



**JUNOS[™]e Software
for E Series[™] Broadband Services Routers**

System Event Logging Reference Guide

Release 11.0.x

Juniper Networks, Inc.
1194 North Mathilda Avenue
Sunnyvale, California 94089
USA
408-745-2000
www.juniper.net

Published: 2009-12-20

Juniper Networks, the Juniper Networks logo, JUNOS, NetScreen, ScreenOS, and Steel-Belted Radius are registered trademarks of Juniper Networks, Inc. in the United States and other countries. JUNOSe is a trademark 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 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.

JUNOSe™ Software for E Series™ Broadband Services Routers System Event Logging Reference Guide

Release 11.0.x

Copyright © 2010, Juniper Networks, Inc.

All rights reserved. Printed in USA.

Writing: Krupa Chandrashekar, Subash Babu Asokan, Mark Barnard, Diane Florio, Bruce Gillham, Sarah Lesway-Ball, Brian Wesley Simmons, Fran Singer

Editing: Benjamin Mann

Illustration: Nathaniel Woodward

Cover Design: Edmonds Design

Revision History

January 2010—FRS JUNOSe 11.0.x

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

YEAR 2000 NOTICE

Juniper Networks hardware and software products are Year 2000 compliant. The JUNOS Software has no known time-related limitations through the year 2038. However, the NTP application is known to have some difficulty in the year 2036.

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 (i) Juniper Networks, Inc. (if the Customer's principal office is located in the Americas) or Juniper Networks (Cayman) Limited (if the Customer's principal office is located outside the Americas) (such applicable entity being referred to herein as "Juniper"), and (ii) 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, for which Customer has paid the applicable license or support fees to Juniper or an authorized Juniper reseller, or which was embedded by Juniper in equipment which Customer purchased from Juniper or an authorized Juniper reseller. "Software" also includes updates, upgrades and new releases of such software. "Embedded Software" means Software which Juniper has embedded in or loaded onto the Juniper equipment and any updates, upgrades, additions or replacements which are subsequently embedded in or loaded onto the 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 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 or IMS AAA software on multiple computers or virtual machines (e.g., Solaris zones) requires multiple licenses, regardless of whether such computers or virtualizations 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 Embedded Software on non-Juniper equipment; (j) use Embedded 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 payable under this agreement are exclusive of tax. Customer shall be responsible for paying Taxes arising from the purchase of the license, or importation or use of the Software. If applicable, valid exemption documentation for each taxing jurisdiction shall be provided to Juniper prior to invoicing, and Customer shall promptly notify Juniper if their exemption is revoked or modified. All payments made by Customer shall be net of any applicable withholding tax. Customer will provide reasonable assistance to Juniper in connection with such withholding taxes by promptly: providing Juniper with valid tax receipts and other required documentation showing Customer's payment of any withholding taxes; completing appropriate applications that would reduce the amount of withholding tax to be paid; and notifying and assisting Juniper in any audit or tax proceeding related to transactions hereunder. Customer shall comply with all applicable tax laws and regulations, and Customer will promptly pay or reimburse Juniper for all costs and damages related to any liability incurred by Juniper as a result of Customer's non-compliance or delay with its responsibilities herein. Customer's obligations under this Section shall survive termination or expiration of this Agreement.

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)).

Abbreviated Table of Contents

	About the Documentation	xxi
Part 1	Chapters	
Chapter 1	System Logging Overview	3
Chapter 2	Event Categories	23
Part 2	Event Categories	
Chapter 3	A Commands	27
Chapter 4	B Commands	35
Chapter 5	C Commands	51
Chapter 6	D Commands	57
Chapter 7	E Commands	79
Chapter 8	F Commands	81
Chapter 9	G and H Commands	87
Chapter 10	I Commands	91
Chapter 11	L Commands	129
Chapter 12	M Commands	145
Chapter 13	N Commands	165
Chapter 14	O Commands	169
Chapter 15	P Commands	193
Chapter 16	Q Commands	215
Chapter 17	R Commands	217
Chapter 18	S Commands	231
Chapter 19	T Commands	249
Chapter 20	U Commands	257
Chapter 21	V Commands	259
Part 3	Index	
	Index	265

Table of Contents

	About the Documentation	xxi
	E Series and JUNOS ^e Documentation and Release Notes	xxi
	Audience	xxi
	E Series and JUNOS ^e Text and Syntax Conventions	xxi
	Obtaining Documentation	xxiii
	Documentation Feedback	xxiii
	Requesting Technical Support	xxiii
	Self-Help Online Tools and Resources	xxiv
	Opening a Case with JTAC	xxiv
Part 1	Chapters	
Chapter 1	System Logging Overview	3
	Overview of System Logging	3
	Log Severity	3
	Log Verbosity	4
	Persistent Logs	4
	Logging Platform Considerations	5
	Configuring Event Logging	5
	Configuring Log Severity for Individual and Systemwide Logs	10
	Configuring Log Verbosity for Individual Logs or All Logs	14
	Setting the Timestamp for Log Messages	14
	Configuring Log Filters	16
	Turning Off Log Filters	17
	Monitoring Logging System Events	17
Chapter 2	Event Categories	23
Part 2	Event Categories	
Chapter 3	A Commands	27
	aaaAtm1483Cfg	27
	aaaEngineGeneral	28

aaaQosCfg	28
aaaServerGeneral	29
aaaUserAccess	29
addressServerGeneral	30
ar1AaaServerGeneral	30
atm	31
atm1483	32
atm1483VcClass	32
atmAal5	33
atmVcClass	33
auditIpsec	34

Chapter 4**B Commands****35**

bfdAdaptivity	35
bfdEvents	36
bfdGeneral	36
bfdSession	37
bgpConnections	37
bgpDampening	38
bgpEvents	39
bgpGeneral	40
bgpGracefulRestart	41
bgpIpv6NextHops	42
bgpKeepAlives	42
bgpMessages	43
bgpNeighborChanges	44
bgpNextHops	45
bgpRoutes	45
bridge	48
bridgeEngine	49
bridgingMgr	49
bulkStats	50

Chapter 5**C Commands****51**

cacGeneral	51
cacIntf	52
cliCommand	52
cliGeneral	53
connectionManager	53
cops	54
copsPr	54
coreDump	55
ctreeLog	56

Chapter 6	D Commands	57
	dcm	58
	dcmEngineGeneral	58
	debounceEvents	59
	debounceGeneral	59
	dhcpCapture	60
	dhcpExternal	60
	dhcpExternalEngine	61
	dhcpGeneral	61
	dhcpIssuLog	62
	dhcpLocalClients	63
	dhcpLocalGeneral	63
	dhcpLocalHighAvailability	64
	dhcpLocalPool	64
	dhcpLocalProtocol	65
	dhcpOfferLog	66
	dhcpPbeGeneral	66
	dhcpProxyGeneral	67
	dhcpRelayGeneral	67
	dhcpRelayNvWriterGeneral	68
	dhcpv6Client	68
	dhcpv6DemuxGeneral	69
	dhcpv6LsGeneral	69
	dismanEventMgr	70
	dnsGeneralLog	71
	dosProtection	71
	ds1	72
	ds3	72
	dvmrpGeneral	73
	dvmrpGracefulRestart	74
	dvmrpMcastTable	75
	dvmrpProbeRcv	75
	dvmrpProbeSent	76
	dvmrpRtTable	76
Chapter 7	E Commands	79
	ethernet	79
	ethernetStateSession	79
Chapter 8	F Commands	81
	fileSystem	81
	flowInspection	82
	flowInspectionEngine	82
	flowServicesFirewallAlert	83
	flowServicesFirewallAudit	83

frameRelay	84
fsAgent	84
ft1	85
ftpClient	85
ftpServer	86

Chapter 9 G and H Commands 87

gplaan	87
ha	87
hdlc	88
hotfixGeneral	89
httpServer	89

Chapter 10 I Commands 91

icImageFixServer	92
icmpTraffic	93
icmpv6Traffic	94
icrPartitionManager	95
igmpGeneral	95
igmpGracefulRestart	96
igmpGroupState	97
ikeCertificateMgr	98
ikeEnrollment	98
ikepki	99
interModuleCommunication	99
ipAccessList	100
ipEngine	101
ipflowstats	101
ipflowstatsEngine	102
ipGeneral	102
ipIfCreator	104
ipInterface	104
ipNhopTrackerGeneral	105
ipProfileMgr	105
ipRoutePolicy	106
ipRouteTable	107
ipseclddb	107
ipsecPIThrottler	108
ipsecXcfgSM	108
ipSubscriberMgr	109
ipTraffic	109
ipTunnel	110
ipv6AccessList	110
ipv6General	111
ipv6Interface	112
ipv6ProfileMgr	113
ipv6RouteTable	113
ipv6Traffic	114

ipv6Types	115
isisAdjChange	115
isisAdjPackets	116
isisBfdEvents	117
isisChecksumErr	117
isisGeneral	118
isisHelloGeneral	119
isisHelloPackets	119
isisIpv6Log	120
isisLdpEvents	120
isisLocalUpdate	121
isisMplsTeAdvertisements	122
isisMplsTeEvents	122
isisNsfEvents	123
isisProtocolErr	123
isisSnPackets	124
isisSpfEvents	124
isisSpfStatistics	125
isisSpfTriggers	126
isisUpdatePackets	126
isVoice	127
itm	127

