs. The **no** version removes the keys.

**Syntax** tunnel session-key-inbound *inSaAlgorithms* { *encryptKey* *authKey* | *authKey* }  
no tunnel session-key-inbound

- *inSaAlgorithms*—Algorithms to use for manual inbound SAs; use the online Help to see a list of available algorithms
- *encryptKey*—Encryption key; string of up to 48 characters
- *authKey*—Authentication key; string of up to 48 characters

**Mode** Interface Configuration

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

## tunnel session-key-outbound

---

**Description** Specifies the encryption and authentication algorithm set, SPI, and session keys for manual outbound SAs. The **no** version removes the keys.

**Syntax** `tunnel session-key-outbound outSAalgorithms spi`  
`{ encryptKey authKey | encryptKey | authKey }`  
`no tunnel session-key-outbound`

- *outSAalgorithms*—Algorithms to use for manual outbound SAs; use the online Help to see a list of available algorithms
- *spi*—Number that uniquely identifies an SA, in the range 256–4294967295 (0xFFFFFFFF)
- *encryptKey*—Encryption key; string of up to 48 characters
- *authKey*—Authentication key; string of up to 48 characters

**Mode** Interface Configuration

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

## tunnel signaling

---

**Description** Sets the signaling protocol used to negotiate security parameters and keys. The **no** version restores the default, `isakmp`.

**Syntax** `tunnel signaling { isakmp | manual }`  
`no tunnel signaling`

- `isakmp`—Uses ISAKMP/IKE to negotiate parameters
- `manual`—Specifies that security parameters are configured manually

**Mode** Interface Configuration

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

## tunnel source

---

**Description** In Interface Configuration mode, configures the source for a DVMRP, GRE, or IPSec tunnel. The **no** version deletes the tunnel source.

In IP Tunnel Destination Profile Configuration mode, configures the source in the destination profile for dynamic IP tunnels. The **no** version deletes the tunnel source.

In IP PIM Data MDT Configuration mode, configures the source in the IP PIM Data MT profile for multicast VPNs. The **no** version deletes the tunnel source.

**Syntax** For DVMRP and GRE tunnels in Interface Configuration mode:

tunnel source { *ipAddress* | *interfaceType interfaceSpecifier* }

no tunnel source

For IPSec tunnels in Interface Configuration mode:

tunnel source { *ipAddress* | identity *fqdn* }

no tunnel source

For DVMRP and GRE tunnels in IP PIM Data MDT Configuration mode and in IP Tunnel Destination Profile Configuration mode:

[ no ] tunnel source *ipAddress*

- *ipAddress*—IP address of an existing interface that will serve as the tunnel's source
- *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*
- *fqdn*—Fully qualified domain name of the interface to serve as the tunnel's source; a maximum of 80 characters

**Mode** Interface Configuration, IP PIM Data MDT Configuration, IP Tunnel Destination Profile Configuration

**Release Information** Command introduced before JUNOS Release 7.1.0.  
IP PIM Data MDT Profile Configuration mode, and IP Tunnel Destination Profile Configuration mode added in JUNOS Release 8.2.0.

## tunnel-subscriber authentication

---

**Description** Configures whether tunnel subscribers within the domain map are authenticated with the authentication server or are granted access without individual authentication. The **no** version restores the default condition, where users are not authenticated by an authentication server.

**Syntax** tunnel-subscriber authentication { enable | disable }  
no tunnel-subscriber authentication

- enable—Enables tunnel subscriber authentication by the authentication server
- disable—Disables tunnel subscriber authentication by the authentication server; all users in the domain are granted access without individual authentication; this is the default condition

**Mode** Domain Map Configuration

**Release Information** Command introduced in JUNOS Release 9.1.0.

### Related Topics

- [Configuring Tunnel Subscriber Authentication](#)

## tunnel transform-set

---

**Description** Specifies a transform set that ISAKMP uses during SA negotiations on this tunnel. Transform sets used for manually configured tunnels can have only one transform. The **no** version removes the transform set from a tunnel.

**Syntax** [ no ] tunnel transform-set *transformSetName*

- *transformSetName*—Name of the transform set

**Mode** Interface Configuration

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

## tx-connect-speed-method

---

**Description** Configures for an AAA domain map (when used from Domain Map Tunnel Configuration mode) or for an AAA tunnel group (when used from Tunnel Group Tunnel Configuration mode) the method used to calculate the transmit connect speed of the subscriber's access interface for establishing a tunneled L2TP session. This speed is reported in L2TP Transmit (TX) Speed AVP 24. The **no** version removes configuration of the transmit connect speed calculation method from the AAA domain map or AAA tunnel group.

**Syntax** tx-connect-speed-method { static-layer2 | dynamic-layer2 | qos | actual }  
no tx-connect-speed-method

- static-layer2—Calculates the transmit connect speed of the subscriber's access interface based on statically configured settings for the underlying layer 2 interface
- dynamic-layer2—Calculates the transmit connect speed of the subscriber's access interface based on dynamically configured settings for the underlying layer 2 interface
- qos—Calculates the transmit connect speed of the subscriber's access interface based on settings determined by QoS
- actual—Calculates the transmit connect speed of the subscriber's access interface as the lesser of the **dynamic-layer2** value or the **qos** value

**Mode** Domain Map Tunnel Configuration, Tunnel Group Tunnel Configuration

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

## type

**Description** From RTR Configuration mode, configures an RTR operation. The **no** version removes the configured type from the operation and resets all configuration for an RTR index.



**NOTE:** You must configure the operation's type before you can configure any other characteristics of the operation.

From Domain Map Configuration and Tunnel Group Tunnel Configuration modes, specifies the L2TP tunnel type (RADIUS attribute 64, Tunnel-Type).

**Syntax** To configure the RTR operation:

```
[ no ] type rtrType protocol ipicmpEcho destination
[ source-ipaddr srcAddr | source interfaceType interfaceSpecifier ]
```

- *rtrType*—One of the following types of operation:
  - *echo*—Performs end-to-end operation only
  - *pathEcho*—Discovers a path to the destination and echoes each device on the path
- *destination*—IP address or an IP hostname or domain name
- *srcAddr*—Source IP address
- *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*

To specify the L2TP tunnel type:

```
type tunnelType
no type
```

- *tunnelType*—L2TP tunnel type

**Mode** Domain Map Configuration, RTR Configuration, Tunnel Group Tunnel Configuration

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

## ubr

---

**Description** In ATM VC Configuration mode, configures the unspecified bit rate (UBR) service category on an ATM PVC. Optionally, you can specify a peak cell rate (PCR). The **ubr** command is valid only for data PVCs; you cannot use this command for control (ILMI or signaling) PVCs. The **no** version restores the default service category, UBR without a PCR.

In ATM VC Class Configuration mode, configures the UBR service category as part of a VC class definition that you assign to an ATM data PVC. The **no** version restores the default service category, UBR without a PCR, in the VC class.

**Syntax**    **ubr** [ *pcr* ]  
              **no** ubr

- *pcr*—Peak cell rate, in Kbps, in the range 0–149760 (for OC3 ATM modules) or 0–599040 (for OC12 ATM modules)

**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.

## udp-port

---

**Description** From RADIUS Configuration mode, specifies the UDP port on the router where the RADIUS authentication, accounting, or dynamic-request servers reside. The router uses this port to communicate with the RADIUS servers. The **no** version restores the default value.

From RADIUS Relay Configuration mode, specifies the UDP port on the router where the RADIUS relay authentication or accounting server resides. The router uses this port to communicate with the RADIUS relay servers. The **no** version restores the default value.

**Syntax**    **udp-port** *port*  
              **no** udp-port

- *port*—Port number in the range 1–65535
  - 1812—Default for RADIUS and RADIUS relay authentication servers
  - 1813—Default for RADIUS and RADIUS relay accounting servers
  - 1700—Default for RADIUS dynamic-request servers

**Mode**        RADIUS Configuration, RADIUS Relay Configuration

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

### Related Topics

- [Configuring RADIUS-Based Mirroring](#)

## undebg ip bgp

---

**Description** Turns off the display of information previously enabled with the **debug ip bgp** command. There is no **no** version.

**Syntax** undebg ip bgp [ in | out ] [ *peerAddress* [ *peerAddressMask* ] ]  
 [ *bgpLog* ] [ router *routerName* ] [ filtering-router *filteringRouterName* ]  
 [ *accessClassName* ] [ route-map *mapName* ]

- in—Displays information for inbound events
- out—Displays information for outbound events
- *peerAddress*—IP address of BGP peer for which information is displayed
- *peerAddressMask*—Network mask of BGP peer for which information is displayed
- *bgpLog*—BGP log of interest; one of the following options:
  - dampening—BGP dampening event; route is suppressed or no longer suppressed by route-flap dampening
  - events—BGP finite state machine events and transitions
  - keepalives—BGP keepalive message events
  - next-hops—BGP next hop events
  - updates—BGP routing table update events
- *routerName*—Name of the virtual router that owns the BGP router for which information is being displayed
- *filteringRouterName*—Name of the virtual router that owns the access class and route map parameters
- *accessClassName*—Name of an access list to filter output
- *mapName*—Name of a route map to filter output

**Mode** Privileged Exec

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



## undebg ip mbgp

---

**Description** Turns off the display of information previously enabled with the **debug ip mbgp** command. There is no **no** version.

**Syntax** undebg ip mbgp [ in | out ] [ *peerAddress* [ *peerAddressMask* ] ]  
[ *bgpLog* ] [ *router routerName* ] [ *filtering-router filteringRouterName* ]  
[ *accessClassName* ] [ *route-map mapName* ]

- *in*—Displays information for inbound events
- *out*—Displays information for outbound events
- *peerAddress*—IP address of BGP peer for which information is displayed
- *peerAddressMask*—Network mask of BGP peer for which information is displayed
- *bgpLog*—BGP log of interest; one of the following options:
  - *dampening*—BGP dampening event; route is suppressed or no longer suppressed by route-flap dampening
  - *events*—BGP finite state machine events and transitions
  - *keepalives*—BGP keepalive message events
  - *next-hops*—BGP next hop events
  - *updates*—BGP routing table update events
- *routerName*—Name of the virtual router that owns the BGP router for which information is being displayed
- *filteringRouterName*—Name of the virtual router that owns the access class and route map parameters
- *accessClassName*—Name of an access list to filter output
- *mapName*—Name of a route map to filter output

**Mode** Privileged Exec

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

## undebg ip ospf

---

**Description** Turns off the display of information for the selected variable. See **debug ip ospf** command for a complete list of the ospfLog variables. There is no **no** version.

**Syntax** undebg ip ospf *ospfLog*

- *ospfLog*—OSPF log of interest; one of the following options:
  - adj—OSPF adjacency events
  - elect-dr—OSPF designated router election
  - events—OSPF general events
  - lsa—OSPF link-state advertisements events
  - neighbor—OSPF neighbor state machine
  - packets-rcvd—OSPF packets received
  - packets-sent—OSPF packets sent
  - route—OSPF route events
  - spf—All OSPF shortest path first calculation events
  - spf-ext—OSPF shortest path first external route calculation events
  - spf-inter—OSPF shortest path first interarea route calculation events
  - spf-intra—OSPF shortest path first intra-area route calculation events

**Mode** Privileged Exec

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

## undebg ip pim

---

**Description** Turns off the display of information previously enabled with the **debug ip pim** command. There is no **no** version.

**Syntax** undebg ip pim *pimLog*

- *pimLog*—PIM log of interest

**Mode** Privileged Exec

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

## undebg ip rip

---

- Description** Turns off the display of information previously enabled with the **debug ip rip** command. There is no **no** version.
- Syntax** `undebg ip rip ripLog`
- *ripLog*—RIP log of interest; one of the following options:
    - *events*—General RIP events, such as removing RIP from an interface or creating the RIP process
    - *route*—Events associated with two RIP routers exchanging routes
- Mode** Privileged Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

## undebg ipv6 ospf

---

- Description** Turns off the display of information for the selected variable. See **debug ipv6 ospf** command for a complete list of the ospfLog variables. There is no **no** version.
- Syntax** `undebg ipv6 ospf ospfLog`
- *ospfLog*—OSPF log of interest; one of the following options:
    - *adj*—OSPF adjacency events
    - *elect-dr*—OSPF designated router election
    - *events*—OSPF general events
    - *lsa*—OSPF link-state advertisements events
    - *neighbor*—OSPF neighbor state machine
    - *packets-rcvd*—OSPF packets received
    - *packets-sent*—OSPF packets sent
    - *route*—OSPF route events
    - *spf*—All OSPF shortest path first calculation events
    - *spf-ext*—OSPF shortest path first external route calculation events
    - *spf-inter*—OSPF shortest path first interarea route calculation events
    - *spf-intra*—OSPF shortest path first intra-area route calculation events
- Mode** Privileged Exec
- Release Information** Command introduced before JUNOS Release 7.1.0.

## undebg ipv6 pim

---

**Description** Turns off the display of information previously enabled with the **debug ipv6 pim** command. There is no **no** version.

**Syntax** undebg ipv6 pim *pimLog*

- *pimLog*—PIM log of interest

**Mode** Privileged Exec

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

## undebg isis

---

**Description** Turns off the display of information for the selected variable. See the **debug isis** command for a complete list of the IS-IS log variables. There is no **no** version.

**Syntax** undebg isis *isisLog*

- *isisLog*—IS-IS log of interest; one of the following options:
  - *adj-packets*—IS-IS adjacency-related packets, such as hello packets sent and IS-IS received adjacencies going up and down
  - *mpls traffic-eng advertisements*—MPLS traffic-engineering agent advertisements
  - *mpls traffic-eng agents*—MPLS traffic-engineering agents
  - *snp-packets*—IS-IS CSNPs/PSNPs
  - *spf-events*—Shortest path first events
  - *spf-statistics*—SPF timing and statistic data
  - *spf-triggers*—SPF triggering events
  - *update-packets*—Update-related packets

**Mode** Privileged Exec

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

## unicast

---

**Description** Modifies the subscriber policy for the unicast (user-to-user) protocol to define whether the subscriber (client) interfaces that belong to a bridge group or to a VPLS instance forward (permit) or filter (deny) unicast packets. The **no** version restores the default value, permit unicast packets.

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

**Syntax** unicast { permit | deny }  
no unicast

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

**Mode** Subscriber Policy Configuration

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

## unknown-destination

---

**Description** Modifies the subscriber policy for packets with unknown unicast destination addresses (DAs) to define whether the subscriber (client) interfaces that belong to a bridge group or to a VPLS instance forward (permit) or filter (deny) packets with unknown unicast DAs. The **no** version restores the default value, deny packets with unknown unicast DAs.

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

**Syntax** unknown-destination { permit | deny }  
no unknown-destination

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

**Mode** Subscriber Policy Configuration

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

## unknown-protocol

---

**Description** Modifies the subscriber policy for packets containing an unknown protocol to define whether the subscriber (client) interfaces that belong to a bridge group or to a VPLS instance forward (permit) or filter (deny) these packets. The **no** version restores the default value, permit unknown protocol packets.