Chapter 11**L Commands****129**

l2cGeneral	130
l2cKeepAlive	130
l2cPacket	131
l2tp	131
l2tpDialoutGenerator	132
l2tpDisconnectCause	132
l2tpIpLowerBinding	133
l2tpStateMachine	133
lasv6General	134
ldpConnect	134
ldpGeneral	135
ldpGracefulRestart	135
ldpHelloMessages	136
ldpHelloMgr	137
ldpInterface	137
ldpMessages	138
ldpPeer	139
ldpShimInterface	139
ldpSocket	140
ldpTimer	141
ldpVpls	141
ldpWorker	142
localAddressServerGeneral	142
localAuthServer	143
localEnableAuthServer	143

localLinePassword	144
-------------------------	-----

Chapter 12**M Commands 145**

macroData	146
macroScheduler	146
mgmtGeneral	147
mgmtGracefulRestart	148
mgmtv6General	148
mgmtv6GracefulRestart	149
mldGeneral	150
mldGracefulRestart	151
mldGroupState	151
mmcd	152
mobileIpv4HaBinding	153
mobileIpv4HaEng	153
mobileIpv4HaEvent	154
mobileIpv4HaLog	154
mplsFwdTable	155
mplsGeneral	155
mplsHighAvailability	156
mplsMajorInterface	156
mplsMinorInterface	157
mplsRouter	158
mplsShimInterface	159
mplsTraffic	160
mrInfoLog	160
mrInfoRcvdLog	161
mrInfoSentLog	161
mtraceLog	162
mtraceRcvdLog	162
mtraceSentLog	163
multicastTraffic	163

Chapter 13**N Commands 165**

nameResolverLog	165
nfsClient	165
noneAaaAddrServer	166
noneAaaServer	167
ntpGeneral	167

Chapter 14**O Commands 169**

os	170
ospfElectDr	170
ospfGeneral	172
ospfHelloPktsRcvd	172
ospfHelloPktsSent	173

ospfInterface	174
ospfLdpEvents	175
ospfLsa	175
ospfNeighbor	176
ospfPktsRcvd	177
ospfPktsSent	177
ospfRestart	178
ospfRoute	178
ospfSpfExt	179
ospfSpfInter	180
ospfSpfIntra	180
ospfTeDatabase	181
ospfTeSpf	181
ospfv3ElectDr	182
ospfv3General	183
ospfv3HelloPktsRcvd	184
ospfv3HelloPktsSent	185
ospfv3Interface	185
ospfv3Lsa	186
ospfv3Neighbor	187
ospfv3PktsRcvd	187
ospfv3PktsSent	188
ospfv3Route	189
ospfv3SpfExt	189
ospfv3SpfInter	190
ospfv3SpfIntra	191

Chapter 15**P Commands****193**

pimAutoRPRcvdLog	194
pimAutoRPSentLog	195
pimBsrRcvdLog	195
pimBsrSentLog	196
pimGracefulRestartLog	197
pimHelloRcvdLog	197
pimHelloSentLog	198
pimIpv6AutoRPRcvdLog	198
pimIpv6AutoRPSentLog	200
pimIpv6BsrRcvdLog	200
pimIpv6BsrSentLog	201
pimIpv6GracefulRestartLog	201
pimIpv6HelloRcvdLog	202
pimIpv6HelloSentLog	203
pimIpv6PktsRcvdLog	204
pimIpv6PktsSentLog	204
pimPktsRcvdLog	205
pimPktsSentLog	206
pimsmGeneral	206
pimsmMvpn	207
policyMgrAttachment	207

policyMgrGeneral	208
policyMgrPacketLog	208
ppp	209
pppoe	210
pppoeControlPacket	210
pppPacket	211
pppStateMachine	212
profileMgr	212

Chapter 16	Q Commands	215
-------------------	-------------------	------------

qm	215
qos	215
qosAttachment	216

Chapter 17	R Commands	217
-------------------	-------------------	------------

radiusAttributes	217
radiusClient	218
radiusCoAAttributes	218
radiusDisconnectGeneral	219
radiusRelayGeneral	220
radiusSendAttributes	220
remOps	221
resourceThresholdTrap	221
ripBfd	222
ripGeneral	222
ripRoute	223
ripRtTable	224
routeDownloader	225
routerLog	225
rsvpAsyncMgr	226
rsvpBfd	226
rsvpGeneral	227
rsvpGracefulRestart	227
rsvpInterface	228
rsvpTunnel	229

Chapter 18	S Commands	231
-------------------	-------------------	------------

security	232
serviceability	232
serviceMgr	233
serviceMgrClientSession	233
serviceMgrDcm	234
serviceMgrMacroManager	234
serviceMgrPerformance	235
serviceMgrServiceDef	235
serviceMgrServiceInstance	236

serviceMgrServiceSession	236
serviceMgrSubscriberSession	237
slep	237
snmp	238
snmpIfMib	239
snmpPduAudit	239
snmpSetPduAudit	240
snmpTrap	240
sonet	241
sonetPath	241
sonetVT	242
ssccDetailPm	242
ssccDetailSsc	243
ssccGeneral	243
ssccLacGeneral	244
ssh	245
stTunnel	245
stTunnelEngine	246
system	246

Chapter 19**T Commands 249**

tacacsPlusServer	249
tcpGeneral	250
tcpTraffic	250
tcpv6Traffic	251
telnet	252
telnetClient	252
tftpClient	253
trackerEvents	253
trackerGeneral	254
tsm	255

Chapter 20**U Commands 257**

udpTraffic	257
udpv6Traffic	258

Chapter 21**V Commands 259**

vrrp	259
vrrpTracking	260
vsm	260
vsmEngine	261

Part 3

Index

Index265

List of Tables

	About the Documentation	xxi
	Table 1: Notice Icons	xxii
	Table 2: Text and Syntax Conventions	xxii
Part 1	Chapters	
	<hr/>	
Chapter 1	System Logging Overview	3
	Table 3: Log Severity Descriptions	4

About the Documentation

- E Series and JUNOS^e Documentation and Release Notes on page xxi
- Audience on page xxi
- E Series and JUNOS^e Text and Syntax Conventions on page xxi
- Obtaining Documentation on page xxiii
- Documentation Feedback on page xxiii
- Requesting Technical Support on page xxiii

E Series and JUNOS^e Documentation and Release Notes

For a list of related JUNOS^e documentation, see <http://www.juniper.net/techpubs/software/index.html>.

If the information in the latest release notes differs from the information in the documentation, follow the *JUNOS^e Release Notes*.

To obtain the most current version of all Juniper Networks® technical documentation, see the product documentation page on the Juniper Networks website at <http://www.juniper.net/techpubs/>.

Audience

This guide is intended for experienced system and network specialists working with Juniper Networks E Series Broadband Services Routers in an Internet access environment.

E Series and JUNOS^e Text and Syntax Conventions

Table 1 on page xxii defines notice icons used in this documentation.

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 or death.
	Laser warning	Alerts you to the risk of personal injury from a laser.

Table 2 on page xxii defines text and syntax conventions that we use throughout the E Series and JUNOS documentation.

Table 2: Text and Syntax Conventions

Convention	Description	Examples
Bold text like this	Represents commands and keywords in text.	<ul style="list-style-type: none"> ■ Issue the clock source command. ■ Specify the keyword exp-msg.
Bold text like this	Represents text that the user must type.	host1(config)# traffic class low-loss1
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"> ■ Emphasizes words. ■ Identifies variables. ■ Identifies chapter, appendix, and book names. 	<ul style="list-style-type: none"> ■ There are two levels of access: <i>user</i> and <i>privileged</i>. ■ <i>clusterId</i>, <i>ipAddress</i>. ■ <i>Appendix A, System Specifications</i>
Plus sign (+) linking key names	Indicates that you must press two or more keys simultaneously.	Press Ctrl + b.
Syntax Conventions in the Command Reference Guide		
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 to the right of this symbol. (The keyword or variable can be either optional or required.)	diagnostic line

Table 2: Text and Syntax Conventions (*continued*)

Convention	Description	Examples
[] (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> }

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 download complete sets of technical documentation to create your own documentation CD-ROMs or DVD-ROMs, see the CD-ROM and DVD-ROM Documentation page at

<http://www.juniper.net/techpubs/resources/cdrom.html>

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, or fill out the documentation feedback form at <https://www.juniper.net/cgi-bin/docbugreport/>. If you are using e-mail, be sure to include the following information with your comments:

- Document or topic name
- URL or 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/7100059-EN.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 Management tool: <http://www.juniper.net/cm/>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool: <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 Management 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, see http://www.juniper.net/support/requesting_support.html .

Part 1

Chapters

- System Logging Overview on page 3
- Event Categories on page 23

Chapter 1

System Logging Overview

E Series Broadband Services Routers enable you to log system events to discover and isolate problems with your system. This chapter explains how to use the command-line interface (CLI) to monitor your system's log configuration and stay informed about all system events that you want to track.

This chapter contains the following sections:

- Overview of System Logging on page 3
- Logging Platform Considerations on page 5
- Configuring Event Logging on page 5
- Configuring Log Severity for Individual and Systemwide Logs on page 10
- Configuring Log Verbosity for Individual Logs or All Logs on page 14
- Setting the Timestamp for Log Messages on page 14
- Configuring Log Filters on page 16
- Turning Off Log Filters on page 17
- Monitoring Logging System Events on page 17

Overview of System Logging

System events are classified into event categories. Using the CLI, you can determine which event categories to log. To fully utilize the logging facility, you need to understand *log severity* and *log verbosity*.

Log Severity

Log severity is a level that is assigned to an event or log message. Log severity levels apply to event categories, such as *bulkStats*, *bgpRoutes*, or *atm1483*.

The minimum severity of a log message for an individual category is described either by a severity number in the range 0–7 or a descriptive priority term, such as *emergency* or *debug*. The lower the severity number is, the higher the priority. See Table 3 on page 4.



NOTE: Not every event category supports every severity level. For a list of event categories and the severity levels that each category supports, see “Event Categories” on page 23.

Table 3: Log Severity Descriptions

Severity Number	Severity Name	System Response
0	Emergency	System unusable; shelf reset
1	Alert	Immediate action needed; card reset
2	Critical	Critical conditions exist; interface is down
3	Error	Error conditions; nonrecoverable software error
4	Warning	Warning conditions; recoverable software error
5	Notice	Normal but significant conditions; nonerror, low-verbosity information
6	Info	Informational messages; nonerror, medium-verbosity information
7	Debug	Debug messages; nonerror, high-verbosity information

Log Verbosity

The verbosity level determines the amount of information that appears in each message. You can assign the verbosity level for the log category. Verbosity levels can be any of the following:

- Low—Terse
- Medium—Moderate
- High—Verbose



NOTE: Many event categories provide only low-verbosity detail regardless of the verbosity setting.

Persistent Logs

Log messages can survive a system reboot. After a reboot, the system rebuilds the list of log messages. However, if the system detects any problems or has gone through a power cycle, the buffer is reset, and the log messages from the previous session are lost.

Log messages are not synchronized between primary and redundant SRP modules. During a switchover from a primary to a redundant SRP module, existing log messages are not transferred to the redundant SRP module.

Logging Platform Considerations

System logs are supported on all E Series routers.

For information about the modules supported on E Series routers:

- See the *ERX Module Guide* for modules supported on ERX7xx models, ERX14xx models, and the Juniper Networks ERX310 Broadband Services Router.
- See the *E120 and E320 Module Guide* for modules supported on the Juniper Networks E120 and E320 Broadband Services Routers.

Configuring Event Logging

By default, event logging is enabled and has default settings. This section explains how to change settings to customize event logging to fit your needs.

- Set a baseline for when the system begins logging messages.

```
host1#baseline log 11:12:55 April 30 2002
```

- Set the log severity.

```
host1(config)#log severity warning
```

- Remove the limit on the number of buffers available for an event category.

```
host1(config)#log unlimit qos
```

- Set the log verbosity.

```
host1(config)#log verbosity low
```

- Log messages to a specified destination.

```
host1(config)#log destination syslog 10.10.9.5 include ospfGeneral
mplsGeneral os
```

- Select fields to be added to logs.

```
host1(config)#log fields timestamp instance no-calling-task
```

- Enable logs destined for a console to be displayed at the current console device.

```
host1#log here
```

The next sections explain how to configure individual and systemwide logs, how to format timestamps for log messages, and how to configure log filters.

- baseline log**
- Use to set a baseline for logging events. Only log messages timestamped after the baseline appear when you enter the **show log data delta** command.
 - To use the current system time, do not enter any options.
 - To set a specific time, use the following syntax:
Hour:Minute[:Second]—Current time in 24-hour format. Seconds are optional.
 - **utc**—Enter this keyword to indicate that the time entered is in universal coordinated time (UTC), rather than local time.
 - To set a specific date, use the following syntax:
Month Day Year—You must spell out the name of the month.
 - **last-reset**—Causes the system to display log messages generated since the last time the system was reset
 - Examples


```
host1#baseline log 11:12:55 April 30 2002
host1#baseline log last-reset
```
 - There is no **no** version.
 - See baseline log.

- log destination**
- Use to log messages to the specified destination, including system log, console, and nv-file (nonvolatile storage).



NOTE: You can display traffic logs—such as ipTraffic, icmpTraffic, tcpTraffic, and udpTraffic—only through the **show log data** command or from the SRP module console. You cannot redirect traffic logs elsewhere, such as to a system log or nonvolatile storage file, or to a Telnet session.

- Use the **severity** keyword to limit the messages logged based on priority level.
- The following information applies to logging messages to system log servers.
 - You can have multiple system log servers, but must configure logging to each one separately.
 - A particular message within a specified event category is logged to a particular system log server only if the priority of the message is greater than or equal to both the priority of the event category and the priority of that system log server.
 - If you log messages to a system log server, you can also specify:
 - **facility**—Specifies a facility ID on the system log destination host. The range is 0–7, representing the logging facilities local0–local7.
 - **include**—Logs only the listed categories to system log; no other categories are logged unless specifically included by issuing this command again.