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

**Syntax** unknown-protocol { permit | deny }  
no unknown-protocol

- permit—Specifies that the subscriber interface associated with the bridge group or VPLS instance forwards packets containing an unknown protocol
- deny—Specifies that the subscriber interface associated with the bridge group or VPLS instance filters packets containing an unknown protocol

**Mode** Subscriber Policy Configuration

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

## update-source

---

**Description** Specifies the loopback interface whose local address is used as the source address for the OSPF, PIM, or RIP connection to a remote neighbor. The **no** version deletes the source address from the connection.



**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 ] update-source loopback *interfaceSpecifier*

- *interfaceSpecifier*—Integer, in the range 1–4294967293, identifying the loopback interface

For PIM:  
update-source *interfaceType interfaceSpecifier*  
no update-source [ *interfaceType interfaceSpecifier* ]

For RIP:  
[ no ] update-source *interfaceType interfaceSpecifier*

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

**Mode** Remote Neighbor Configuration

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

## use canned-group

---

**Description** Creates a DoS protection group that uses a preconfigured (canned) set of parameters. The **revert** keyword returns to the original values, which are the default for the group. The **no** version associates the group with the default preconfigured group settings.

**Syntax** use canned-group *groupName* [ revert ]  
no use canned-group

- *groupName*—Name of the DoS protection template

**Mode** DoS Protection Group Configuration

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

## use-release-grace-period

---

**Description** Applies the grace period, which is specified by the **grace-period** command, to the DHCP local address pool addresses that are explicitly released by clients. When a client releases an address, the address enters the grace period and can be reassigned only to the original client. The **no** version restores the default, which disables the use of the grace period for explicitly released addresses.

**Syntax** [ no ] use-release-grace-period

**Mode** DHCP Local Pool Configuration

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

## username

---

**Description** Configures a user entry and optional password or secret in the default local user database. This command creates the database if it does not already exist. The **no** version deletes the username entry from the default local user database. The **nopassword** keyword removes the password or secret.

**Syntax** username *userName* [ nopassword | password [ *encryptionType* ] *passwordValue* | secret [ *encryptionType* ] *secretValue* ]

no username *userName*

- *userName*—Name of user
- nopassword—Specifies that a password is not required for the specified username; deletes the password or secret from an existing username
- *encryptionType*—One of the following:
  - 0—Unencrypted password or secret (the default)
  - 5—MD5-encrypted secret
  - 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.
- *secretValue*—Character string that specifies the secret. The string can contain any alphanumeric characters, including spaces, up to 64 characters. Secrets are case sensitive.

**Mode** Global Configuration

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



## user-name

---

**Description** Specifies the username for an IP service profile. The **no** version removes the username.

**Syntax** `user-name serviceUsername`  
`no user-name`

- *serviceUsername*—Up to 32-character username

**Mode** IP Service Profile Configuration

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

## user-packet-class

---

**Description** Adds a user packet class rule to a policy list that sets the user packet class attribute of packets that match the current classifier control list. The **no** version removes a user packet class from a policy list; the **suspend** version temporarily suspends the policy rule; the **no suspend** version resumes application of a suspended rule.



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

**Syntax** `[ no ] [ suspend ] user-packet-class userPacketClassValue`

- *userPacketClassValue*—User packet class value assigned to packets, in the range 0–15

**Mode** Classifier Group Configuration

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

### Related Topics

- Policy Rule Precedence

## user-prefix

---

**Description** Specifies the user prefix for an IP service profile. The **no** version removes the user prefix.

**Syntax** `user-prefix prefixString`  
`no user-prefix`

- *prefixString*—Appends the interface physical location to the username

**Mode** IP Service Profile Configuration

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

**vbr-nrt**

---

**Description** In ATM VC Configuration mode, configures the variable bit rate, nonreal time (VBR-NRT) service category on an ATM PVC. You must specify the peak cell rate (PCR), sustained cell rate (SCR), and maximum burst size (MBS). The **vbr-nrt** command is valid only for data PVCs; you cannot use this command for control (ILMI or signaling) PVCs. The **no** version restores the default service category, unspecified bit rate (UBR) without a PCR.

In ATM VC Class Configuration mode, configures the VBR-NRT service category as part of a VC class definition that you assign to an ATM PVC. The **no** version restores the default service category, UBR without a PCR, in the VC class.

**Syntax** `vbr-nrt pcr scr mbs`  
`no vbr-nrt`

- *pcr*—Peak cell rate, in Kbps, in the range 0–149760 (for OC3 ATM modules) or 0–599040 (for OC12 ATM modules)
- *scr*—Sustained cell rate, in Kbps, in the range 0–149760 (for OC3 ATM modules) or 0–599040 (for OC12 ATM modules)
- *mbs*—Maximum burst size, in cells, in the range 0–16777215

**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.

## vbr-rt

---

**Description** In ATM VC Configuration mode, configures the variable bit rate, real time (VBR-RT) service category on an ATM PVC. You must specify the peak cell rate (PCR), sustained cell rate (SCR), and maximum burst size (MBS). The **vbr-rt** command is valid only for data PVCs; you cannot use this command for control (ILMI or signaling) PVCs. The **no** version restores the default service category, unspecified bit rate (UBR) without a PCR.

In ATM VC Class Configuration mode, configures the VBR-RT service category as part of a VC class definition that you assign to an ATM PVC. The **no** version restores the default service category, UBR without a PCR, in the VC class.

**Syntax** `vbr-rt pcr scr mbs`  
`no vbr-rt`

- *pcr*—Peak cell rate, in Kbps, in the range 0–149760 (for OC3 ATM modules) or 0–599040 (for OC12 ATM modules)
- *scr*—Sustained cell rate, in Kbps, in the range 0–149760 (for OC3 ATM modules) or 0–599040 (for OC12 ATM modules)
- *mbs*—Maximum burst size, in cells, in the range 0–16777215

**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.

## vc-class atm

---

**Description** Creates and names a VC class for an ATM data PVC. This command accesses ATM VC Class Configuration mode, from which you can configure a set of attributes for an ATM data PVC. The VC class can include attributes for the service category, encapsulation method, F5 OAM options, and Inverse ARP. You then apply the attributes as a group by assigning the VC class to an individual PVC, to all PVCs created on a specified ATM major interface, to all PVCs created on a specified ATM 1483 subinterface, or to a base profile from which bulk-configured VC ranges are dynamically created. The **no** version removes the named VC class from the router.

You cannot remove a VC class that is currently assigned to at least one ATM PVC, ATM 1483 subinterface, or ATM major interface without first issuing the **no class-vc** command or the **no class-int** command to remove the VC class association with the PVC, interface, or subinterface.



**NOTE:** For information about the total number of ATM VC classes supported on the router, see *JUNOS Release Notes, Appendix A, System Maximums*.

---

**Syntax** [ no ] vc-class atm vcClassName

- vcClassName—Name of the VC class; a string of up to 32 alphanumeric characters

**Mode** Global Configuration

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

## version

---

**Description** Specifies the global RIP version. The **no** version reverts to the default value, RIP version 1. Use the **ip rip receive** and **ip rip send version** commands to specify the RIP version for a specific interface.

**Syntax** version { 1 | 2 }

no version

- 1—RIP version 1
- 2—RIP version 2

**Mode** Address Family Configuration, Router Configuration

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

## virtual-router

---

**Description** Creates a virtual router or accesses the context of a previously created virtual router or a VRF. The **no** version deletes the virtual router, and the router defaults to the default virtual router. Issuing a **no** version that specifies an existing VRF only displays the error message: “Cannot delete a VRF with this command.” You must use the **no ip vrf** command to remove a VRF.



**NOTE:** In Domain Map Configuration mode, the **virtual-router** command has been replaced by the **router-name** command and may be removed completely from Domain Map Configuration mode in a future release.

---

**Syntax** `virtual-router vrName | :vrfName | vrName:vrfName`  
`no virtual-router vrName [ wait-for-completion [ waitSeconds ] ]`

- *vrName*—Name of the virtual router; a string of 1–32 alphanumeric characters
- *:vrfName*—Name of a VRF in the current VR context; a string of 1–32 alphanumeric characters
- *vrName:vrfName*—Name of a VRF in the context of a VR other than the current VR
- *wait-for-completion*—Specifies (in the absence of *waitSeconds*) that the CLI waits for completion of the **no** version operation before it returns a prompt, regardless of how long that takes
- *waitSeconds*—Number of seconds, in the range 1–64000, that the CLI waits before it returns a prompt, regardless of whether the **no** version operation has been completed

**Mode** Global Configuration, Privileged Exec

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

## vlan advisory-rx-speed

---

**Description** Sets an advisory receive (Rx) speed that the LAC sends to the LNS. The **no** version restores the default behavior, in which the Rx speed is not sent to the LNS.

**Syntax** `vlan advisory-rx-speed speed`  
`no vlan advisory-rx-speed`

- *speed*—Speed in the range 0–2147483647 kbps; 0 indicates no advisory speed setting

**Mode** Profile Configuration, Subinterface Configuration

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

## vlan advisory-tx-speed

---

**Description** Sets an advisory connect (Tx) speed that the LAC sends in the Tx connect speed to the LNS. The **no** version restores the default behavior, in which the Tx speed is not sent to the LNS.

**Syntax** `vlan advisory-tx-speed speed`  
`no vlan advisory-rx-speed`

- *speed*—Speed in the range 0–2147483647 kbps; 0 indicates no advisory speed setting

**Mode** Profile Configuration, Subinterface Configuration

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

## vlan auto-configure

---

**Description** Specifies the types of dynamic upper interface encapsulations that are accepted or detected by a dynamic VLAN subinterface. You can issue this command repeatedly in Profile Configuration mode to include autodetection of multiple upper interface encapsulation types within the base profile for a dynamic VLAN subinterface. The **no** version terminates detection of the specified encapsulation type.

**Syntax** `vlan auto-configure upperInterfaceType [ lockout-time { minTime maxTime | none } ]`  
`no vlan auto-configure upperInterfaceType [ lockout-time ]`

- *upperInterfaceType*—One of the following dynamic encapsulation types:
  - `ip`
  - `pppoe`
- *minTime*—Minimum lockout time in the range 1–86400 seconds (24 hours); default value is 1 second
- *maxTime*—Maximum lockout time in the range 1–86400 seconds (24 hours); default value is 1 second
- `none`—Disables lockout time for the specified dynamic encapsulation type

**Mode** Profile Configuration

**Release Information** Command introduced in JUNOS Release 7.1.0.  
**lockout-time** keyword added in JUNOS Release 7.3.0.

## vlan auto-configure agent-circuit-identifier

---

**Description** Configures the router to dynamically create VLAN subinterfaces based on the agent-circuit-id option (suboption 1) of the option 82 field in DHCP messages, or based on the DSL Forum VSA 26-1 (Agent-Circuit-Id) in PPPoE PADR and PADI packets. The **no** version disables the creation of VLAN subinterfaces based on agent-circuit-identifier information.

**Syntax** [ no ] vlan auto-configure agent-circuit-identifier

**Mode** Profile Configuration

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

## vlan bulk-config

---

**Description** Configures a range of single-tagged VLAN IDs and double-tagged S-VLAN IDs for use by a dynamic VLAN subinterface, and assigns a name to the VLAN range. Each VLAN range consists of one or more nonoverlapping VLAN subranges. A VLAN subrange is a group of VLAN IDs that resides within the specified VLAN ID ranges. You can configure multiple VLAN ranges on a major VLAN interface. The **no** version removes the specified VLAN range (including all subranges in the range) from the VLAN major interface or the specified subrange from the VLAN range. The **no** version also removes any overriding profile assignments for VLAN IDs within the deleted VLAN range or VLAN subrange.

**Syntax** To configure or remove a bulk configuration or a specific VLAN range:  
vlan bulk-config *bulkConfigName* [ vlan-range *vlanIdStart* *vlanIdEnd* ]\*  
no vlan bulk-config *bulkConfigName* [ vlan-range *vlanIdStart* *vlanIdEnd* ]  
  
To configure a VLAN range containing double-tagged S-VLAN IDs:  
vlan bulk-config *bulkConfigName* [ svlan-range *s-vlanIdStart* *s-vlanIdEnd* *vlanIdStart* *vlanIdEnd* ]\*  
  
To configure a VLAN range containing S-VLAN IDs with any VLAN ID:  
vlan bulk-config *bulkConfigName* [ svlan-range *s-vlanIdStart* *s-vlanIdEnd* any ]\*  
  
To configure a VLAN range that is based on agent-circuit-identifier information:  
vlan bulk-config *bulkConfigName* [ svlan-range *s-vlanIdStart* *s-vlanIdEnd* agent-circuit-identifier ]\*

To remove a VLAN range containing S-VLAN IDs or agent-circuit-identifier information:

```
no vlan bulk-config bulkConfigName [ svlan-range s-vlanIdStart s-vlanIdEnd
{ vlanIdStart vlanIdEnd | any | agent-circuit-identifier } ]
```

- *bulkConfigName*—Name of the VLAN range; string of up to 80 characters
- *vlanIdStart*—Starting VLAN ID of the VLAN subrange you are configuring
- *vlanIdEnd*—Ending VLAN ID of the VLAN subrange you are configuring
- *s-vlanIdStart*—Starting S-VLAN ID of the VLAN subrange you are configuring
- *s-vlanIdEnd*—Ending S-VLAN ID of the VLAN subrange you are configuring
- *any*—Specifies the VLAN ID as a wildcard
- *agent-circuit-identifier*—Specifies a VLAN range that is based on agent-circuit-identifier information
- *\**—Indicates that one or more parameters can be repeated multiple times in a list in the command line

**Mode** Interface Configuration

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

## vlan bulk-config modify

**Description** Modifies the VLAN subrange values for the specified bulk configuration VLAN range. If the new subrange encompasses previously configured subranges within that range, those subranges are merged into the new one, freeing subrange resources. There is no **no** version.

**Syntax** To modify VLAN ranges containing single-tagged VLAN IDs:  
 vlan bulk-config *bulkConfigName* modify vlan-range *vlanIdStart vlanIdEnd*

To modify VLAN ranges containing double-tagged S-VLAN IDs or based on agent-circuit-identifier:

```
vlan bulk-config bulkConfigName modify svlan-range s-vlanIdStart s-vlanIdEnd
{ vlanIdStart vlanIdEnd | any | agent-circuit-identifier }
```

- *bulkConfigName*—Name of the VLAN range; string of up to 80 characters
- *vlanIdStart*—Starting VLAN ID of the VLAN subrange you are configuring
- *vlanIdEnd*—Ending VLAN ID of the VLAN subrange you are configuring
- *s-vlanIdStart*—Starting S-VLAN ID of the S-VLAN subrange you are configuring
- *s-vlanIdEnd*—Ending S-VLAN ID of the S-VLAN subrange you are configuring
- *any*—Specifies the VLAN ID as a wildcard
- *agent-circuit-identifier*—Specifies a VLAN range that is based on agent-circuit-identifier information

**Mode** Interface Configuration

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



## vlan bulk-config shutdown

---

**Description** Administratively disables (shuts down) the specified bulk configuration, or a specified VLAN range or subrange. When you shut down a specified bulk configuration, all VLAN ranges, including those based on double-tagged S-VLAN IDs or agent-circuit-identifier information, are disabled. The **no** version reenables the specified bulk configuration, the specified VLAN range, or the specified subranges; this is the default condition.