- **exclude**—Logs all categories to system log except the listed categories; all other categories are logged unless specifically excluded by issuing this command again.
- Issuing an **include** command after an **exclude** command (or vice versa) overrides the earlier command. Therefore, you cannot enter a command including certain categories and then follow it with a command excluding others. Similarly, you cannot enter a command excluding certain categories and then follow it with a command including others.
- You can issue successive **include** commands or successive **exclude** commands; in this case, the successive commands expand the list of included or excluded categories.
- Example 1—The first command causes only the ospfGeneral, mplsGeneral, and os event categories to be logged to system log at 10.10.9.5. The second command reverses this inclusion and restores the logging of all event categories.

```
host1(config)#log destination syslog 10.10.9.5 include ospfGeneral
mplsGeneral os
host1(config)#no log destination syslog 10.10.9.5
```

- Example 2—The first command again causes only the ospfGeneral, mplsGeneral, and os event categories to be logged to system log at 10.10.9.5. The second command reverses the inclusion of ospfGeneral and os. The mplsGeneral category is still included and is thus the only category logged.

```
host1(config)#log destination syslog 10.10.9.5 include ospfGeneral mplsGeneral
os
host1(config)#no log destination syslog 10.10.9.5 include ospfGeneral os
```

- Example 3—The first command causes the isisGeneral, ipRoutePolicy, and ipTraffic event categories to be excluded from logging to system log at 10.1.2.3. The second command reverses this exclusion and restores the logging of all event categories.

```
host1(config)#log destination syslog 10.1.2.3 exclude isisGeneral ipRoutePolicy
ipTraffic
host1(config)#no log destination syslog 10.1.2.3 exclude
```

- Example 4—The first command again causes the isisGeneral, ipRoutePolicy, and ipTraffic event categories to be excluded from logging to system log at 10.1.2.3. The second command reverses the exclusion of ipRoutePolicy and ipTraffic. The isisGeneral category is still excluded; all other events are logged.

```
host1(config)#log destination syslog 10.1.2.3 exclude isisGeneral
ipRoutePolicy ipTraffic
host1(config)#no log destination syslog 10.1.2.3 exclude isisGeneral
```

- Example 5—The first command causes the isisGeneral event category to be excluded from logging to system log at 10.1.2.3. The second command causes ospfGeneral to also be excluded from logging.

```
host1(config)#log destination syslog 10.1.2.3 exclude isisGeneral
host1(config)#log destination syslog 10.1.2.3 exclude ospfGeneral
```

- Example 6—The first command causes the isisGeneral event category to be excluded from logging to system log at 10.1.2.3; all other events are logged. The second command overrides the first and causes the exclusion of all events except ospfGeneral.

```
host1(config)#log destination syslog 10.1.2.3 exclude isisGeneral
host1(config)#log destination syslog 10.1.2.3 include ospfGeneral
```

- Use the **no** version to reverse the effects of previous commands or restore the default, which is to log all event categories.
- See log destination.

log destination syslog source

- Use to specify a source interface type and location for events logged to system log at the specified IP address.
- Overrides the actual source interface type and location. The IP address associated with the specified source interface is used as the source address for subsequent system log messages.
- Example

```
host1(config)#log destination syslog 10.1.2.3 source atm 0/1
```

- Use the **no** version to restore the actual source interface type and location.
- See log destination syslog source.

log engineering

- Use to enable engineering logs.
- Provides troubleshooting information to assist you when contacting Juniper Networks Technical Assistance Center (JTAC).
- Example

```
host1(config)#log engineering
```

- Use the **no** form of this command to disable engineering logs.
- See log engineering.

log fields

- Use to select fields to be added to all logs. These fields include a timestamp for the message, an instance identifier, and the name of the internal software application that created the message.
- Example

```
host1(config)#log fields timestamp instance no-calling-task
```

- Use the **no** version to restore the default log field settings.
- See log fields.

- log here**
- Use to enable logs destined for a console to be displayed at the current console.
 - By default, the local console automatically receives all log messages if console is a destination. The exception is the cliCommand log, whose log events do not appear on the console.
 - By default, Telnet consoles do not receive log messages.
 - Example

```
host1#log here
```

- Use the **no** version to disable logs destined for a console from being displayed on this console.
- See log here.

- log severity**
- Use to set the severity level for systemwide logs (that is, when you do not specify an individual event category) or for a specific event category. For a list of severity values, see Table 3 on page 4.



NOTE: Assigning a log severity to an individual event category changes its state to Assigned. You cannot change the severity of that event category using systemwide level commands until you return the event category to its default, unassigned state with the **no log severity** command.

- If you do not specify a category, the severity value changes for all categories except individual categories for which you previously set a specific severity level. See “Configuring Log Severity for Individual and Systemwide Logs” on page 10 for details.
- Each event category has its own default severity value. For most categories, the default is Error.
- To disable all *default* level log messages, use the **off** keyword without specifying an event category.
- To disable individual level log messages, use the **off** keyword and specify the event category that you want to disable.
- Example

```
host1(config)#log severity warning
```

- Use the **no** version to return the systemwide (when assigned) or default severity values to event categories.
- Use the **no** version with an * (asterisk) to return all event categories (modified either systemwide or individually) to their default severity setting. For example:

```
host1(config)#no log severity *
```

- See log severity.

- log unlimited**
 - Use to remove the limit on the number of outstanding buffers for an event category, such as when the system is dropping logs of a particular category.
 - Example


```
host1(config)#log unlimited qos
```
 - Use the **no** version to return to the default value.
 - See log unlimited.

- log verbosity**
 - Use to set the verbosity level for a selected category or for all categories.
 - If you do not specify a category, then the verbosity level is set for all categories.
 - The default verbosity setting for all logs is low.
 - Example


```
host1(config)#log verbosity low
```
 - Use the **no** version to return to the default verbosity (low) for the selected category.
 - See log verbosity.

Configuring Log Severity for Individual and Systemwide Logs

You can change the severity setting for *individual* logs and the *systemwide* value.

When working with log severities, keep the following in mind:

- All log event categories have a default. However, the default values can vary for each category. For example, most event categories have a default severity of Error. However, some event categories may have a default severity of Notice, Warning, Info, and so on.
- Log event categories have two states—unassigned (default) and assigned. How a log event category reacts to the **log severity** command depends on its current state.
- You can change log severities for event categories at a systemwide level or an individual level. Systemwide changes are those that modify a large number of unassigned event categories at one time; for example, the command **log severity debug off**. Individual changes are those that indicate an explicit event category that you want to change; for example, the command **log severity notice cli command**.
- Changes to log event categories at an individual level take precedence over those made at the systemwide level.
- Changes to log event categories at the systemwide level take precedence over the default.
- Assigning a log severity to an individual event category changes its state to Assigned. This means that you cannot change the severity of that event category

using systemwide level commands until you return the event category to its default, unassigned state by using the **no log severity *eventCategory*** command.

- To return all logs, systemwide and individual, to their default, unassigned severity level, use the **no log severity *** command.
- To see whether individual or systemwide severity and verbosity settings are in effect, use the **show log configuration** command.

Example The following example demonstrates the effects of event category state in regard to using systemwide commands:

1. In Configuration mode and having made no changes to the severity settings of any event categories, view the log configuration:

```
host1(config)#run show log config
log destination console severity WARNING
log destination nv-file severity CRITICAL
log destination syslog 10.10.4.240 facility 7 severity DEBUG
no log engineering
log fields timestamp instance no-calling-task
no log here
```

```
Warning: Logging to this terminal is disabled
no log severity
```

category	severity	verbosity	filters	notes
-----	-----	-----	-----	-----
aaaAtm1483Cfg	ERROR	low		
aaaEngineGeneral	ERROR	low		
aaaServerGeneral	ERROR	low		
aaaUserAccess	ERROR	low		
addressServerGeneral	ERROR	low		
ar1AaaServerGeneral	ERROR	low		
atm	ERROR	low		
atm1483	ERROR	low		
atmAa15	ERROR	low		

Notice that the atm event category has a default severity of Error.

2. Change all event categories to Warning, systemwide, and view the log configuration:

```
host1(config)#log severity warning
host1(config)#run show log config
log destination console severity WARNING
log destination nv-file severity CRITICAL
log destination syslog 10.10.4.240 facility 7 severity DEBUG
no log engineering
log fields timestamp instance no-calling-task
no log here
```

```
Warning: Logging to this terminal is disabled
log severity WARNING
```

category	severity	verbosity	filters	notes
-----	-----	-----	-----	-----
aaaAtm1483Cfg	WARNING	low		1
aaaEngineGeneral	WARNING	low		1

aaaServerGeneral	WARNING	low	1
aaaUserAccess	WARNING	low	1
addressServerGeneral	WARNING	low	1
ar1AaaServerGeneral	WARNING	low	1
atm	WARNING	low	1
atm1483	WARNING	low	1
atmAa15	WARNING	low	1

3. Change the atm category to have a log severity of Emergency and view the log configuration:

```
host1(config)#log severity emergency atm
host1(config)#run show log config
log destination console severity WARNING
log destination nv-file severity CRITICAL
log destination syslog 10.10.4.240 facility 7 severity DEBUG
no log engineering
log fields timestamp instance no-calling-task
no log here
```

Warning: Logging to this terminal is disabled
log severity WARNING

category	severity	verbosity	filters	notes
-----	-----	-----	-----	-----
aaaAtm1483Cfg	WARNING	low		1
aaaEngineGeneral	WARNING	low		1
aaaServerGeneral	WARNING	low		1
aaaUserAccess	WARNING	low		1
addressServerGeneral	WARNING	low		1
ar1AaaServerGeneral	WARNING	low		1
atm	EMERGENCY	low		2
atm1483	WARNING	low		1
atmAa15	WARNING	low		1

4. Change all event categories to Alert, systemwide, and view the log configuration:

```
host1(config)#log severity alert
host1(config)#run show log config
log destination console severity WARNING
log destination nv-file severity CRITICAL
log destination syslog 10.10.4.240 facility 7 severity DEBUG
no log engineering
log fields timestamp instance no-calling-task
no log here
```

Warning: Logging to this terminal is disabled
log severity ALERT

category	severity	verbosity	filters	notes
-----	-----	-----	-----	-----
aaaAtm1483Cfg	ALERT	low		1
aaaEngineGeneral	ALERT	low		1
aaaServerGeneral	ALERT	low		1
aaaUserAccess	ALERT	low		1
addressServerGeneral	ALERT	low		1
ar1AaaServerGeneral	ALERT	low		1
atm	EMERGENCY	low		2
atm1483	ALERT	low		1
atmAa15	ALERT	low		1

Notice that the atm event category that you individually assigned in Step 3 does not change.

5. Turn off log notification, systemwide, and view the log configuration:

```
host1(config)#log severity off
host1(config)#run show log config
log destination console severity WARNING
log destination nv-file severity CRITICAL
log destination syslog 10.10.4.240 facility 7 severity DEBUG
no log engineering
log fields timestamp instance no-calling-task
no log here
```

```
Warning: Logging to this terminal is disabled
log severity OFF
```

category	severity	verbosity	filters	notes
-----	-----	-----	-----	-----
aaaAtm1483Cfg	OFF	low		1
aaaEngineGeneral	OFF	low		1
aaaServerGeneral	OFF	low		1
aaaUserAccess	OFF	low		1
addressServerGeneral	OFF	low		1
ar1AaaServerGeneral	OFF	low		1
atm	EMERGENCY	low		2
atm1483	OFF	low		1
atmAa15	OFF	low		1

Notice that the atm event category does not change.

6. Remove the assigned status of the atm event category and view the log configuration:

```
host1(config)#no log severity atm
host1(config)#run show log config
log destination console severity WARNING
log destination nv-file severity CRITICAL
log destination syslog 10.10.4.240 facility 7 severity DEBUG
no log engineering
log fields timestamp instance no-calling-task
no log here
```

```
Warning: Logging to this terminal is disabled
log severity OFF
```

category	severity	verbosity	filters	notes
-----	-----	-----	-----	-----
aaaAtm1483Cfg	OFF	low		1
aaaEngineGeneral	OFF	low		1
aaaServerGeneral	OFF	low		1
aaaUserAccess	OFF	low		1
addressServerGeneral	OFF	low		1
ar1AaaServerGeneral	OFF	low		1
atm	OFF	low		1
atm1483	OFF	low		1
atmAa15	OFF	low		1

Notice that the atm event category follows the systemwide severity level of OFF. The systemwide setting takes precedence over the atm event category default of Error.

7. Change all event categories, systemwide, to their default/unassigned levels, and view the log configuration:

```
host1(config)#no log severity *
Please wait....
host1(config)#run show log config
log destination console severity WARNING
log destination nv-file severity CRITICAL
log destination syslog 10.10.4.240 facility 7 severity DEBUG
no log engineering
log fields timestamp instance no-calling-task
no log here
```

```
Warning: Logging to this terminal is disabled
no log severity
```

category	severity	verbosity	filters	notes
-----	-----	-----	-----	-----
aaaAtm1483Cfg	ERROR	low		
aaaEngineGeneral	ERROR	low		
aaaServerGeneral	ERROR	low		
aaaUserAccess	ERROR	low		
addressServerGeneral	ERROR	low		
ar1AaaServerGeneral	ERROR	low		
atm	ERROR	low		
atm1483	ERROR	low		
atmAa15	ERROR	low		

Configuring Log Verbosity for Individual Logs or All Logs

The default verbosity setting for all logs is low. To change the logging verbosity of an individual log, specify a category when you enter the **log verbosity** command. To change the log verbosity of every log, do not specify an event category when you enter the **log verbosity** command. However, after you enter the **log verbosity** command without specifying a particular event category, all logs are set to the new verbosity. No log verbosity overrides are saved.

Example The following example sets all log categories to verbosity medium, and then it sets the verbosity level for ds3 events to high.

```
host1(config)#log verbosity medium
host1(config)#log verbosity high ds3
```

Setting the Timestamp for Log Messages

You can use the **service timestamps** command to format timestamps for log messages. By default, log messages display universal coordinated time (UTC) without the time zone.

The following examples illustrate how you can change the timestamp on log messages.

- Set the time zone to eastern daylight time (EDT), 5 hours behind UTC, and display the local time on the log messages.

```
host1(config)#clock timezone EDT -5
```

- Display UTC, but no time zone, on the log messages.

```
host1(config)#service timestamps log datetime
host1#exit
host1#show log data category cliCommand severity info
*****
NOTICE 05/14/2001 18:24:49 cliCommand: "configure terminal", console
NOTICE 05/14/2001 18:24:45 cliCommand: "service timestamps log datetime",
console
*****
```

- Display UTC and the time zone on the log messages.

```
host1#configure terminal
host1(config)#service timestamps log datetime show-timezone
host1(config)#exit
host1#show log data category cliCommand severity info
*****
NOTICE 05/14/2001 18:28:45 UTC EDT cliCommand: "configure terminal",
console
NOTICE 05/14/2001 18:28:42 UTC EDT cliCommand: "service timestamps log
datetime show-timezone", console
*****
```

- Display no timestamp on the log messages.

```
host1#configure terminal
host1(config)#no service timestamps
host1#exit
host1#show log data category cliCommand severity info
*****
NOTICE 134 cliCommand: "configure terminal", console
NOTICE 133 cliCommand: "no service timestamps", console
*****
```

- service timestamps**
- Use to format timestamps for log messages.
 - For information about setting local times and time zones, see *JUNOS System Basics Configuration Guide*.
 - The **show log data** command displays the log data with the current timestamp format.
 - The **show log data nv-file** command displays the log data with the timestamp format in effect at the time the log record was written.
 - Use the **no** version to remove timestamps from log messages.
 - See service timestamps.

Configuring Log Filters

Many event categories contain filters so you can further refine the type of information that the system logs. For example, when logging BGP connections, you can limit the information logged to a specific access class, peer, route map, or virtual router.

You define filters when you set the log severity for an event category. The online Help shows the options you can set for each filter.



NOTE: You can use the packet flow monitoring feature to create user-defined classification parameters that specify the packet data that is logged. See Packet Tagging Overview.

The following example creates a filter that logs BGP connection information at the debug severity level on traffic that matches access list ListOne, and is incoming traffic to virtual router default.

```
host1(config)# log severity debug bgpevents ?
  access-class  Select an access list for the filter
  in            Select import/in direction for the filter
  out          Select export/out direction for the filter
  peer         Select a peer IP address for the filter
  route-map    Select a route map for the filter
  router       Identify an instance of a virtual router
  <cr>
host1(config)# log severity debug bgpevents access-class ?
  WORD The access list
host1(config)# log severity debug bgpevents access-class ListOne ?
  filtering-router Identify virtual router where access-class/route-map are defined
  in              Select import/in direction for the filter
  out            Select export/out direction for the filter
  route-map      Select a route map for the filter
  <cr>
host1(config)# log severity debug bgpevents access-class ListOne route-map ?
  WORD The route map
host1(config)# log severity debug bgpevents access-class ListOne route-map default ?
  filtering-router Identify virtual router where access-class/route-map are defined
  in              Select import/in direction for the filter
  out            Select export/out direction for the filter
  <cr>
host1(config)# log severity debug bgpevents access-class ListOne route-map default in
```

The next example limits the logging of PPP debug events to traffic to or from the POS interface in slot 2/0.

```
host1(config)# log severity debug ppp ?
  atm          Specify an ATM PPP interface
  fastEthernet Specify a fastEthernet interface
  gigabitEthernet Specify a gigabitEthernet interface
  mlppp        Specify an MLPPP network interface
  pos          Specify a POS PPP interface
  serial       Specify a serial PPP interface
```



```
<cr>
host1(config)#log severity debug ppp pos 2/0
```

To obtain a list of the filters available in each event category, see “Event Categories” on page 23 .