**Syntax** To shut down or reenables the specified bulk configuration or a specific VLAN range:  
[ no ] vlan bulk-config *bulkConfigName* shutdown

[ no ] vlan bulk-config *bulkConfigName* shutdown vlan-range *vlanIdStart* *vlanIdEnd*

To shut down or reenables VLAN ranges containing double-tagged S-VLAN IDs or based on agent-circuit-identifier information:

[ no ] vlan bulk-config *bulkConfigName* shutdown svlan-range *s-vlanIdStart* *s-vlanIdEnd* { *vlanIdStart* *vlanIdEnd* | any | agent-circuit-identifier }

- *bulkConfigName*—Name of the VLAN range; string of up to 80 characters
- *vlanIdStart*—Starting VLAN ID of the VLAN subrange you are configuring
- *vlanIdEnd*—Ending VLAN ID of the VLAN subrange you are configuring
- *s-vlanIdStart*—Starting S-VLAN ID of the S-VLAN subrange you are configuring
- *s-vlanIdEnd*—Ending S-VLAN ID of the S-VLAN subrange you are configuring
- any—Specifies the VLAN ID as a wildcard
- agent-circuit-identifier—Specifies a VLAN range that is based on agent-circuit-identifier information

**Mode** Interface Configuration

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

## vlan classifier-list

---

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Creates or modifies a VLAN classifier control list. The <b>no</b> version deletes the classifier control list.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Syntax</b>              | <pre>vlan classifier-list <i>classifierName</i> [ traffic-class <i>className</i> ] [ color { green   yellow   red } ] [ user-packet-class <i>userPacketClassValue</i> ] [ user-priority <i>userPriorityValue</i> ] no vlan classifier-list <i>classifierName</i> [ <i>classifierNumber</i> ]</pre> <ul style="list-style-type: none"> <li>■ <i>classifierName</i>—Name of a classifier list entry</li> <li>■ <i>className</i>—Name of a traffic class; the router supports up to eight traffic classes</li> <li>■ green—Matches packet color to green, indicating a low drop preference</li> <li>■ yellow—Matches packet color to yellow, indicating a medium drop preference</li> <li>■ red—Matches packet color to red, indicating a high drop preference</li> <li>■ <i>userPacketClassValue</i>—Value of the user packet class in the range 0–15</li> <li>■ <i>userPriorityValue</i>—Value of the user priority bits in the range 0–7</li> <li>■ <i>classifierNumber</i>—Index of the classifier control list entry to be deleted; an integer in the range 1–10000</li> </ul> |
| <b>Mode</b>                | Global Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Related Topics</b>      | <ul style="list-style-type: none"> <li>■ Creating or Modifying Classifier Control Lists for VLAN Policy Lists</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

## vlan description

---

|                            |                                                                                                                                                                                           |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>         | Assigns an alias or a description to a VLAN subinterface. The <b>no</b> version removes the description.                                                                                  |
| <b>Syntax</b>              | <pre>vlan description <i>aliasName</i> no vlan description</pre> <ul style="list-style-type: none"> <li>■ <i>aliasName</i>—Alias or description; string of up to 64 characters</li> </ul> |
| <b>Mode</b>                | Interface Configuration, Profile Configuration                                                                                                                                            |
| <b>Release Information</b> | Command introduced before JUNOS Release 7.1.0.<br>Profile Configuration mode added in JUNOS Release 7.2.0.                                                                                |

## vlan dos-protection-group

---

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

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

- *groupName*—Name of the DoS protection group

**Mode** Interface Configuration

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

## vlan id

---

**Description** Specifies a VLAN ID. There is no **no** version.

**Syntax** `vlan id idValue [ untagged ] [ mac-address macAddress ]`

- *idValue*—Number unique within the Ethernet interface, in the range 0–4095
- *untagged*—Specifies that frames be sent untagged; valid only for VLAN ID 0
- *macAddress*—MAC address of the interface; when you do not specify a unique MAC address, the VLAN uses the MAC address of the Ethernet interface

**Mode** Interface Configuration

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

### Related Topics

- Configuring Ethernet/VLAN Layer 2 Services
- Configuring Local ATM Cross-Connects with AAL5 Encapsulation
- Configuring Local Cross-Connects Between Ethernet/VLAN Interfaces

## vlan policy

---

**Description** Assigns a VLAN policy list to an interface. If you enter the **vlan policy** command and the policy list does not exist, the router creates a policy list with no rules, the default. When no rules are found in a policy list, the router performs a routing table lookup and forwards packets on the interface based on the routing table information. You must specify the **input** or **output** keyword to assign the policy list to the ingress or egress of the interface.

In Profile Configuration mode, assigns the policy list to a profile, which then assigns the policy to an interface.

In Interface Configuration mode, the **no** version removes the association between a policy list and an interface. In Profile Configuration mode, the **no** version removes the policy reference from the profile.

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

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

**Mode** Interface Configuration, Profile Configuration

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

### Related Topics

- [Setting a Statistics Baseline for Policies](#)

## vlan policy-list

---

**Description** Creates the specified policy list and accesses Policy List Configuration mode. The **no** version deletes the policy list.

**Syntax** [ no ] vlan policy-list *policyName*

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

**Mode** Global Configuration

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

**Related Topics**

- Creating Policy Lists for VLANs

## vlan profile

---

**Description** Adds a nested profile assignment to a base profile for a dynamic VLAN subinterface. A nested profile assignment references another profile that dynamically configures upper interface encapsulation types over the VLAN subinterface. The **no** version removes the profile assignment for the upper interface type.

**Syntax** vlan profile *upperInterfaceType* *profileName*  
no vlan profile *upperInterfaceType* *profileName*

- *upperInterfaceType*—One of the following dynamic encapsulation types:
  - ip
  - pppoe
- *profileName*—Profile name of up to 80 characters

**Mode** Profile Configuration

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

## vlan service-profile

---

**Description** Assigns an IP service profile to a VLAN subinterface. The service profile must be defined in the default virtual router. The **no** version removes the IP service profile from the VLAN subinterface.

**Syntax** [ no ] vlan service-profile *profileName*

- *profileName*—Name of the IP service profile

**Mode** Profile Configuration

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

## volume

---

**Description** Configures the threshold for the volume of traffic allowed for the service session. The service is terminated when the threshold is exceeded. The **no** version removes the volume attribute from the service session profile.

**Syntax** `volume megabytes`  
`no volume`

- *megabytes*—Number of megabytes in the range 0–16777251

**Mode** Service Session Profile Configuration

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

## warning

---

**Description** Sets the minimum and maximum threshold values for DHCP local address pool utilization. If you issue the **snmp-server view** command, SNMP traps are generated when utilization occurs above or below the specified threshold values. The **no** version restores the default threshold values for local address pool utilization.

**Syntax** `warning maximumUtilization minimumUtilization`  
`no warning`

- *maximumUtilization*—Maximum utilization value for the DHCP local address pool
- *minimumUtilization*—Minimum utilization value for the DHCP local address pool

**Mode** DHCP Local Pool Configuration

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


## weight

---

- Description** Sets the weighted round-robin weight of the scheduler node or queue. A queue weight of 0 (zero) gives the queue infinite weight. The **no** version restores the default value, 8.
- Syntax** `weight weightValue [ operator operandValue ]*`  
`no weight`
- *weightValue*—Number in the range 0–4080; default value is 8
  - *operator*—Mathematical function
  - *operandValue*—Input for the operator; can be a QoS parameter definition name or an integer
  - *\**—Indicates that one or more parameters can be repeated multiple times in a list in the command line
- Mode** Scheduler Profile Configuration
- Release Information** Command introduced before JUNOS Release 7.1.0.
- Related Topics**
- [Configuring the HRR Weight for a Scheduler Node or Queue](#)

## write core

---

- Description** Reboots the active SRP module, the standby SRP module, or the module in a specified slot, and writes the core dump to a file. There is no **no** version.
- Syntax** `write core [ standby-srp | slot slotNumber ] [ force ] [ reason reasonText ]`
- *standby-srp*—Specifies the standby SRP module
  - *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 the E120 router, a number in the range 0–5; for the E320 router, a number in the range 0–16
  - *force*—Prompts for confirmation to reboot when the router is in certain states, such as during the synchronization of SRP modules, that can lead to a loss of configuration data or an NVS corruption
- 
-  **NOTE:** The **force** keyword is available when you specify a slot only if that slot is an SRP module slot.
- 
- *reasonText*—Alphanumeric text string (1–255 characters long) that explains the request for a core dump and logs it in the reboot
- Mode** Privileged Exec
- Release Information** Command introduced in JUNOS Release 7.3.0.

## write memory

---

**Description** Saves all outstanding (unsaved) configuration changes to nonvolatile storage; an exact alias of the **copy running-configuration startup-configuration** command. Available if the router is in either Automatic Commit mode or Manual Commit mode. If issued while in Automatic Commit mode, the CLI notifies you that the command is not necessary, but allows you to proceed. There is no **no** version.

**Syntax** write memory

**Mode** Privileged Exec

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

## yellow-mark

---

**Description** Applies ToS mark value to yellow packets, which can be from policy actions, earlier policies, or rate-limit hierarchies. The **no** version deletes the ToS mark value.

**Syntax** [ no ] yellow-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



# Index

## Numerics

10-Gigabit Ethernet interface ..... xix

## A

### AAA commands

show aaa accounting ..... 241  
 show aaa accounting default ..... 241  
 show aaa accounting interval ..... 241  
 show aaa accounting vr-group ..... 242  
 show aaa authentication default ..... 242  
 show aaa delimiters ..... 242  
 show aaa domain-map ..... 243  
 show aaa duplicate-address-check ..... 243  
 show aaa model ..... 243  
 show aaa name-servers ..... 244  
 show aaa qos downstream-rate ..... 244  
 show aaa service accounting interval ..... 246  
 show aaa statistics ..... 246  
 show aaa subscriber per-port-limit ..... 246  
 show aaa subscriber per-vr-limit ..... 246  
 show aaa timeout ..... 247  
 show aaa tunnel-group ..... 247  
 show aaa tunnel-parameters ..... 247  
 show aaa user accounting interval ..... 247  
 switch-profile ..... 583  
 test aaa ..... 607  
 tunnel group ..... 636  
 tx-connect-speed-method ..... 651

### AAA domain map commands

tunnel-subscriber authentication ..... 650

### AAA profile commands

nas-port-type atm ..... 1  
 nas-port-type ethernet ..... 2  
 ppp aaa-profile ..... 111  
 pre-authenticate ..... 127  
 service-description ..... 210  
 show aaa profile ..... 244  
 show aaa route-download ..... 245  
 show aaa route-download routes ..... 245  
 show aaa route-download routes global ..... 245  
 translate ..... 630

### ANCP commands

qos-adaptive-mode ..... 140  
 session-timeout ..... 215  
 show adjustment-factor ..... 248

show l2c ..... 458  
 show l2c discovery-table ..... 458  
 show l2c label ..... 459  
 show l2c neighbor ..... 459  
 show l2c statistics ..... 460

### APS/MSP commands

show aps ..... 248  
 threshold ..... 614  
 threshold-test ..... 615

### ARP commands

show arp ..... 249

ATM 1483 subinterface ..... x, xv

### ATM commands

oam ais-rdi ..... 54  
 oam cc ..... 55  
 oam retry ..... 57  
 oam-pvc ..... 56  
 ping atm interface atm ..... 99  
 profile atm1483 bulk-config-name ..... 134  
 profile atm1483 bulk-config-name pvc ..... 134  
 profile-reassign ..... 135  
 pvc ..... 139  
 show atm aal5 interface ..... 249  
 show atm atm1483 ..... 249  
 show atm bulk-config ..... 250  
 show atm interface ..... 250  
 show atm map ..... 251  
 show atm mcpt-timers ..... 251  
 show atm oam ..... 252  
 show atm ping ..... 252  
 show atm subinterface ..... 253  
 show atm vc ..... 254  
 show atm vc atm ..... 255  
 show atm vc-class ..... 255  
 show atm vp ..... 256  
 show atm vp-description ..... 256  
 show atm vp-tunnel ..... 256  
 show interfaces ..... 329  
 show nbma arp ..... 491  
 shutdown ..... 549  
 ubr ..... 653  
 vbr-nrt ..... 664  
 vbr-rt ..... 665  
 vc-class atm ..... 666

|                                  |        |
|----------------------------------|--------|
| ATM interface .....              | ix, xv |
| audience for documentation ..... | v      |

## B

### BGP commands

|                                                 |     |                                                    |     |
|-------------------------------------------------|-----|----------------------------------------------------|-----|
| neighbor activate .....                         | 4   | router bgp .....                                   | 194 |
| neighbor advertise-map .....                    | 5   | route-target .....                                 | 193 |
| neighbor advertisement-interval .....           | 6   | set as-path prepend .....                          | 216 |
| neighbor allow .....                            | 6   | set comm-list delete .....                         | 217 |
| neighbor allowas-in .....                       | 7   | set community .....                                | 218 |
| neighbor as-override .....                      | 7   | set dampening .....                                | 219 |
| neighbor bfd-liveness-detection .....           | 8   | set extcommunity .....                             | 228 |
| neighbor capability .....                       | 9   | set ip next-hop .....                              | 229 |
| neighbor default-originate .....                | 10  | set local-preference .....                         | 231 |
| neighbor description .....                      | 11  | set metric .....                                   | 232 |
| neighbor distribute-list .....                  | 12  | set metric-type .....                              | 233 |
| neighbor ebgp-multihop .....                    | 13  | set mpls-label .....                               | 233 |
| neighbor filter-list .....                      | 14  | set origin .....                                   | 234 |
| neighbor graceful-restart .....                 | 15  | set tag .....                                      | 236 |
| neighbor graceful-restart restart-time .....    | 16  | set weight .....                                   | 237 |
| neighbor graceful-restart stalepaths-time ..... | 16  | show bgp ipv6 .....                                | 257 |
| neighbor ibgp-singlehop .....                   | 17  | show bgp ipv6 advertised-routes .....              | 260 |
| neighbor lenient .....                          | 17  | show bgp ipv6 aggregate-address .....              | 262 |
| neighbor local-as .....                         | 18  | show bgp ipv6 community .....                      | 263 |
| neighbor maximum-orf-entries .....              | 18  | show bgp ipv6 community-list .....                 | 265 |
| neighbor maximum-prefix .....                   | 19  | show bgp ipv6 dampened-paths .....                 | 267 |
| neighbor maximum-update-size .....              | 20  | show bgp ipv6 filter-list .....                    | 269 |
| neighbor next-hop-self .....                    | 20  | show bgp ipv6 flap-statistics .....                | 271 |
| neighbor next-hop-unchanged .....               | 21  | show bgp ipv6 inconsistent-as .....                | 272 |
| neighbor passive .....                          | 21  | show bgp ipv6 neighbors .....                      | 274 |
| neighbor password .....                         | 22  | show bgp ipv6 neighbors dampened-routes .....      | 275 |
| neighbor peer-group .....                       | 23  | show bgp ipv6 neighbors paths .....                | 277 |
| neighbor peer-type .....                        | 24  | show bgp ipv6 neighbors received-routes .....      | 278 |
| neighbor prefix-list .....                      | 24  | show bgp ipv6 neighbors routes .....               | 280 |
| neighbor prefix-tree .....                      | 25  | show bgp ipv6 network .....                        | 281 |
| neighbor remote-as .....                        | 26  | show bgp ipv6 next-hops .....                      | 283 |
| neighbor remove-private-as .....                | 27  | show bgp ipv6 paths .....                          | 283 |
| neighbor rib-out disable .....                  | 27  | show bgp ipv6 peer-group .....                     | 284 |
| neighbor route-map .....                        | 28  | show bgp ipv6 quote-regexp .....                   | 285 |
| neighbor route-reflector-client .....           | 28  | show bgp ipv6 regexp .....                         | 287 |
| neighbor send-community .....                   | 29  | show bgp ipv6 summary .....                        | 289 |
| neighbor send-label .....                       | 29  | show ip as-path access-list .....                  | 331 |
| neighbor shutdown .....                         | 30  | show ip bgp .....                                  | 332 |
| neighbor site-of-origin .....                   | 31  | show ip bgp advertised-routes .....                | 335 |
| neighbor soft-reconfiguration inbound .....     | 32  | show ip bgp aggregate-address .....                | 339 |
| neighbor timers .....                           | 32  | show ip bgp cidr-only .....                        | 340 |
| neighbor unsuppress-map .....                   | 33  | show ip bgp community .....                        | 342 |
| neighbor update-source .....                    | 34  | show ip bgp community-list .....                   | 344 |
| neighbor weight .....                           | 35  | show ip bgp dampened-paths .....                   | 346 |
| network .....                                   | 38  | show ip bgp filter-list .....                      | 348 |
| overload shutdown .....                         | 60  | show ip bgp flap-statistics .....                  | 350 |
| rd .....                                        | 171 | show ip bgp inconsistent-as .....                  | 352 |
| redistribute .....                              | 174 | show ip bgp neighbors .....                        | 354 |
| rib-out disable .....                           | 189 | show ip bgp neighbors dampened-routes .....        | 355 |
|                                                 |     | show ip bgp neighbors paths .....                  | 357 |
|                                                 |     | show ip bgp neighbors received prefix-filter ..... | 358 |
|                                                 |     | show ip bgp neighbors received-routes .....        | 359 |
|                                                 |     | show ip bgp neighbors routes .....                 | 361 |
|                                                 |     | show ip bgp network .....                          | 363 |