Turning Off Log Filters

You can turn off filters in three ways:

- Turn off all filters
- Turn off all filters for an event category
- Turn off a specific filter

To turn off all filters:

```
host1(config)#no log filters
```

To turn off all filters for an event category, use the **no** version of the **log severity** command along with the category name. For example:

```
host1(config)#no log severity bgpEvents filters
```

To turn off a specific filter, use the **no** version of the **log severity** command that you used to add the filter. For example:

```
host1(config)#no log severity bgpEvents peer 10.0.0.2 10.0.0.1
```

- no log filters**
- Use to turn off log filters.
 - To turn off all filters for an event category, specify the category name.
 - Example

```
host1(config)#no log filters
```

- To turn off a specific filter, use the **no** version of the **log severity** command that you used to add the filter.
- See no log filters.

Monitoring Logging System Events

Use the **show log configuration** command to display your log configuration. Use the **show log data** command to display system events on your screen.

You can use the output filtering feature of the **show** command to include or exclude lines of output based on a text string you specify. See *show Commands* in *JUNOS System Basics Configuration Guide* for details.

show log configuration ■ Use to show the logging configuration on your system.

■ Example 1—Factory defaults are set

```
host1#show log configuration
```

```
log destination console severity WARNING
log destination nv-file severity CRITICAL
no log engineering
log fields timestamp instance no-calling-task
no log severity
```

category	severity	verbosity	filters
-----	-----	-----	-----
NameResolverLog	ERROR	low	
aaaAtm1483Cfg	ERROR	low	
aaaEngineGeneral	ERROR	low	
aaaServerGeneral	ERROR	low	
addressServerGeneral	ERROR	low	
atm	ERROR	low	
atm1483	ERROR	low	
atmAa15	ERROR	low	
bgpConnections	ERROR	low	
...			
cliCommand	NOTICE	low	
controlNetworkSlave	ERROR	low	
cops	ERROR	low	
...			
udpTraffic	ERROR	low	

■ Example 2—Individual log **udpTraffic** is set to warning

```
host1#(config)#log severity warning udpTraffic
```

```
host1##show log configuration
```

```
log destination console severity WARNING
log destination nv-file severity CRITICAL
no log engineering
log fields timestamp instance no-calling-task
no log severity
```

category	severity	verbosity	filters
-----	-----	-----	-----
NameResolverLog	ERROR	low	
aaaAtm1483Cfg	ERROR	low	
aaaEngineGeneral	ERROR	low	
aaaServerGeneral	ERROR	low	
addressServerGeneral	ERROR	low	
atm	ERROR	low	
atm1483	ERROR	low	
atmAa15	ERROR	low	
bgpConnections	ERROR	low	
...			
cliCommand	NOTICE	low	
controlNetworkSlave	ERROR	low	
cops	ERROR	low	
...			
udpTraffic	WARNING*	low	

* Default severity setting is overridden by the individual log severity setting.

■ Example 3—Log severity is set to alert

```
host1#(config)#log severity alert
host1#show log configuration
log destination console severity WARNING
log destination nv-file severity CRITICAL
no log engineering
log fields timestamp instance no-calling-task
log severity ALERT
```

category	severity	verbosity	filters
NameResolverLog	ALERT#	low	
aaaAtm1483Cfg	ALERT#	low	
aaaEngineGeneral	ALERT#	low	
aaaServerGeneral	ALERT#	low	
addressServerGeneral	ALERT#	low	
atm	ALERT#	low	
atm1483	ALERT#	low	
atmAa15	ALERT#	low	
bgpConnections	ALERT#	low	
...			
cliCommand	ALERT#	low	
controlNetworkSlave	ALERT#	low	
cops	ALERT#	low	
...			
udpTraffic	ALERT#	low	

* Default severity setting is overridden by the system-wide severity setting.

■ Example 4—Individual log **atm** is set to severity warning

```
host1#(config)#log severity warning atm
host1#show log configuration
log destination console severity WARNING
log destination nv-file severity CRITICAL
no log engineering
log fields timestamp instance no-calling-task
log severity ALERT
```

category	severity	verbosity	filters
NameResolverLog	ALERT#	low	
aaaAtm1483Cfg	ALERT#	low	
aaaEngineGeneral	ALERT#	low	
aaaServerGeneral	ALERT#	low	
addressServerGeneral	ALERT#	low	
atm	WARNING*	low	
atm1483	ALERT#	low	
atmAa15	ALERT#	low	
bgpConnections	ALERT#	low	
...			
cliCommand	ALERT#	low	
controlNetworkSlave	ALERT#	low	
cops	ALERT#	low	
...			
udpTraffic	ALERT#	low	

* Default severity setting is overridden by the system-wide severity setting.

* Default severity setting is overridden by the individual log severity setting.

- See show log configuration.

show log data ■ Use to display system events.

- Use keywords to select which events are displayed:
 - **category**—Limits the display to a single log event category. See the CLI online Help for available categories.
 - Example

```
host1#show log data category os
```

- **delta**—Limits the display to events that occurred after the time set with the log baseline command.
- **nv-file**—Displays the information that is currently logged to nonvolatile storage.
 - Example

```
host1# show log data nv-file
logFile.temp: The system cannot find the file specified.
ALERT 09/12/2000 21:29:17 os: ASSERTION FAILED: file mplsNvs2.cc, line
789
ALERT 09/20/2000 02:18:06 os: ASSERTION FAILED: file osPool.cc, line 819
ALERT 09/20/2000 02:26:35 os: ASSERTION FAILED: file osPool.cc, line 819
ALERT 09/20/2000 02:44:33 os: ASSERTION FAILED: file osPool.cc, line 819
ALERT 09/20/2000 04:56:35 os: ASSERTION FAILED: file osPool.cc, line 819
ALERT 09/27/2000 03:10:25 os: ASSERTION FAILED: file
/sw0/sc/nvs/include/./nvMapBackend.h, line 235
ALERT 10/02/2000 04:05:42 os: ASSERTION FAILED: file osHeap.cc, line 439
ALERT 10/02/2000 04:08:04 os: ASSERTION FAILED: file osMessageQueue.cc,
line
42, rip1
ALERT 10/12/2000 03:43:38 os: PANIC: file osSemaphore.cc, line 54
ALERT 11/01/2000 02:03:49 os: ASSERTION FAILED: file cliCommand.cc, line
195
```

- **severity**—Displays events that have a specific severity level.

- Example

```
host1# show log data severity notice
NOTICE 01/10/2001 00:59:50 os: config -- using running
NOTICE 01/10/2001 00:59:52 os: srp application, build date: 0x3a437424 (FRI DEC 22 2000 15:32:52 UTC)
NOTICE 01/10/2001 00:59:52 os: last reset: user reboot, reason: not specified
NOTICE 01/10/2001 00:59:52 os: OsIsrRegistrar: 0xb
NOTICE 01/10/2001 00:59:52 os: OsIsrRegistrar: 0xa
NOTICE 01/10/2001 00:59:52 os: OsIsrRegistrar: 0x2
```

- By combining keywords, you can further limit the information displayed. See the CLI online Help for information about the keywords available at each level.

```
host1#show log data nv-file severity alert
```

- See show log data.

Chapter 2

Event Categories

This chapter lists each event category in the system software. To help you determine the severity level to set when troubleshooting, the log strategy for each event category is included. The log strategy shows the type of information logged for each severity level. In addition, this chapter includes the filters available in each event category.