- show ip bgp next-hops ..... 364
- show ip bgp paths ..... 365
- show ip bgp peer-group ..... 366
- show ip bgp quote-regexp ..... 367
- show ip bgp regexp ..... 370
- show ip bgp summary ..... 373
- show ip community-list ..... 375
- show ip extcommunity-list ..... 385
- synchronization ..... 583
- table-map ..... 594
- test bgp ipv6 neighbor ..... 608
- test ip bgp neighbor ..... 611
- timers bgp ..... 618
- undebg ip bgp ..... 654
- undebg ip mbgp ..... 655
- BGP/MPLS VPN commands
  - neighbor activate ..... 4
  - neighbor allowas-in ..... 7
  - neighbor as-override ..... 7
  - neighbor default-originate ..... 10
  - neighbor maximum-prefix ..... 19
  - neighbor next-hop-unchanged ..... 21
  - neighbor send-label ..... 29
  - neighbor site-of-origin ..... 31
  - rd ..... 171
  - route-target ..... 193
  - set mpls-label ..... 233
  - show ip bgp next-hops ..... 364
  - show ip interface vrf ..... 394
  - show ip protocols ..... 414
  - show ip vrf ..... 424
  - show mpls tunnels ..... 490
  - undebg ip mbgp ..... 655
  - virtual-router ..... 667
- booting commands
  - no boot hotfix all-releases ..... 43
  - reload ..... 183
  - reload slot ..... 184
  - show boot ..... 290
  - show last-reset ..... 469
  - show reload ..... 521
- B-RAS commands
  - nas-port-type atm ..... 1
  - nas-port-type ethernet ..... 2
  - override c2 byte ..... 60
  - override-user ..... 61
  - password ..... 64
  - ppp aaa-profile ..... 111
  - pre-authenticate ..... 127
  - preference ..... 127
  - profile ..... 133
  - profile-reassign ..... 135
  - radius accounting server ..... 148
  - radius acct-session-id-format ..... 148
  - radius algorithm ..... 149
  - radius authentication server ..... 149
  - radius calling-station-delimiter ..... 149
  - radius calling-station-format ..... 150
  - radius connect-info-format ..... 151
  - radius dsl-port-type ..... 152
  - radius dynamic-request server ..... 153
  - radius ethernet-port-type ..... 153
  - radius ignore ..... 154
  - radius include ..... 155
  - radius include dsl-forum-attributes ..... 159
  - radius nas-identifier ..... 160
  - radius nas-port-format ..... 160
  - radius override calling-station-id
    - remote-circuit-id ..... 162
  - radius override nas-info ..... 162
  - radius override nas-ip-addr
    - tunnel-client-endpoint ..... 162
  - radius override nas-port-id remote-circuit-id ..... 163
  - radius pppoe nas-port-format unique ..... 163
  - radius pre-authentication server ..... 163
  - radius relay server ..... 164
  - radius relay udp-checksum ..... 164
  - radius rollover-on-reject ..... 165
  - radius route-download server ..... 166
  - radius trap acct-server-not-responding ..... 166
  - radius trap acct-server-responding ..... 166
  - radius trap auth-server-not-responding ..... 167
  - radius trap auth-server-responding ..... 167
  - radius trap no-acct-server-responding ..... 167
  - radius trap no-auth-server-responding ..... 168
  - radius tunnel-accounting ..... 168
  - radius udp-checksum ..... 168
  - radius update-source-addr ..... 169
  - radius vlan nas-port-format stacked ..... 169
  - retransmit ..... 189
  - router-name ..... 196
  - service-description ..... 210
  - set dhcp relay ..... 220
  - set dhcp relay agent sub-option ..... 221
  - set dhcp relay assign-giaddr-source-ip ..... 222
  - set dhcp relay broadcast-flag-replies ..... 222
  - set dhcp relay giaddr-selects-interface ..... 223
  - set dhcp relay layer2-unicast-replies ..... 223
  - set dhcp relay options ..... 224
  - set dhcp relay override ..... 224
  - set dhcp relay preserve-trusted-client-option ..... 224
  - set dhcp relay proxy set dhcp relay proxy
    - send-first-offer ..... 225
  - set dhcp relay proxy timeout ..... 225
  - set dhcp relay trust-all ..... 225
  - set dhcp vendor-option ..... 226
  - set ip interface-profile ..... 228
  - set ip service-profile ..... 229

|                                               |     |
|-----------------------------------------------|-----|
| set ip source-prefix .....                    | 230 |
| show aaa accounting .....                     | 241 |
| show aaa accounting default .....             | 241 |
| show aaa accounting interval .....            | 241 |
| show aaa accounting vr-group .....            | 242 |
| show aaa authentication default .....         | 242 |
| show aaa delimiters .....                     | 242 |
| show aaa domain-map .....                     | 243 |
| show aaa duplicate-address-check .....        | 243 |
| show aaa model .....                          | 243 |
| show aaa name-servers .....                   | 244 |
| show aaa profile .....                        | 244 |
| show aaa qos downstream-rate .....            | 244 |
| show aaa route-download .....                 | 245 |
| show aaa route-download routes .....          | 245 |
| show aaa route-download routes global .....   | 245 |
| show aaa service accounting interval .....    | 246 |
| show aaa statistics .....                     | 246 |
| show aaa subscriber per-port-limit .....      | 246 |
| show aaa subscriber per-vr-limit .....        | 246 |
| show aaa timeout .....                        | 247 |
| show aaa tunnel-group .....                   | 247 |
| show aaa tunnel-parameters .....              | 247 |
| show aaa user accounting interval .....       | 247 |
| show cops info .....                          | 307 |
| show cops statistics .....                    | 307 |
| show dhcp binding .....                       | 308 |
| show dhcp relay .....                         | 308 |
| show dhcp relay proxy statistics .....        | 309 |
| show dhcp relay statistics .....              | 309 |
| show dhcp server .....                        | 310 |
| show dhcp summary .....                       | 310 |
| show dhcp vendor-option .....                 | 311 |
| show ip dhcp-capture .....                    | 376 |
| show ip dhcp-external binding .....           | 376 |
| show ip dhcp-external binding-id .....        | 377 |
| show ip dhcp-external configuration .....     | 377 |
| show ip dhcp-external statistics .....        | 377 |
| show ip local alias .....                     | 394 |
| show ip local pool .....                      | 395 |
| show ip local shared-pool .....               | 395 |
| show ip service-profile .....                 | 420 |
| show ip-subscriber .....                      | 421 |
| show license b-ras .....                      | 475 |
| show radius acct-session-id-format .....      | 510 |
| show radius algorithm .....                   | 511 |
| show radius attributes-ignored .....          | 511 |
| show radius attributes-included .....         | 511 |
| show radius calling-station-delimiter .....   | 511 |
| show radius calling-station-format .....      | 512 |
| show radius connect-info-format .....         | 512 |
| show radius dsl-port-type .....               | 512 |
| show radius ethernet-port-type .....          | 512 |
| show radius nas-identifier .....              | 513 |
| show radius nas-port-format .....             | 513 |
| show radius override .....                    | 514 |
| show radius pppoe nas-port-format .....       | 514 |
| show radius relay .....                       | 514 |
| show radius relay udp-checksum .....          | 515 |
| show radius remote-circuit-id-delimiter ..... | 515 |
| show radius remote-circuit-id-format .....    | 515 |
| show radius rollover-on-reject .....          | 516 |
| show radius servers .....                     | 516 |
| show radius statistics .....                  | 517 |
| show radius trap .....                        | 517 |
| show radius tunnel-accounting .....           | 517 |
| show radius udp-checksum .....                | 518 |
| show radius update-source-addr .....          | 518 |
| show radius vlan nas-port-format .....        | 518 |
| show sccc info .....                          | 532 |
| show sccc statistics .....                    | 533 |
| show sccc version .....                       | 533 |
| show statistics tacacs .....                  | 534 |
| show subscribers .....                        | 535 |
| show tacacs .....                             | 537 |
| show terminate-code .....                     | 541 |
| sscc address .....                            | 570 |
| sscc enable .....                             | 571 |
| sscc protocol ipv6 .....                      | 571 |
| sscc retryTimer .....                         | 571 |
| sscc sourceAddress .....                      | 572 |
| sscc sourceInterface .....                    | 572 |
| sscc transportRouter .....                    | 572 |
| strip-domain .....                            | 574 |
| subscriber .....                              | 574 |
| subscriber disconnect .....                   | 575 |
| tacacs-server host .....                      | 594 |
| tacacs-server key .....                       | 595 |
| tacacs-server source-address .....            | 595 |
| tacacs-server timeout .....                   | 595 |
| terminate-code .....                          | 606 |
| test aaa .....                                | 607 |
| timeout .....                                 | 616 |
| translate .....                               | 630 |
| tunnel .....                                  | 633 |
| udp-port .....                                | 653 |
| use-release-grace-period .....                | 662 |
| user-name .....                               | 663 |
| user-prefix .....                             | 663 |
| vlan service-profile .....                    | 675 |
| bridged Ethernet commands                     |     |
| show bridge1483 interface .....               | 290 |
| show ip mac-validate .....                    | 395 |
| bridged IP commands                           |     |
| set dhcp relay .....                          | 220 |
| set dhcp relay proxy timeout .....            | 225 |
| show dhcp relay .....                         | 308 |

|                                        |     |
|----------------------------------------|-----|
| show dhcp relay proxy statistics ..... | 309 |
| show dhcp relay statistics .....       | 309 |
| bridging commands                      |     |
| pppoe .....                            | 119 |
| relearn .....                          | 182 |
| show bridge .....                      | 291 |
| show bridge groups .....               | 291 |
| show bridge interface .....            | 292 |
| show bridge port .....                 | 293 |
| show bridge table .....                | 294 |
| show subscriber-policy .....           | 534 |
| subscriber-policy .....                | 576 |
| unicast .....                          | 659 |
| unknown-destination .....              | 659 |
| unknown-protocol .....                 | 660 |
| bulkstats commands                     |     |
| no bulkstats .....                     | 44  |

## C

|                                                           |     |
|-----------------------------------------------------------|-----|
| Cisco HDLC commands                                       |     |
| show hdlc interface .....                                 | 326 |
| show interfaces serial .....                              | 329 |
| CLNS commands                                             |     |
| show clns .....                                           | 298 |
| show clns interface .....                                 | 299 |
| show clns neighbors .....                                 | 299 |
| show clns protocol .....                                  | 299 |
| show clns traffic .....                                   | 300 |
| cOCx/STMx commands                                        |     |
| path .....                                                | 65  |
| path ds1 fdl .....                                        | 74  |
| path ds1 fdl carrier .....                                | 74  |
| path ds1 fdl string .....                                 | 75  |
| path ds1 fdl transmit .....                               | 76  |
| path ds1 remote-loopback .....                            | 76  |
| path ds1  e1 .....                                        | 66  |
| path ds1  e1 bert .....                                   | 67  |
| path ds1  e1 channel-group description .....              | 67  |
| path ds1  e1 channel-group shutdown .....                 | 68  |
| path ds1  e1 channel-group snmp trap<br>link-status ..... | 68  |
| path ds1  e1 channel-group timeslots .....                | 69  |
| path ds1  e1 clock source .....                           | 70  |
| path ds1  e1 description .....                            | 70  |
| path ds1  e1 framing .....                                | 71  |
| path ds1  e1 loopback .....                               | 72  |
| path ds1  e1 shutdown .....                               | 73  |
| path ds1  e1 snmp trap link-status .....                  | 73  |
| path ds3 .....                                            | 77  |
| path ds3 bert .....                                       | 77  |
| path ds3 clock source .....                               | 78  |
| path ds3 description .....                                | 78  |
| path ds3 equipment loopback .....                         | 79  |
| path ds3 framing .....                                    | 79  |
| path ds3 loopback .....                                   | 80  |
| path ds3 mdl carrier .....                                | 80  |
| path ds3 mdl string .....                                 | 81  |
| path ds3 mdl transmit .....                               | 82  |
| path ds3 shutdown .....                                   | 82  |
| path ds3 snmp trap link-status .....                      | 82  |
| path ds3 t1 .....                                         | 83  |
| path ds3 t1 bert .....                                    | 83  |
| path ds3 t1 clock source .....                            | 84  |
| path ds3 t1 description .....                             | 84  |
| path ds3 t1 fdl .....                                     | 85  |
| path ds3 t1 fdl carrier .....                             | 85  |
| path ds3 t1 fdl string .....                              | 86  |
| path ds3 t1 fdl transmit .....                            | 87  |
| path ds3 t1 framing .....                                 | 87  |
| path ds3 t1 loopback .....                                | 88  |
| path ds3 t1 remote-loopback .....                         | 89  |
| path ds3 t1 shutdown .....                                | 89  |
| path ds3 t1 snmp trap link-status .....                   | 90  |
| path ds3 t1 timeslots .....                               | 90  |
| path e1 unframed .....                                    | 91  |
| path overhead c2 .....                                    | 91  |
| path overhead j1 .....                                    | 92  |
| path snmp trap link-status .....                          | 93  |
| path trigger alarm .....                                  | 93  |
| path trigger delay .....                                  | 94  |
| sdh .....                                                 | 203 |
| serial description .....                                  | 208 |
| show controllers sonet .....                              | 303 |
| show controllers sonet remote .....                       | 305 |
| show interfaces .....                                     | 329 |
| shutdown .....                                            | 549 |
| trigger delay .....                                       | 632 |
| conventions defined                                       |     |
| icons .....                                               | vi  |
| text and syntax .....                                     | vi  |
| CT3 commands                                              |     |
| serial description .....                                  | 208 |
| show controllers t3 .....                                 | 306 |
| show controllers t3 remote .....                          | 307 |
| show interfaces serial .....                              | 329 |
| shutdown .....                                            | 549 |
| snmp trap link-status .....                               | 567 |
| t1 bert .....                                             | 585 |
| t1 clock source .....                                     | 586 |
| t1 description .....                                      | 586 |
| t1 fdl .....                                              | 587 |
| t1 fdl carrier .....                                      | 587 |
| t1 fdl string .....                                       | 588 |
| t1 fdl transmit .....                                     | 589 |
| t1 framing .....                                          | 589 |
| t1 lineCoding .....                                       | 590 |
| t1 loopback .....                                         | 591 |
| t1 remote-loopback .....                                  | 592 |

|                                |      |
|--------------------------------|------|
| t1 shutdown.....               | 592  |
| t1 snmp trap link-status ..... | 592  |
| t1 timeslots .....             | 593  |
| t1 yellow.....                 | 593  |
| customer support .....         | xxiv |

## D

|                                                       |       |
|-------------------------------------------------------|-------|
| default commands vs. no commands.....                 | vii   |
| deprecated commands .....                             | viii  |
| DHCP commands                                         |       |
| service dhcp-external .....                           | 210   |
| service dhcp-local.....                               | 210   |
| service dhcpv6-local .....                            | 211   |
| show ip dhcp-local auth .....                         | 378   |
| DHCP local server commands                            |       |
| network.....                                          | 38    |
| reserve.....                                          | 187   |
| server-address .....                                  | 208   |
| show ip dhcp-local duplicate-clients .....            | 379   |
| show ip dhcp-local excluded.....                      | 380   |
| show ip dhcp-local leases.....                        | 380   |
| show ip dhcp-local pool.....                          | 381   |
| show ip dhcp-local reserved .....                     | 382   |
| DHCPv6 local server commands                          |       |
| show ipv6 dhcpv6-local dns-servers.....               | 433   |
| show ipv6 dhcpv6-local prefix-lifetime .....          | 434   |
| show ipv6 dhcpv6-local<br>dns-domain-searchlist ..... | 433   |
| digital certificate commands                          |       |
| organization.....                                     | 58    |
| root proxy url .....                                  | 190   |
| show ike certificates .....                           | 327   |
| show ike configuration .....                          | 328   |
| show ike identity.....                                | 328   |
| show ipsec ca identity .....                          | 426   |
| show ipsec certificates .....                         | 426   |
| show ipsec identity.....                              | 427   |
| show ipsec ike-configuration .....                    | 427   |
| show ipsec key pubkey-chain rsa .....                 | 428   |
| show ipsec mypubkey rsa.....                          | 428   |
| DNS commands                                          |       |
| show ip domain-lookup.....                            | 382   |
| documentation set, E-series and JUNOS.....            | xx    |
| comments on .....                                     | xxiii |
| obtaining.....                                        | xxiii |
| DoS protection group commands                         |       |
| ppp dos-protection-group.....                         | 113   |
| pppoe dos-protection-group .....                      | 121   |
| priority burst.....                                   | 129   |
| priority over-subscription-factor.....                | 129   |
| priority rate.....                                    | 129   |
| protocol burst .....                                  | 136   |
| protocol drop-probability .....                       | 137   |
| protocol priority .....                               | 137   |

|                                           |     |
|-------------------------------------------|-----|
| protocol rate .....                       | 137 |
| protocol skip-priority-rate-limiter ..... | 138 |
| protocol weight.....                      | 138 |
| show dos-protection-group .....           | 311 |
| use canned-group.....                     | 661 |
| vlan dos-protection-group .....           | 673 |

## DVMRP commands

|                                      |     |
|--------------------------------------|-----|
| redistribute.....                    | 174 |
| router dvmrp .....                   | 194 |
| show dvmrp destination profile ..... | 312 |
| show dvmrp tunnel.....               | 313 |
| show ip dvmrp .....                  | 383 |
| show ip dvmrp interface .....        | 383 |
| show ip dvmrp mroute.....            | 383 |
| show ip dvmrp neighbor.....          | 384 |
| show ip dvmrp route .....            | 384 |
| show ip dvmrp routeNextHop .....     | 385 |
| tunnel destination .....             | 634 |
| tunnel mdt .....                     | 638 |

## dynamic interface commands

|                                                    |     |
|----------------------------------------------------|-----|
| pppoe auto-configure.....                          | 120 |
| pppoe clear lockout interface .....                | 121 |
| pppoe profile .....                                | 124 |
| profile .....                                      | 133 |
| profile atm1483 bulk-config-name .....             | 134 |
| profile atm1483 bulk-config-name pvc .....         | 134 |
| profile vlan bulk-config.....                      | 135 |
| profile vlan override bulk-config .....            | 136 |
| profile-reassign .....                             | 135 |
| show atm bulk-config.....                          | 250 |
| show columns.....                                  | 301 |
| show profile .....                                 | 502 |
| show profile brief.....                            | 503 |
| show vlan bulk-config.....                         | 546 |
| show vlan profile.....                             | 547 |
| vlan advisory-rx-speed .....                       | 667 |
| vlan advisory-tx-speed.....                        | 668 |
| vlan auto-configure .....                          | 668 |
| vlan auto-configure agent-circuit-identifier ..... | 669 |
| vlan bulk-config.....                              | 669 |
| vlan bulk-config modify.....                       | 670 |
| vlan bulk-config shutdown .....                    | 671 |
| vlan profile .....                                 | 675 |

## E

|                                      |        |
|--------------------------------------|--------|
| E120 routers.....                    | vi, xx |
| interface types and specifiers ..... | xv     |
| E3 commands                          |        |
| show controllers e3.....             | 302    |
| shutdown .....                       | 549    |
| E320 routers.....                    | vi, xx |
| interface types and specifiers ..... | xv     |
| ERX-14xx models.....                 | vi     |
| interface types and specifiers ..... | ix     |

|                                            |       |
|--------------------------------------------|-------|
| ERX-310 router .....                       | vi    |
| interface types and specifiers .....       | ix    |
| ERX-7xx models .....                       | vi    |
| interface types and specifiers .....       | ix    |
| E-series and JUNOS documentation set ..... | xx    |
| comments on .....                          | xxiii |
| obtaining .....                            | xxiii |
| E-series router models .....               | vi    |
| Ethernet commands .....                    |       |
| show interfaces .....                      | 329   |
| show interfaces lag .....                  | 330   |
| show interfaces lag members .....          | 330   |
| show ip mac-validate .....                 | 395   |
| shutdown .....                             | 549   |
| speed .....                                | 568   |
| svlan ethertype .....                      | 581   |
| svlan id .....                             | 582   |

## F

|                                           |        |
|-------------------------------------------|--------|
| Fast Ethernet interface .....             | x, xvi |
| file management commands .....            |        |
| rename .....                              | 186    |
| show hotfix .....                         | 327    |
| write memory .....                        | 678    |
| filtering show commands .....             | viii   |
| firewall commands .....                   |        |
| show ip inspect all .....                 | 391    |
| show ip inspect config .....              | 391    |
| show ip inspect name .....                | 392    |
| show ip inspect session .....             | 392    |
| show ip inspect statistics .....          | 392    |
| Frame Relay commands .....                |        |
| show frame-relay interface .....          | 319    |
| show frame-relay lip .....                | 320    |
| show frame-relay lmi .....                | 320    |
| show frame-relay map .....                | 321    |
| show frame-relay multilinkInterface ..... | 321    |
| show frame-relay pvc .....                | 322    |
| show frame-relay subinterface .....       | 323    |
| show frame-relay summary .....            | 323    |
| shutdown .....                            | 549    |
| snmp trap frame-relay link-status .....   | 567    |
| FTP server commands .....                 |        |
| show ftp-server .....                     | 323    |
| show users .....                          | 544    |

## G

|                                    |         |
|------------------------------------|---------|
| Gigabit Ethernet interface .....   | xi, xvi |
| GRE commands .....                 |         |
| show gre destination profile ..... | 324     |
| show gre tunnel .....              | 324     |
| tunnel destination .....           | 634     |
| tunnel mdt .....                   | 638     |
| tunnel sequence-datagrams .....    | 646     |

## H

|                                  |     |
|----------------------------------|-----|
| HDLC commands, Cisco .....       |     |
| show hdlc interface .....        | 326 |
| show interfaces serial .....     | 329 |
| HTTP local server commands ..... |     |
| show ip http .....               | 386 |

## I

|                                                     |         |
|-----------------------------------------------------|---------|
| icons defined, notice .....                         | vi      |
| IEEE 802.3ad link aggregation group interface ..... | xi, xvi |
| IGMP commands .....                                 |         |
| router igmp .....                                   | 195     |
| show ip igmp .....                                  | 387     |
| show ip igmp groups .....                           | 387     |
| show ip igmp interface .....                        | 388     |
| show ip igmp mapped-oif .....                       | 388     |
| show ip igmp membership .....                       | 389     |
| show ip igmp oif-map .....                          | 389     |
| show ip igmp oif-mapping .....                      | 389     |
| show multicast group limit .....                    | 491     |
| IGMP proxy commands .....                           |         |
| show ip igmp-proxy .....                            | 390     |
| show ip igmp-proxy groups .....                     | 390     |
| show ip igmp-proxy interface .....                  | 390     |
| interface commands .....                            |         |
| serial description .....                            | 208     |
| show interfaces .....                               | 329     |
| show interfaces lag .....                           | 330     |
| show interfaces lag members .....                   | 330     |
| show ip interface .....                             | 393     |
| show ip interface shares .....                      | 394     |
| show ip interface vrf .....                         | 394     |
| show ip vrf interfaces .....                        | 424     |
| show ipv6 interface .....                           | 435     |
| snmp trap ip link-status .....                      | 567     |
| tag-group .....                                     | 596     |
| tcp mss .....                                       | 597     |
| interface types and specifiers .....                | ix      |
| E120 routers .....                                  | xv      |
| E320 routers .....                                  | xv      |
| ERX-14xx models .....                               | ix      |
| ERX-310 routers .....                               | ix      |
| ERX-7xx models .....                                | ix      |
| IP commands .....                                   |         |
| clear ip ospf database .....                        | 123     |
| no ip interface .....                               | 44      |
| ping .....                                          | 96      |
| profile .....                                       | 133     |
| profile-reassign .....                              | 135     |
| route-map .....                                     | 192     |
| router rip .....                                    | 197     |
| show access-list .....                              | 248     |
| show arp .....                                      | 249     |
| show forwarding-table route-holddown .....          | 318     |

|                                                    |     |                                               |     |
|----------------------------------------------------|-----|-----------------------------------------------|-----|
| show ip .....                                      | 330 | show ipsec ca identity .....                  | 426 |
| show ip address .....                              | 331 | show ipsec ike-policy-rule .....              | 427 |
| show ip as-path-access-list .....                  | 331 | show ipsec ike-sa .....                       | 428 |
| show ip demux interface .....                      | 375 | show ipsec key pubkey-chain rsa .....         | 428 |
| show ip domain-lookup .....                        | 382 | show ipsec lifetime .....                     | 429 |
| show ip explicit-paths.                            |     | show ipsec local-endpoint .....               | 429 |
| <i>See</i> MPLS commands: show mpls explicit-paths |     | show ipsec mypubkey rsa .....                 | 428 |
| show ip extcommunity-list .....                    | 385 | show ipsec option .....                       | 429 |
| show ip forwarding-table slot .....                | 386 | show ipsec transform-set .....                | 429 |
| show ip interface .....                            | 393 | show ipsec tunnel .....                       | 431 |
| show ip interface shares .....                     | 394 | show ipsec tunnel profile .....               | 431 |
| show ip mac-validate .....                         | 395 | show license ipsec-tunnels .....              | 475 |
| show ip match-policy-list .....                    | 396 | single-shot-tunnel .....                      | 550 |
| show ip mirror interface .....                     | 396 | tunnel destination backup .....               | 635 |
| show ip prefix-list .....                          | 413 | tunnel lifetime .....                         | 637 |
| show ip prefix-tree .....                          | 413 | tunnel local-identity .....                   | 637 |
| show ip profile .....                              | 414 | tunnel mtu .....                              | 645 |
| show ip protocols .....                            | 414 | tunnel peer-identity .....                    | 646 |
| show ip redistribute .....                         | 414 | tunnel pfs group .....                        | 646 |
| show ip route .....                                | 417 | tunnel session-key-inbound .....              | 647 |
| show ip route slot .....                           | 418 | tunnel session-key-outbound .....             | 648 |
| show ip rpf-route .....                            | 419 | tunnel signaling .....                        | 648 |
| show ip socket statistics .....                    | 420 | tunnel source .....                           | 649 |
| show ip ssh .....                                  | 420 | tunnel transform-set .....                    | 650 |
| show ip static .....                               | 421 | IPSec identity commands                       |     |
| show ip tcp statistics .....                       | 539 | organization .....                            | 58  |
| show ip traffic .....                              | 422 | IPSec transport local profile commands        |     |
| show ip tunnel reassembly statistics .....         | 422 | pre-share .....                               | 128 |
| show ip tunnel-route .....                         | 423 | pre-share-masked .....                        | 128 |
| show ip udp statistics .....                       | 423 | IPSec transport profile commands              |     |
| show ip vrrp .....                                 | 424 | pfs group .....                               | 96  |
| show ip vrrp neighbor .....                        | 425 | show ipsec transport interface .....          | 430 |
| show ip vrrp statistics .....                      | 425 | show ipsec transport profile .....            | 430 |
| show ip vrrp tracked-objects .....                 | 426 | transform-set .....                           | 630 |
| show ipv6 forwarding-table slot .....              | 434 | IPSec tunnel commands                         |     |
| show profile .....                                 | 502 | peer ip identity .....                        | 95  |
| show profile brief .....                           | 503 | IPSec tunnel profile commands                 |     |
| show route-map .....                               | 522 | transform .....                               | 629 |
| show socket statistics .....                       | 532 | IPv6 commands                                 |     |
| timers .....                                       | 617 | set ipv6 next-hop .....                       | 230 |
| traceroute .....                                   | 626 | show bgp ipv6 .....                           | 257 |
| IP multicast commands                              |     | show bgp ipv6 advertised-routes .....         | 260 |
| show ip mroute .....                               | 400 | show bgp ipv6 aggregate-address .....         | 262 |
| show ip multicast protocols .....                  | 400 | show bgp ipv6 dampened-paths .....            | 267 |
| show ip multicast routing .....                    | 400 | show bgp ipv6 flap-statistics .....           | 271 |
| IP TCP commands. <i>See</i> TCP commands           |     | show bgp ipv6 neighbors .....                 | 274 |
| IP tunnel commands                                 |     | show bgp ipv6 neighbors paths .....           | 277 |
| show gre tunnel .....                              | 324 | show bgp ipv6 neighbors received-routes ..... | 278 |
| tunnel checksum .....                              | 633 | show bgp ipv6 neighbors routes .....          | 280 |
| tunnel mtu .....                                   | 645 | show bgp ipv6 network .....                   | 281 |
| tunnel source .....                                | 649 | show bgp ipv6 next-hops .....                 | 283 |
| IPSec commands                                     |     | show bgp ipv6 paths .....                     | 283 |
| show ike policy-rule .....                         | 328 | show bgp ipv6 peer-group .....                | 284 |
| show ike sa .....                                  | 329 | show bgp ipv6 quote-regexp .....              | 285 |