Part 2

Event Categories

- A Commands on page 27
- B Commands on page 35
- C Commands on page 51
- D Commands on page 57
- E Commands on page 79
- F Commands on page 81
- G and H Commands on page 87
- I Commands on page 91
- L Commands on page 129
- M Commands on page 145
- N Commands on page 165
- O Commands on page 169
- P Commands on page 193
- Q Commands on page 215
- R Commands on page 217
- S Commands on page 231
- T Commands on page 249
- U Commands on page 257
- V Commands on page 259

Chapter 3

A Commands

- aaaAtm1483Cfg on page 27
- aaaEngineGeneral on page 28
- aaaQosCfg on page 28
- aaaServerGeneral on page 29
- aaaUserAccess on page 29
- addressServerGeneral on page 30
- ar1AaaServerGeneral on page 30
- atm on page 31
- atm1483 on page 32
- atm1483VcClass on page 32
- atmAal5 on page 33
- atmVcClass on page 33
- auditIpsec on page 34

aaaAtm1483Cfg

Description	AAA ATM 1483 subinterface configuration
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Illegal service category traffic parameter received from AAA; unable to modify circuit traffic parameters using those received from AAA
Notice Log	None
Info	None

Debug Notification from AAA indicating that an ATM 1483 subinterface configuration is available; ATM 1483 processing configuration received from AAA; unable to get ATM 1483 subinterface information; number of ATM 1483 configuration entries is out of range

Filter None

aaaEngineGeneral

Description AAA engine general

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log Control flow and key events, less verbose than debug

Info None

Debug Control flow and key events

Filter None

aaaQosCfg

Description AAA QoS configuration logs

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log	None
Info	None
Debug	AAA QoS configuration tracking
Filter	None

aaaServerGeneral

Description	AAA server general
Emergency	None
Alert	None
Critical	None
Error	Subscriber count exceeds license plus grace; internal attachment errors
Warning Log	Subscriber count exceeds license; cannot grow internal memory pools; accounting message failures; the Framed-IPv6-Prefix RADIUS attribute is used for both IPv6 Neighbor Discovery router advertisements and DHCPv6 Prefix Delegation.
Notice Log	Authentication failures resulting from memory allocation failures
Info	None
Debug	Authentication failures resulting from reasons other than memory allocation failures; status of authentication; accounting and address assignment requests sent to local (internal) servers; duplicate accounting message failures; EAP challenge received; memory allocation failure for tunnel definition table and profile; failed to insert tunnel attribute and tunnel tag table; container size exceeded: creating new; found unexpected tunnel table
Filter	None

aaaUserAccess

Description	AAA user access
Emergency	None
Alert	None

Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	User is granted or denied access
Debug	None
Filter	None

addressServerGeneral

Description	Address server general
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Address server request failure (for example, configured address server is not available)
Notice Log	None
Info	None
Debug	None
Filter	None

ar1AaaServerGeneral

Description	Platform-dependent AAA server
Emergency	None

Alert	None
Critical	None
Error	Internal (NVS) errors for limit configuration per interface
Warning Log	None
Notice Log	None
Info	None
Debug	Interface information insufficient to identify the user's interface location
Filter	None

atm

Description	ATM interface
Emergency	None
Alert	None
Critical	None
Error	Unable to reenble ILMI administrative state after UNI version change
Warning Log	Error getting location of underlying physical interface; error binding or unbinding to physical interface; error allocating memory for new interface; error setting system identifier; error adding or configuring an interface; error getting capabilities of interface; error getting maximum VPI/VCI for interface; error getting maximum virtual circuit descriptor for interface; unable to store or allocate memory for F4 OAM circuit data; unable to configure F4 OAM circuit for interface
Notice Log	Interface pool expanded by an incremental number of entries; report retry delay in seconds when waiting for the underlying physical interface to be created; unable to allocate a message to send an interface up or down notification; unable to add or configure interface
Info	Dropping interface up, down, or not present notification due to removal of interface; discarding F4 OAM circuits when interface does not support F4 OAM
Debug	None

Filter None

atm1483

Description ATM 1483 data service

Emergency None

Alert None

Critical None

Error Error applying static map entry for a newly created circuit of an NBMA interface; unable to configure interfaces on ATM interface; unable to determine interface location for ATM AAL5 interface; unable to determine maximum interface configuration count for interface; unable to configure interface on ATM interface

Warning Log Error getting location of underlying AAL5 or ATM interface; error binding to AAL5 interface; error opening a circuit for an NBMA interface; attempting to associate a static map to an underlying ATM interface that does not exist; error restoring circuits from NVS; error removing static map entry; NVS entry not found for static map entry; error storing static map entry in NVS; error expanding interface pool, interface binding pool, or subscriber pool

Notice Log Interface pool, interface binding pool, or subscriber pool expanded by an incremental number of entries; unable to allocate a message to send a subinterface up or down notification

Info Dropping subinterface up or down notification due to removal of subinterface; configure interfaces on ATM interface; elapsed time for downloading interfaces; elapsed time for ATM AAL5 present notification; maximum interface count per call

Debug None

Filter None

atm1483VcClass

Description Application of attributes configured in a virtual circuit (VC) class to PVCs

Emergency None

Alert None

Critical None

Error	In routers with high availability enabled, failure to mirror the VC modification or failure to associate the VC modification with the standby SRP module
Warning Log	Failure to find the PVCs associated with this VC class; failure to apply the VC class attributes to the appropriate PVCs; the log message displays a brief description of the failure
Notice Log	None
Info	None
Debug	None
Filter	None

atmAal5

Description	ATM Adaptation Layer 5
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Error getting location of underlying ATM interface; error binding to ATM interface; unable to expand interface pool; error creating interface; unable to set administrative status of interface
Notice Log	Interface pool expanded by an incremental number of entries; report retry delay in seconds when waiting for the underlying ATM interface to be created; unable to allocate a message to send an interface up or down notification
Info	Dropping interface up or down notification due to removal of interface
Debug	None
Filter	None

atmVcClass

Description	Information on VC class operational errors
--------------------	--

Emergency None

Alert None

Critical None

Error Resource failure errors, such as error allocating memory for adding a VC class; internal software errors; error processing a VC class association; when using SNMP, unable to set a VC class state from not in service to in service, or vice-versa; unable to find an existing VC class in the internal data structure; unable to complete processing after a high availability switchover

Warning Log None

Notice Log None

Info None

Debug Unable to update mirrored storage for a high availability switchover

Filter None

auditIpsec

Description IKE SA negotiations

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log Information about IKE SA negotiation payloads

Info None

Debug None

Filter None

Chapter 4

B Commands

- bfdAdaptivity on page 35
- bfdEvents on page 36
- bfdGeneral on page 36
- bfdSession on page 37
- bgpConnections on page 37
- bgpDampening on page 38
- bgpEvents on page 39
- bgpGeneral on page 40
- bgpGracefulRestart on page 41
- bgpIpv6NextHops on page 42
- bgpKeepAlives on page 42
- bgpMessages on page 43
- bgpNeighborChanges on page 44
- bgpNextHops on page 45
- bgpRoutes on page 45
- bridge on page 48
- bridgeEngine on page 49
- bridgingMgr on page 49
- bulkStats on page 50

bfdAdaptivity

Description BFD adaptivity events

Emergency None

Alert None

Critical None

Error	None
Warning Log	None
Notice Log	None
Info	BFD session adaptivity events
Debug	BFD session adaptivity events
Filter	None

bfdEvents

Description	BFD Events
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	BFD session state changes
Debug	None
Filter	None

bfdGeneral

Description	BFD general events
Emergency	None
Alert	None

Critical	None
Error	None
Warning Log	None
Notice Log	BFD enabled/disabled on an interface from a client
Info	None
Debug	None
Filter	None

bfdSession

Description	BFD session events
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Unknown BFD session
Notice Log	Session state changes
Info	Session parameter changes
Debug	None
Filter	None

bgpConnections

Description	BGP TCP/IP connection activity
Emergency	None

Alert	None
Critical	None
Error	Error setting password for specified peer; error binding to update-source address for specified peer
Warning Log	TCP error occurred while receiving data
Notice Log	Outbound TCP connection initiated, completed, or failed; inbound TCP connection accepted, refused, or failed; TCP connection closed by peer
Info	None
Debug	TCP connection is ready to send; data received on TCP connection; notification message sent; could not send notification message due to flow control—will retry later; error while sending notification message; keepalive message sent; could not send keepalive message due to flow control—will retry later; error while sending keepalive message; message other than notification or keepalive sent; could not send other message than notification or keepalive due to flow control—will retry later; error while sending other message than notification or keepalive
Filter 1	access-class—This filter is not currently supported
Filter 2	peer—See description of the bgpRoutes peer filter for information about this filter
Filter 3	route-map—This filter is not currently supported
Filter 4	router—See description of the bgpRoutes router filter for information about this filter
Filter 5	in—This filter is not currently supported
Filter 6	out—This filter is not currently supported