- show bgp ipv6 regexp .....287
- show bgp ipv6 summary.....289
- show ipv6.....432
- show ipv6 access-list.....432
- show ipv6 address .....432
- show ipv6 interface.....435
- show ipv6 neighbors.....441
- show ipv6 prefix-list .....448
- show ipv6 profile.....448
- show ipv6 protocols.....449
- show ipv6 redistribute.....449
- show ipv6 route.....450
- show ipv6 routers .....451
- show ipv6 rpf-route.....452
- show ipv6 static.....453
- show ipv6 traffic.....453
- show ipv6 tunnel-route.....454
- show ipv6 udp statistics .....454
- show license ipv6.....475
- test bgp ipv6 neighbor.....608
- IPv6 multicast commands
  - show ipv6 mroute .....440
  - show ipv6 multicast protocols.....440
  - show ipv6 multicast routing .....440
- IS-IS commands
  - net .....36
  - nsf ietf.....47
  - nsf interface wait.....47
  - nsf t1.....47
  - nsf t2.....48
  - nsf t3.....48
  - overload advertise-high-metric issu .....60
  - passive-interface.....63
  - redistribute.....174
  - redistribute isis .....176
  - redistribute isis ip.....177
  - reference-bandwidth.....181
  - router isis .....195
  - set-overload-bit .....234
  - show clns .....298
  - show clns interface .....299
  - show clns neighbors .....299
  - show clns protocol .....299
  - show clns traffic .....300
  - show isis database .....455
  - show isis mpls adjacency-log.....455
  - show isis mpls advertisements.....456
  - show isis mpls tunnel .....456
  - show isis nsf .....456
  - show isis spf-log .....457
  - show isis summary-addresses .....457
  - show isis topology .....457
  - show ldp igp-sync .....472
  - spf-interval .....569
  - summary-address.....577
  - summary-prefix .....578
  - suppress-default.....578
  - undebg isis .....658
- J**
  - J-Flow commands
    - show ip cache flow.....374
    - show ip cache flow aggregation .....375
    - show ip flow .....386
  - JUNOS software CD .....xxii
- L**
  - L2C commands. *See* ANCP commands
  - L2TP commands
    - receive-window .....173
    - remote host.....184
    - server-name .....208
    - show dhcp relay .....308
    - show dhcp relay proxy statistics .....309
    - show dhcp relay statistics .....309
    - show dhcp server .....310
    - show l2tp.....460
    - show l2tp destination .....460
    - show l2tp destination lockout.....461
    - show l2tp destination profile .....461
    - show l2tp dial-out.....461
    - show l2tp dial-out session .....462
    - show l2tp dial-out target.....463
    - show l2tp dial-out virtual-router .....464
    - show l2tp
      - received-disconnect-cause-summary.....464
    - show l2tp session .....465
    - show l2tp switch-profile .....465
    - show l2tp tunnel.....466
    - show license l2tp-session .....475
    - single-shot-tunnel .....550
    - source-address.....567
    - switch-profile .....583
    - tunnel.....633
    - tunnel password .....645
    - tx-connect-speed-method.....651
  - L2VPN commands
    - show ip bgp.....332
    - show ip bgp advertised-routes.....335
    - show ip bgp community.....342
    - show ip bgp community-list.....344
    - show ip bgp dampened-paths .....346
    - show ip bgp filter-list .....348
    - show ip bgp flap-statistics .....350
    - show ip bgp neighbors .....354
    - show ip bgp neighbors dampened-routes.....355
    - show ip bgp neighbors received-routes.....359
    - show ip bgp neighbors routes.....361

|                                                           |       |                                             |     |
|-----------------------------------------------------------|-------|---------------------------------------------|-----|
| show ip bgp next-hops .....                               | 364   | show ipv6 mld interface .....               | 437 |
| show ip bgp paths .....                                   | 365   | show ipv6 mld mapped-oif .....              | 437 |
| show ip bgp peer-group .....                              | 366   | show ipv6 mld membership .....              | 436 |
| show ip bgp quote-regexp .....                            | 367   | show ipv6 mld oif-map .....                 | 437 |
| show ip bgp regexp .....                                  | 370   | show ipv6 mld oif-mapping .....             | 438 |
| show ip bgp summary .....                                 | 373   | show ipv6 mld ssm-mapping .....             | 439 |
| show l2vpn connections .....                              | 467   | MLD proxy commands                          |     |
| show l2vpn instance .....                                 | 468   | show ipv6 mld-proxy .....                   | 438 |
| show l2vpn interface .....                                | 468   | show ipv6 mld-proxy groups .....            | 438 |
| LDP commands                                              |       | show ipv6 mld-proxy interface .....         | 439 |
| show ldp .....                                            | 469   | MLFR commands                               |     |
| show ldp binding .....                                    | 470   | show frame-relay interface .....            | 319 |
| show ldp graceful-restart .....                           | 471   | show frame-relay lip .....                  | 320 |
| show ldp interface .....                                  | 472   | show frame-relay lmi .....                  | 320 |
| show ldp neighbor .....                                   | 473   | show frame-relay map .....                  | 321 |
| show ldp profile .....                                    | 473   | show frame-relay multilinkInterface .....   | 321 |
| show ldp statistics .....                                 | 473   | show frame-relay pvc .....                  | 322 |
| show ldp targeted session .....                           | 474   | show frame-relay subinterface .....         | 323 |
| show mpls .....                                           | 479   | show frame-relay summary .....              | 323 |
| show mpls ldp profile.                                    |       | Mobile IP commands                          |     |
| See MPLS commands: show mpls profile                      |       | show ip mobile binding .....                | 397 |
| link aggregation commands                                 |       | show ip mobile home-agent .....             | 397 |
| redundant-port .....                                      | 180   | show ip mobile host .....                   | 398 |
| redundant-port force-failover .....                       | 180   | show ip mobile profile .....                | 398 |
| show interfaces lag .....                                 | 330   | show ip mobile secure foreign-agent .....   | 398 |
| show interfaces lag members .....                         | 330   | show ip mobile secure host .....            | 399 |
| link aggregation group interface, IEEE 802.3ad .. xi, xvi |       | show ip mobile traffic .....                | 399 |
| local user database commands                              |       | show license mobile-ip home-agent .....     | 475 |
| operational-virtual-router .....                          | 57    | models                                      |     |
| password .....                                            | 64    | E120 .....                                  | vi  |
| secret .....                                              | 203   | E320 .....                                  | vi  |
| username .....                                            | 662   | ERX-14xx .....                              | vi  |
| loopback interface .....                                  | xi    | ERX-310 .....                               | vi  |
|                                                           |       | ERX-7xx .....                               | vi  |
| <b>M</b>                                                  |       | MPLS commands                               |     |
| manuals, E-series and JUNOS .....                         | xx    | next-address .....                          | 40  |
| comments on .....                                         | xxiii | ping mpls ip .....                          | 100 |
| MIBs (Management Information Bases) .....                 | xxiii | ping mpls l2transport .....                 | 102 |
| mirror commands                                           |       | ping mpls l3vpn .....                       | 104 |
| secure ip policy-list .....                               | 206   | ping mpls rsvp tunnel .....                 | 106 |
| secure l2tp policy-list .....                             | 206   | ping mpls vpls .....                        | 108 |
| show mirror rules .....                                   | 478   | refresh-period .....                        | 181 |
| show mirror subscribers .....                             | 478   | route interface .....                       | 190 |
| show mirror trap .....                                    | 479   | show cac .....                              | 297 |
| show secure classifier-list .....                         | 526   | show cac interface .....                    | 297 |
| show secure policy-list .....                             | 526   | show ip explicit-paths.                     |     |
| show snmp secure-log .....                                | 531   | See MPLS commands: show mpls explicit-paths |     |
| snmp-server clear secure-log .....                        | 553   | show ip tunnel-route .....                  | 423 |
| snmp-server secure-log .....                              | 564   | show ldp .....                              | 469 |
| MLD commands                                              |       | show ldp binding .....                      | 470 |
| router mld .....                                          | 195   | show ldp graceful-restart .....             | 471 |
| show ip igmp ssm-mapping .....                            | 391   | show ldp igp-sync .....                     | 472 |
| show ipv6 mld .....                                       | 435   | show ldp interface .....                    | 472 |
| show ipv6 mld groups .....                                | 436   | show ldp neighbor .....                     | 473 |

|                                                 |     |
|-------------------------------------------------|-----|
| show ldp profile.....                           | 473 |
| show ldp statistics.....                        | 473 |
| show ldp targeted session.....                  | 474 |
| show mpls.....                                  | 479 |
| show mpls binding.....                          | 479 |
| show mpls cross-connects atm.....               | 481 |
| show mpls explicit-paths.....                   | 481 |
| show mpls fast-reroute database.....            | 482 |
| show mpls forwarding.....                       | 483 |
| show mpls interface.....                        | 484 |
| show mpls l2transport interface.....            | 485 |
| show mpls l2transport load-balancing-group..... | 485 |
| show mpls minor-interface.....                  | 486 |
| show mpls next-hop.....                         | 486 |
| show mpls phb-id.....                           | 487 |
| show mpls profile.....                          | 487 |
| show mpls rsvp.....                             | 487 |
| show mpls rsvp authentication.....              | 488 |
| show mpls rsvp bfd interfaces.....              | 488 |
| show mpls rsvp counters.....                    | 488 |
| show mpls rsvp hello graceful restart.....      | 489 |
| show mpls rsvp hello instance.....              | 489 |
| show mpls rsvp profile.....                     |     |
| <i>See</i> MPLS commands: show mpls profile     |     |
| show mpls tunnels.....                          | 490 |
| show mpls tunnels profile.....                  |     |
| <i>See</i> MPLS commands: show mpls profile     |     |
| trace mpls ip.....                              | 621 |
| trace mpls l2transport.....                     | 622 |
| trace mpls l3vpn.....                           | 623 |
| trace mpls rsvp tunnel.....                     | 624 |
| trace mpls vpls.....                            | 625 |
| tunnel destination.....                         | 634 |
| tunnel ip profile.....                          | 636 |
| tunnel mpls affinity.....                       | 638 |
| tunnel mpls autoroute announce.....             | 639 |
| tunnel mpls autoroute metric.....               | 639 |
| tunnel mpls bandwidth.....                      | 640 |
| tunnel mpls description.....                    | 640 |
| tunnel mpls diff-serv phb-id.....               | 641 |
| tunnel mpls fast-reroute.....                   | 641 |
| tunnel mpls no-route retries.....               | 642 |
| tunnel mpls no-route retry-time.....            | 642 |
| tunnel mpls path-option.....                    | 643 |
| tunnel mpls priority.....                       | 644 |
| tunnel mpls retries.....                        | 644 |
| tunnel mpls retry-time.....                     | 645 |
| multicast commands.....                         |     |
| set priority.....                               | 235 |
| show mroute port count.....                     | 491 |
| show multicast group limit.....                 | 491 |
| multilink frame relay interface.....            | xi  |
| multilink PPP interface.....                    | xi  |

## N

|                                        |     |
|----------------------------------------|-----|
| NAT commands.....                      |     |
| show ip nat inside rule.....           | 401 |
| show ip nat outside rule.....          | 401 |
| show ip nat pool.....                  | 402 |
| show ip nat statistics.....            | 402 |
| show ip nat translations.....          | 403 |
| NBMA commands.....                     |     |
| show nbma arp.....                     | 491 |
| NFS commands.....                      |     |
| show ip nfs.....                       | 404 |
| no commands vs. default commands.....  | vii |
| non-PPP equal access commands.....     |     |
| netbios-name-server.....               | 36  |
| netbios-node-type.....                 | 37  |
| show ip dhcp-local.....                | 378 |
| show ip dhcp-local binding.....        | 379 |
| show ip dhcp-local limits.....         | 381 |
| show ip dhcp-local statistics.....     | 382 |
| show ipv6 dhcpv6-local binding.....    | 433 |
| show ipv6 dhcpv6-local statistics..... | 434 |
| notice icons defined.....              | vi  |
| NTP commands.....                      |     |
| ntp access-group.....                  | 49  |
| ntp broadcast.....                     | 49  |
| ntp broadcast-client.....              | 50  |
| ntp broadcast-delay.....               | 50  |
| ntp disable.....                       | 51  |
| ntp enable.....                        | 51  |
| ntp master.....                        | 51  |
| ntp server.....                        | 52  |
| ntp server enable.....                 | 52  |
| ntp source.....                        | 53  |
| show clock.....                        | 300 |
| show ntp associations.....             | 492 |
| show ntp status.....                   | 492 |
| null interface.....                    | xii |

## O

|                             |     |
|-----------------------------|-----|
| OCx/STMx commands.....      |     |
| path.....                   | 65  |
| path overhead c2.....       | 91  |
| path overhead j1.....       | 92  |
| path trigger alarm.....     | 93  |
| path trigger delay.....     | 94  |
| sdh.....                    | 203 |
| show controllers sonet..... | 303 |
| shutdown.....               | 549 |
| trigger delay.....          | 632 |
| OSPF commands.....          |     |
| area.....                   | 43  |
| neighbor.....               | 3   |
| network area.....           | 40  |
| no area.....                | 43  |

|                                              |     |
|----------------------------------------------|-----|
| ospf auto-cost reference-bandwidth .....     | 58  |
| ospf enable .....                            | 59  |
| ospf log-adjacency-changes .....             | 59  |
| ospf shutdown .....                          | 60  |
| overload advertise-high-metric issu .....    | 60  |
| passive-interface .....                      | 63  |
| redistribute .....                           | 174 |
| remote-neighbor .....                        | 185 |
| retransmit-interval .....                    | 189 |
| router ospf .....                            | 196 |
| show bfd session .....                       | 257 |
| show ip ospf .....                           | 404 |
| show ip ospf border-routers .....            | 404 |
| show ip ospf database .....                  | 405 |
| show ip ospf interface .....                 | 406 |
| show ip ospf internal-statistics .....       | 406 |
| show ip ospf neighbors .....                 | 407 |
| show ip ospf remote-neighbor interface ..... | 407 |
| show ip ospf spf-log .....                   | 407 |
| show ip ospf virtual-links .....             | 408 |
| show ipv6 ospf .....                         | 441 |
| show ipv6 ospf border-routers .....          | 441 |
| show ipv6 ospf database .....                | 442 |
| show ipv6 ospf interface .....               | 443 |
| show ipv6 ospf internal-statistics .....     | 442 |
| show ipv6 ospf neighbors .....               | 443 |
| show ipv6 ospf summary-prefix .....          | 444 |
| show ipv6 ospf traffic .....                 | 444 |
| show ldp igp-sync .....                      | 472 |
| summary-address .....                        | 577 |
| summary-prefix .....                         | 578 |
| timers spf .....                             | 618 |
| transmit-delay .....                         | 630 |
| traps .....                                  | 631 |
| ttl .....                                    | 633 |
| undebg ip ospf .....                         | 656 |
| undebg ipv6 ospf .....                       | 657 |
| update-source .....                          | 661 |

## P

### PIM commands

|                                       |     |
|---------------------------------------|-----|
| ip pim .....                          | 596 |
| ip pim data-mdt .....                 | 636 |
| pim disable .....                     | 96  |
| query-interval .....                  | 146 |
| remote-neighbor .....                 | 185 |
| router pim .....                      | 196 |
| set threshold .....                   | 236 |
| show ip pim .....                     | 408 |
| show ip pim auto-rp .....             | 408 |
| show ip pim bsr .....                 | 408 |
| show ip pim data-mdt .....            | 409 |
| show ip pim dense-mode sg-state ..... | 409 |
| show ip pim interface .....           | 410 |

|                                               |     |
|-----------------------------------------------|-----|
| show ip pim neighbor .....                    | 410 |
| show ip pim remote-neighbor .....             | 411 |
| show ip pim rp .....                          | 411 |
| show ip pim rp-hash .....                     | 411 |
| show ip pim sparse-mode sg-state .....        | 412 |
| show ip pim sparse-mode unicast-route .....   | 412 |
| show ip pim spt-threshold .....               | 412 |
| show ipv6 pim .....                           | 444 |
| show ipv6 pim bsr .....                       | 444 |
| show ipv6 pim interface .....                 | 445 |
| show ipv6 pim neighbor .....                  | 445 |
| show ipv6 pim remote-neighbor .....           | 446 |
| show ipv6 pim rp .....                        | 446 |
| show ipv6 pim rp-hash .....                   | 446 |
| show ipv6 pim sparse-mode sg-state .....      | 447 |
| show ipv6 pim sparse-mode unicast-route ..... | 447 |
| show ipv6 pim spt-threshold .....             | 447 |
| undebg ip pim .....                           | 656 |
| undebg ipv6 pim .....                         | 658 |
| update-source .....                           | 661 |

### policy management commands

|                                     |     |
|-------------------------------------|-----|
| color mark profile .....            | 177 |
| next-hop .....                      | 41  |
| next-interface .....                | 42  |
| next-parent .....                   | 43  |
| parent group .....                  | 62  |
| peak-burst .....                    | 94  |
| peak-rate .....                     | 95  |
| policer .....                       | 110 |
| policy-parameter hierarchical ..... | 110 |
| rate-limit-profile .....            | 170 |
| reference-rate .....                | 181 |
| secure ip classifier-list .....     | 204 |
| show classifier-list .....          | 298 |
| show color-mark profile .....       | 300 |
| show mirror log .....               | 478 |
| show parent-group .....             | 493 |
| show policy-list .....              | 493 |
| show policy-parameter .....         | 494 |
| show rate-limit-profile .....       | 518 |
| user-packet-class .....             | 663 |
| vlan policy .....                   | 674 |
| vlan policy-list .....              | 675 |
| yellow-mark .....                   | 678 |

### POS commands

|                        |     |
|------------------------|-----|
| pos description .....  | 110 |
| pos framing .....      | 111 |
| pos scramble-atm ..... | 111 |
| show interfaces .....  | 329 |
| shutdown .....         | 549 |

### POS interface .....

### PPP commands

|                          |     |
|--------------------------|-----|
| ppp aaa-profile .....    | 111 |
| ppp authentication ..... | 112 |

|                                         |     |
|-----------------------------------------|-----|
| ppp chap-challenge-length .....         | 112 |
| ppp description .....                   | 113 |
| ppp fragmentation .....                 | 113 |
| ppp hash-link-selection .....           | 114 |
| ppp initiate-ip .....                   | 114 |
| ppp initiate-ipv6 .....                 | 114 |
| ppp ipcp netmask .....                  | 114 |
| ppp keepalive .....                     | 115 |
| ppp log .....                           | 115 |
| ppp magic-number disable .....          | 115 |
| ppp magic-number ignore-mismatch .....  | 116 |
| ppp max-bad-auth .....                  | 116 |
| ppp mru .....                           | 116 |
| ppp multilink enable .....              | 117 |
| ppp passive-mode .....                  | 117 |
| ppp peer .....                          | 117 |
| ppp reassembly .....                    | 118 |
| ppp shutdown .....                      | 118 |
| show ppp interface .....                | 495 |
| show ppp interface summary .....        | 497 |
| PPPoE commands                          |     |
| pppoe .....                             | 119 |
| pppoe acName .....                      | 119 |
| pppoe always-offer .....                | 120 |
| pppoe auto-configure .....              | 120 |
| pppoe clear lockout interface .....     | 121 |
| pppoe duplicate-protection .....        | 122 |
| pppoe log pppoeControlPacket .....      | 122 |
| pppoe motm .....                        | 122 |
| pppoe pads disable-ac-info .....        | 123 |
| pppoe profile .....                     | 124 |
| pppoe remote-circuit-id .....           | 124 |
| pppoe service-name-table .....          | 125 |
| pppoe-service-name-table .....          | 125 |
| pppoe sessions .....                    | 126 |
| pppoe subinterface .....                | 126 |
| pppoe url .....                         | 127 |
| service .....                           | 209 |
| show pppoe interface .....              | 498 |
| show pppoe interface lockout-time ..... | 499 |
| show pppoe-service-name-table .....     | 499 |
| show pppoe subinterface .....           | 500 |
| shutdown .....                          | 549 |

## Q

|                             |     |
|-----------------------------|-----|
| QoS commands                |     |
| node .....                  | 46  |
| qos-adaptive-mode .....     | 140 |
| qos-mode-port .....         | 140 |
| qos-parameter .....         | 141 |
| qos-parameter-define .....  | 142 |
| qos-port-type-profile ..... | 143 |
| qos-profile .....           | 144 |
| qos-shaping-mode .....      | 145 |

|                                      |     |
|--------------------------------------|-----|
| qos-shared-shaper-control .....      | 145 |
| queue .....                          | 147 |
| queue-profile .....                  | 147 |
| range .....                          | 169 |
| rate-period .....                    | 171 |
| reaction-factor .....                | 172 |
| scheduler-profile .....              | 202 |
| shadow-node .....                    | 237 |
| shaping-rate .....                   | 238 |
| shared-shaping-constituent .....     | 239 |
| shared-shaping-rate .....            | 239 |
| show aaa qos downstream-rate .....   | 244 |
| show adjustment-factor .....         | 248 |
| show drop-profile .....              | 312 |
| show egress-queue events .....       | 314 |
| show egress-queue rates .....        | 315 |
| show fabric-queue .....              | 317 |
| show qos interface-hierarchy .....   | 503 |
| show qos-port-type-profile .....     | 505 |
| show qos-profile .....               | 506 |
| show qos queue-thresholds .....      | 507 |
| show qos shared-shaper .....         | 509 |
| show qos-parameter .....             | 504 |
| show qos-parameter-define .....      | 505 |
| show qos-shared-shaper-control ..... | 510 |
| show queue-profile .....             | 510 |
| show scheduler-profile .....         | 525 |
| show statistics-profile .....        | 533 |
| show traffic-class .....             | 542 |
| show traffic-class-group .....       | 543 |
| statistics-profile .....             | 573 |
| strict-priority .....                | 573 |
| subscriber-interface-type .....      | 575 |
| svlan qos-parameter .....            | 582 |
| svlan qos-profile .....              | 583 |
| traffic-class .....                  | 628 |
| traffic-class-group .....            | 629 |
| vlan classifier-list .....           | 672 |
| vlan policy-list .....               | 675 |
| weight .....                         | 677 |

## R

|                                              |     |
|----------------------------------------------|-----|
| RADIUS commands                              |     |
| no radius client .....                       | 44  |
| radius accounting server .....               | 148 |
| radius acct-session-id-format .....          | 148 |
| radius algorithm .....                       | 149 |
| radius authentication server .....           | 149 |
| radius calling-station-delimiter .....       | 149 |
| radius calling-station-format .....          | 150 |
| radius client.                               |     |
| <i>See</i> RADIUS commands: no radius client |     |
| radius connect-info-format .....             | 151 |
| radius disconnect client .....               | 152 |

|                                                                                                             |      |
|-------------------------------------------------------------------------------------------------------------|------|
| radius dsl-port-type .....                                                                                  | 152  |
| radius dynamic-request server .....                                                                         | 153  |
| radius ethernet-port-type .....                                                                             | 153  |
| radius ignore .....                                                                                         | 154  |
| radius include .....                                                                                        | 155  |
| radius include dsl-forum-attributes .....                                                                   | 159  |
| radius nas-identifier .....                                                                                 | 160  |
| radius nas-port-format .....                                                                                | 160  |
| radius override calling-station-id<br>remote-circuit-id .....                                               | 162  |
| radius override nas-info .....                                                                              | 162  |
| radius override nas-ip-addr<br>tunnel-client-endpoint .....                                                 | 162  |
| radius override nas-port-id remote-circuit-id .....                                                         | 163  |
| radius pppoe nas-port-format unique .....                                                                   | 163  |
| radius pre-authentication server .....                                                                      | 163  |
| radius relay server .....                                                                                   | 164  |
| radius relay udp-checksum .....                                                                             | 164  |
| radius remote-circuit-id-delimiter .....                                                                    | 164  |
| radius remote-circuit-id-format .....                                                                       | 165  |
| radius rollover-on-reject .....                                                                             | 165  |
| radius route-download server .....                                                                          | 166  |
| radius trap acct-server-not-responding .....                                                                | 166  |
| radius trap acct-server-responding .....                                                                    | 166  |
| radius trap auth-server-not-responding .....                                                                | 167  |
| radius trap auth-server-responding .....                                                                    | 167  |
| radius trap no-acct-server-responding .....                                                                 | 167  |
| radius trap no-auth-server-responding .....                                                                 | 168  |
| radius tunnel-accounting .....                                                                              | 168  |
| radius udp-checksum .....                                                                                   | 168  |
| radius update-source-addr .....                                                                             | 169  |
| radius vlan nas-port-format stacked .....                                                                   | 169  |
| show aaa intf-desc-format .....                                                                             | 243  |
| show radius acct-session-id-format .....                                                                    | 510  |
| show radius algorithm .....                                                                                 | 511  |
| show radius attributes-ignored .....                                                                        | 511  |
| show radius attributes-included .....                                                                       | 511  |
| show radius calling-station-delimiter .....                                                                 | 511  |
| show radius calling-station-format .....                                                                    | 512  |
| show radius connect-info-format .....                                                                       | 512  |
| show radius dsl-port-type .....                                                                             | 512  |
| show radius ethernet-port-type .....                                                                        | 512  |
| show radius nas-identifier .....                                                                            | 513  |
| show radius nas-port-format .....                                                                           | 513  |
| show radius override .....                                                                                  | 514  |
| show radius pppoe nas-port-format .....                                                                     | 514  |
| show radius relay .....                                                                                     | 514  |
| show radius relay udp-checksum .....                                                                        | 515  |
| show radius remote-circuit-id-delimiter .....                                                               | 515  |
| show radius remote-circuit-id-format .....                                                                  | 515  |
| show radius rollover-on-reject .....                                                                        | 516  |
| show radius trap .....                                                                                      | 517  |
| show radius tunnel-accounting .....                                                                         | 517  |
| show radius udp-checksum .....                                                                              | 518  |
| show radius update-source-addr .....                                                                        | 518  |
| show radius vlan nas-port-format .....                                                                      | 518  |
| strip-domain .....                                                                                          | 574  |
| subscriber .....                                                                                            | 574  |
| subscriber disconnect .....                                                                                 | 575  |
| timeout .....                                                                                               | 616  |
| udp-port .....                                                                                              | 653  |
| redundancy commands                                                                                         |      |
| redundancy .....                                                                                            | 177  |
| redundancy force-switchover .....                                                                           | 178  |
| redundancy lockout .....                                                                                    | 178  |
| redundancy revert .....                                                                                     | 179  |
| redundancy revertive .....                                                                                  | 179  |
| show redundancy .....                                                                                       | 519  |
| show redundancy clients .....                                                                               | 519  |
| show redundancy history .....                                                                               | 520  |
| show redundancy line-card .....                                                                             | 520  |
| show redundancy srp .....                                                                                   | 520  |
| show redundancy switchover-history .....                                                                    | 521  |
| srp switch .....                                                                                            | 570  |
| synchronize .....                                                                                           | 584  |
| release notes .....                                                                                         | xxii |
| resource threshold manager commands                                                                         |      |
| resource if-type .....                                                                                      | 188  |
| resource threshold .....                                                                                    | 188  |
| show resource .....                                                                                         | 522  |
| Response Time Reporter commands                                                                             |      |
| no rtr .....                                                                                                | 45   |
| no rtr reaction-configuration .....                                                                         | 45   |
| operations-per-hop .....                                                                                    | 58   |
| owner .....                                                                                                 | 61   |
| receive-interface .....                                                                                     | 172  |
| request-data-size .....                                                                                     | 187  |
| rtr .....                                                                                                   | 197  |
| rtr reaction-configuration action-type .....                                                                | 197  |
| rtr reaction-configuration operation-failure .....                                                          | 198  |
| rtr reaction-configuration path-change .....                                                                | 198  |
| rtr reaction-configuration test-completion .....                                                            | 198  |
| rtr reaction-configuration test-failure .....                                                               | 199  |
| rtr reaction-configuration. <i>See</i><br>Response Time Reporter commands:<br>no rtr reaction-configuration |      |
| rtr reset .....                                                                                             | 199  |
| rtr schedule .....                                                                                          | 199  |
| rtr schedule life .....                                                                                     | 200  |
| rtr schedule restart-time .....                                                                             | 200  |
| rtr schedule start-time .....                                                                               | 201  |
| samples-of-history-kept .....                                                                               | 202  |
| show rtr application .....                                                                                  | 523  |
| show rtr application collection-statistics .....                                                            | 523  |
| show rtr application configuration .....                                                                    | 523  |
| show rtr application history .....                                                                          | 524  |
| show rtr application hops .....                                                                             | 524  |
| show rtr application operational-state .....                                                                | 524  |

- tag .....596
- timeout .....616
- tos .....620
- type .....652
- RIP commands
  - neighbor .....3
  - network .....38
  - receive version .....173
  - redistribute .....174
  - remote neighbor .....185
  - route-map .....192
  - router rip .....197
  - send version .....207
  - send-more-specific-routes-disable .....207
  - show ip rip .....415
  - show ip rip database .....415
  - show ip rip network .....415
  - show ip rip peer .....416
  - show ip rip statistics .....416
  - show ip rip summary-address .....416
  - split-horizon .....569
  - table-map .....594
  - timers .....617
  - time-to-live .....618
  - triggered-update-disable .....632
  - undebg ip rip .....657
  - update-source .....661
  - version .....666
- router commands
  - tcp path-mtu-discovery .....598
  - tcp path-mtu-discovery
    - black-hole-detect-threshold .....598
  - tcp path-mtu-discovery max-mtu .....598
  - tcp path-mtu-discovery min-mtu .....598
- routing policy commands
  - route-map .....192
  - set admission-bandwidth .....216
  - set as-path prepend .....216
  - set automatic-tag .....217
  - set comm-list delete .....217
  - set community .....218
  - set dampening .....219
  - set distance .....227
  - set extcommunity .....228
  - set ip interface-profile .....228
  - set ip next-hop .....229
  - set ip service-profile .....229
  - set ip source-prefix .....230
  - set ipv6 next-hop .....230
  - set level .....231
  - set local-preference .....231
  - set metric .....232
  - set metric-type .....233
  - set origin .....234
  - set qos-bandwidth .....235
  - set route-class .....235
  - set route-type .....236
  - set tag .....236
  - set weight .....237
- RSVP-TE commands
  - refresh-period .....181
  - show cac .....297
  - show cac interface .....297
  - show mpls .....479
  - show mpls fast-reroute database .....482
  - show mpls rsvp .....487
  - show mpls rsvp authentication .....488
  - show mpls rsvp bfd interfaces .....488
  - show mpls rsvp counters .....488
  - show mpls rsvp hello graceful restart .....489
  - show mpls rsvp hello instance .....489
  - show mpls rsvp profile.
    - See MPLS commands: show mpls profile
  - tunnel mpls diff-serv phb-id .....641
  - tunnel mpls fast-reroute .....641
- S**
- SDH commands. *See* cOCx/STMx commands and OCx/STMx commands
- serial interface .....xii
- Service Manager commands
  - no service-management subscriber-session
    - force .....45
  - service-management install .....211
  - service-management owner-session .....211
  - service-management service-session-profile .....212
  - service-management subscriber-session .....212
  - service-management subscriber-session
    - service-session .....213
  - show service-management service-definition .....527
  - show service-management summary .....528
  - show service-management
    - owner-session .....527
  - show service-management
    - service-session-profile .....527
  - show service-management
    - subscriber-session .....528
  - statistics .....573
  - time .....616
  - volume .....676
- show commands, filtering .....viii
- SNMP commands
  - set .....215
  - show bulkstats .....294
  - show bulkstats collector description .....294
  - show bulkstats collector interval .....295
  - show bulkstats collector max-size .....295
  - show bulkstats collector transfer-mode .....295

|                                                 |     |                                                                     |            |
|-------------------------------------------------|-----|---------------------------------------------------------------------|------------|
| show bulkstats interface-type .....             | 295 | SONET commands. <i>See</i> cOCx/STMx commands and OCx/STMx commands |            |
| show bulkstats receiver .....                   | 296 | SONET/SDH interface .....                                           | xiv, xviii |
| show bulkstats schema .....                     | 296 | SSH commands                                                        |            |
| show bulkstats statistics .....                 | 296 | show ip ssh .....                                                   | 420        |
| show bulkstats traps .....                      | 296 | subscriber interface commands                                       |            |
| show bulkstats virtual routers .....            | 297 | set dhcp relay giaddr-selects-interface .....                       | 223        |
| show snmp .....                                 | 528 | show ip dhcp-external binding .....                                 | 376        |
| show snmp access .....                          | 529 | show ip dhcp-external binding-id .....                              | 377        |
| show snmp agent .....                           | 529 | show ip dhcp-external configuration .....                           | 377        |
| show snmp community .....                       | 529 | show ip dhcp-external statistics .....                              | 377        |
| show snmp group .....                           | 529 | show ip service-profile .....                                       | 420        |
| show snmp interfaces .....                      | 530 | subscriber policy commands                                          |            |
| show snmp management-event .....                | 530 | pppoe .....                                                         | 119        |
| show snmp notificationLog .....                 | 530 | relearn .....                                                       | 182        |
| show snmp secure-log .....                      | 531 | show subscriber-policy .....                                        | 534        |
| show snmp trap .....                            | 531 | unicast .....                                                       | 659        |
| show snmp trap statistics .....                 | 531 | unknown-destination .....                                           | 659        |
| show snmp user .....                            | 532 | unknown-protocol .....                                              | 660        |
| show snmp view .....                            | 532 | support, requesting .....                                           | xxiv       |
| snmp security .....                             | 564 | suspicious control flow detection commands                          |            |
| snmp trap frame-relay link-status .....         | 567 | show suspicious-control-flow-detection flows ...                    | 536        |
| snmp trap ip link-status .....                  | 567 | show suspicious-control-flow-detection                              |            |
| snmp trap link-status .....                     | 567 | counts .....                                                        | 536        |
| snmp-server .....                               | 553 | show suspicious-control-flow-detection                              |            |
| snmp-server clear secure-log .....              | 553 | protocol .....                                                      | 537        |
| snmp-server community .....                     | 554 | suspicious-control-flow-detection grouping-off ..                   | 579        |
| snmp-server contact .....                       | 554 | suspicious-control-flow-detection info .....                        | 537        |
| snmp-server enable traps .....                  | 555 | suspicious-control-flow-detection off .....                         | 579        |
| snmp-server group .....                         | 557 | suspicious-control-flow-detection protocol                          |            |
| snmp-server host .....                          | 558 | backoff-time .....                                                  | 579        |
| snmp-server interfaces compress .....           | 560 | suspicious-control-flow-detection protocol                          |            |
| snmp-server interfaces compress-restriction ... | 560 | threshold .....                                                     | 580        |
| snmp-server interfaces description-format ..... | 561 | suspicious-control-flow-detection                                   |            |
| snmp-server interfaces rfc1213 .....            | 561 | low-threshold .....                                                 | 580        |
| snmp-server location .....                      | 562 | S-VLAN commands                                                     |            |
| snmp-server management-event .....              | 562 | vlan ethernet .....                                                 | 581        |
| snmp-server notificationLog ageOut .....        | 562 | vlan id .....                                                       | 582        |
| snmp-server notificationLog entryLimit .....    | 563 | system commands                                                     |            |
| snmp-server notificationLog log .....           | 563 | password .....                                                      | 64         |
| snmp-server packetsize .....                    | 563 | privilege .....                                                     | 130        |
| snmp-server secure-log .....                    | 564 | privilege level .....                                               | 132        |
| snmp-server trap-proxy .....                    | 564 | privilege reset .....                                               | 132        |
| snmp-server trap-source .....                   | 565 | privilege-group alias .....                                         | 130        |
| snmp-server user .....                          | 565 | privilege-group membership .....                                    | 131        |
| snmp-server view .....                          | 566 | privilege-group membership clear .....                              | 131        |
| snmpTrap .....                                  | 566 | service ctrl-x-reboot .....                                         | 209        |
| t1 snmp trap link-status .....                  | 592 | service manual-commit .....                                         | 213        |
| warning .....                                   | 676 | service password-encryption .....                                   | 214        |
| SNMP server event manager commands              |     | service unattended-password-recovery .....                          | 215        |
| resource .....                                  | 187 | show bandwidth oversubscription .....                               | 257        |
| sample .....                                    | 202 | show columns .....                                                  | 301        |
| trigger .....                                   | 632 | show configuration .....                                            | 301        |
| software, installing or updating .....          | v   | show control-plane policer .....                                    | 302        |



- show environment ..... 316
  - show exception dump ..... 316
  - show exception monitor ..... 317
  - show fabric weights ..... 317
  - show flash ..... 318
  - show hardware ..... 325
  - show hosts ..... 327
  - show hotfix ..... 327
  - show ip domain-lookup ..... 382
  - show ip nfs ..... 404
  - show ip ssh ..... 420
  - show line console 0 ..... 475
  - show line vty ..... 476
  - show nvs ..... 492
  - show privilege ..... 500
  - show privilege group ..... 501
  - show processes cpu ..... 501
  - show processes memory ..... 502
  - show reboot-history ..... 519
  - show running-configuration ..... 525
  - show secrets ..... 526
  - show subsystems ..... 536
  - show tech-support ..... 540
  - show telnet ..... 540
  - show timing ..... 541
  - show users ..... 544
  - show utilization ..... 544
  - show version ..... 545
  - slot accept ..... 551
  - slot disable ..... 551
  - slot enable ..... 552
  - slot erase ..... 552
  - slot replace ..... 553
  - speed ..... 568
  - telnet ..... 603
  - timeout login response ..... 617
  - timing disable-auto-upgrade ..... 619
  - timing select ..... 619
  - timing source ..... 620
  - write core ..... 677
  - write memory ..... 678
- T**
- T1 commands
    - show controllers t1 ..... 306
  - T3 commands
    - scramble ..... 203
    - serial description ..... 208
    - show controllers t3 ..... 306
    - shutdown ..... 549
  - TACACS+ commands
    - show statistics tacacs ..... 534
    - show tacacs ..... 537
    - tacacs-server host ..... 594
    - tacacs-server key ..... 595
    - tacacs-server source-address ..... 595
    - tacacs-server timeout ..... 595
  - TCP commands
    - show tcp ack-rst-and-syn ..... 538
    - show tcp path-mtu-discovery ..... 538
    - show tcp paws ..... 538
    - show tcp resequence-buffers ..... 539
    - tcp ack-rst-and-syn ..... 596
    - tcp mss ..... 597
    - tcp path-mtu-discovery ..... 598
    - tcp path-mtu-discovery
      - black-hole-detect-threshold ..... 598
    - tcp path-mtu-discovery max-mtu ..... 598
    - tcp path-mtu-discovery min-mtu ..... 598
    - tcp paws-disable ..... 599
    - tcp resequence-buffers
      - connection-maximum ..... 599
    - tcp resequence-buffers
      - default-connection-maximum ..... 600
    - tcp resequence-buffers
      - default-vr-maximum ..... 600
    - tcp resequence-buffers global-maximum ..... 601
    - tcp resequence-buffers vr-maximum ..... 601
  - technical support, requesting ..... xxiv
  - text and syntax conventions defined ..... vi
  - time commands, system
    - ntp access-group ..... 49
    - ntp broadcast ..... 49
    - ntp broadcast-client ..... 50
    - ntp broadcast-delay ..... 50
    - ntp disable ..... 51
    - ntp enable ..... 51
    - ntp master ..... 51
    - ntp server ..... 52
    - ntp source ..... 53
    - show clock ..... 300
    - show ntp associations ..... 492
    - show ntp status ..... 492
  - timing commands
    - show timing ..... 541
    - t1 clock source ..... 586
    - timing disable-auto-upgrade ..... 619
    - timing select ..... 619
    - timing source ..... 620
  - tracking commands
    - show track ..... 541
    - show track brief ..... 542
  - troubleshooting commands
    - no log filters ..... 44
    - service show-config ..... 214
    - service timestamps ..... 214
    - show ip socket statistics ..... 420
    - show log configuration ..... 476

|                                                    |     |                                             |     |
|----------------------------------------------------|-----|---------------------------------------------|-----|
| show log data .....                                | 477 | vlan id .....                               | 673 |
| show socket statistics .....                       | 532 | vlan policy .....                           | 674 |
| tech-support encoded-string .....                  | 602 | vlan policy-list .....                      | 675 |
| undebg ip bgp .....                                | 654 | vlan profile .....                          | 675 |
| undebg ip mbgp .....                               | 655 | vlan service-profile .....                  | 675 |
| undebg ip ospf .....                               | 656 | VPLS commands .....                         |     |
| undebg ip pim .....                                | 656 | ping mpls vpls .....                        | 108 |
| undebg ip rip .....                                | 657 | pppoe .....                                 | 119 |
| undebg ipv6 ospf .....                             | 657 | relearn .....                               | 182 |
| undebg ipv6 pim .....                              | 658 | show bridge .....                           | 291 |
| undebg isis .....                                  | 658 | show bridge groups .....                    | 291 |
| tunnel interface .....                             | xiv | show bridge interface .....                 | 292 |
| tunnel service commands .....                      |     | show bridge interface vpls .....            | 293 |
| show tunnel-server .....                           | 543 | show bridge port .....                      | 293 |
| tunnel-server .....                                | 647 | show bridge table .....                     | 294 |
| <b>U</b> .....                                     |     | show ip bgp .....                           | 332 |
| unified ISSU commands .....                        |     | show ip bgp advertised-routes .....         | 335 |
| overload advertise-high-metric issu .....          | 60  | show ip bgp community .....                 | 342 |
| show issu .....                                    | 458 | show ip bgp community-list .....            | 344 |
| user interface commands .....                      |     | show ip bgp dampened-paths .....            | 346 |
| run .....                                          | 201 | show ip bgp filter-list .....               | 348 |
| send .....                                         | 207 | show ip bgp flap-statistics .....           | 350 |
| show terminal .....                                | 540 | show ip bgp neighbors .....                 | 354 |
| sleep .....                                        | 550 | show ip bgp neighbors dampened-routes ..... | 355 |
| telnet listen .....                                | 605 | show ip bgp neighbors received-routes ..... | 359 |
| terminal data-character- bits .....                | 605 | show ip bgp neighbors routes .....          | 361 |
| terminal length .....                              | 605 | show ip bgp next-hops .....                 | 364 |
| terminal speed .....                               | 606 | show ip bgp paths .....                     | 365 |
| terminal width .....                               | 606 | show ip bgp peer-group .....                | 366 |
| <b>V</b> .....                                     |     | show ip bgp quote-regexp .....              | 367 |
| virtual router commands .....                      |     | show ip bgp regex .....                     | 370 |
| show configuration .....                           | 301 | show ip bgp summary .....                   | 373 |
| show virtual-router .....                          | 545 | show ldp vpls .....                         | 474 |
| virtual-router .....                               | 667 | show subscriber-policy .....                | 534 |
| VLAN commands .....                                |     | subscriber-policy .....                     | 576 |
| profile vlan bulk-config .....                     | 135 | trace mpls vpls .....                       | 625 |
| profile vlan override bulk-config .....            | 136 | unicast .....                               | 659 |
| show vlan bulk-config .....                        | 546 | unknown-destination .....                   | 659 |
| show vlan profile .....                            | 547 | unknown-protocol .....                      | 660 |
| show vlan subinterface .....                       | 548 | VPN commands .....                          |     |
| shutdown .....                                     | 549 | virtual-router .....                        | 667 |
| svlan ethertype .....                              | 581 | VRRP commands .....                         |     |
| svlan id .....                                     | 582 | show ip vrrp .....                          | 424 |
| vlan advisory-rx-speed .....                       | 667 | show ip vrrp neighbor .....                 | 425 |
| vlan advisory-tx-speed .....                       | 668 | show ip vrrp statistics .....               | 425 |
| vlan auto-configure .....                          | 668 | show ip vrrp tracked-objects .....          | 426 |
| vlan auto-configure agent-circuit-identifier ..... | 669 | vtty line commands .....                    |     |
| vlan bulk-config .....                             | 669 | show users .....                            | 544 |
| vlan bulk-config modify .....                      | 670 |                                             |     |
| vlan bulk-config shutdown .....                    | 671 |                                             |     |
| vlan classifier-list .....                         | 672 |                                             |     |
| vlan description .....                             | 672 |                                             |     |