bgpDampening

Description	BGP dampening
Emergency	None
Alert	None
Critical	None

Error	None
Warning Log	None
Notice Log	Route is suppressed by route-flap dampening; route is no longer suppressed by route-flap dampening
Info	None
Debug	None
Filter 1	access-class—This filter is not currently supported
Filter 2	peer—See description of the bgpRoutes peer filter for information about this filter
Filter 3	route-map—This filter is not currently supported
Filter 4	router—See description of the bgpRoutes router filter for information about this filter
Filter 5	in—This filter is not currently supported
Filter 6	out—This filter is not currently supported

bgpEvents

Description	BGP finite state machine (FSM) events and transitions
Emergency	None
Alert	None
Critical	None
Error	Event occurred that was not expected for current state
Warning Log	None
Notice Log	One of the following events occurred: start, stop, inbound-connection-arrived, outbound-connection-complete, connection-error, connection-closed, start-timer-expired, connect-timer-expired, hold-timer-expired, keep-alive-timer-expired, open-received, update-received, keep-alive-received, notification-received, route-refresh, route-refresh-cisco
Info	None

Debug None

Filter 1 access-class—This filter is not currently supported

Filter 2 peer—See description of the bgpRoutes peer filter for information about this filter

Filter 3 route-map—This filter is not currently supported

Filter 4 router—See description of the bgpRoutes router filter for information about this filter

Filter 5 in—This filter is not currently supported

Filter 6 out—This filter is not currently supported

bgpGeneral

Description BGP general information

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log BGP IPv4 route-target-signaling address family enabled or disabled; making local route to multihomed site less preferred (local-preference < >) because down bit is set

Info None

Debug Setting local preference to < > for redistributed route of layer2 site

Filter 1 access-class—This filter is not currently supported

Filter 2 peer—See description of the bgpRoutes peer filter for information about this filter

Filter 3 route-map—This filter is not currently supported

Filter 4 router—See description of the bgpRoutes router filter for information about this filter

Filter 5 in—This filter is not currently supported

Filter 6 out—This filter is not currently supported

bgpGracefulRestart

Description BGP Graceful Restart Feature log

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log Log BGP performed or did not perform a graceful restart; router supports or does not support non-stop forwarding; router is capable of switching gracefully, deferring, or resuming best path selection decision process; BGP routes allowed or prevented from being downloaded to line cards; graceful-restart timer expiration; marking or removing stale routes; waiting to receive end-of-rib marker from peer; received end-of-rib marker from all peers

Info None

Debug Standby SRP will wait for BGP convergence on next restart

Filter 1 access-class—This filter is not currently supported

Filter 2 peer—This filter is not currently supported

Filter 3 route-map—This filter is not currently supported

Filter 4 router—See description of the bgpRoutes router filter for information about this filter

Filter 5 in—This filter is not currently supported

Filter 6 out—This filter is not currently supported

bgpIpv6NextHops

Description	BGP indirect next-hops for IPv6 NLRI
Emergency	None
Alert	None
Critical	None
Error	Errors in BGP IPv6 next hop events and state transitions
Warning Log	None
Notice Log	State transitions of BGP IPv6 next hops
Info	None
Debug	BGP IPv6 indirect next-hop events
Filter 1	router—See description of the bgpRoutes router filter for information about this filter
Filter 2	remote-ipv6-address—Matches on the IPv6 address of the BGP indirect next-hop

bgpKeepAlives

Description	BGP keepalive messages
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Keepalive message received with unexpected additional data after header
Notice Log	Keepalive message received; keepalive message sent
Info	None

Debug None

Filter 1 access-class—This filter is not currently supported

Filter 2 peer—See description of the bgpRoutes peer filter for information about this filter

Filter 3 route-map—This filter is not currently supported

Filter 4 router—See description of the bgpRoutes router filter for information about this filter

Filter 5 in—Matches on traffic coming into the router

Filter 6 out—Matches on traffic going out of the router



NOTE: Send messages are logged to the bgpKeepAlives log when a message is added to the send queue. A debug message is logged in to the bgpConnections log when the message is actually passed to TCP.

bgpMessages

Description BGP protocol messages

Emergency None

Alert None

Critical None

Error None

Warning Log Unknown message type received; invalid field in received message; notification message received or sent; invalid capability length in received ORF capability; invalid capability value in received ORF capability; invalid ORF in received ORF capability; ORF entries exceeded maximum limit in received prefix list

Notice Log Open message received or sent; update message received or sent; route-refresh message received or sent; route-refresh-cisco message received or sent; received ORF capability; received route refresh message with ORF entries

Info None

Debug Keepalive message received or sent (Full decode of message logged if verbosity is high)



NOTE: Send messages are logged to the bgpMessages log when a message is added to the send queue. A debug message is logged to the bgpConnections log when the message is actually passed to TCP.

- Filter 1** access-class—This filter is not currently supported
- Filter 2** peer—See description of the bgpRoutes peer filter for information about this filter
- Filter 3** route-map—This filter is not currently supported
- Filter 4** router—See description of the bgpRoutes router filter for information about this filter
- Filter 5** in—Matches on traffic coming into the router
- Filter 6** out—Matches on traffic going out of the router

bgpNeighborChanges

Description	BGP neighbor change
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	A peer has entered into or left the established state; reason for a session going idle
Info	None
Debug	None
Filter 1	access-class—This filter is not currently supported
Filter 2	peer—See description of the bgpRoutes peer filter for information about this filter
Filter 3	route-map—This filter is not currently supported

Filter 4 router—See description of the bgpRoutes router filter for information about this filter

Filter 5 in—This filter is not currently supported

Filter 6 out—This filter is not currently supported

bgpNextHops

Description VPN and non-VPN BGP indirect next hops

Emergency None

Alert None

Critical None

Error Errors in BGP next hop events and state transitions

Warning Log None

Notice Log State transitions of BGP next hops

Info None

Debug BGP indirect next-hop events

Filter 1 access-class—This filter is not currently supported

Filter 2 peer—See description of the bgpRoutes peer filter for information about this filter

Filter 3 route-map—This filter is not currently supported

Filter 4 router—See description of the bgpRoutes router filter for information about this filter

Filter 5 in—Matches on traffic coming into the router

Filter 6 out—Matches on traffic going out of the router

bgpRoutes

Description BGP routing table updates

Emergency None

Alert None

Critical None

Error None

Warning Log Failure to add, remove, or modify BGP route in IP forwarding table

Notice Log BGP route added to, removed from, or modified in the IP forwarding table; aggregate route added to, removed from, or modified in Loc-RIB; network route added to, removed from, or modified in Loc-RIB; best route for internal peers for a given prefix became available; best route for internal peers for a given prefix is no longer available, has changed, or has become available; best route for external peers for a given prefix is no longer available, has changed, or has become available; MPLS base tunnel used to reach an indirect next-hop came up or went down; MPLS stacked tunnel for label came up; indirect next-hop became reachable or unreachable; direct next-hop for an indirect next-hop changed; MPLS tunnel for Inter-AS label came up or went down; route added to L2VPN instance; route deleted from L2VPN instance; route modified for L2VPN instance; -VE device for multihomed local layer 2 site 1 changed from *peer* to *peer2*

Info None

Debug Redistributed route added to, removed from, or modified in Loc-RIB; advertisement for a given prefix received; withdraw for a given prefix received; local route-target-filtering route added to or removed from *prefix* in *addressFamily*

Filter 1 `access-class accessClassName [route-map routeMapName routeMapOptions | filtering-router filteringRouterName filteringRouterOptions | in | out]`

- *access-class*—Logs events for traffic that matches a specific access class
- *accessClassName* —Name of the access class for which you want to log events
- *route-map*—Logs events for traffic that matches a specific route map
- *routeMapName*—Name of route map for which you want to log events
- *routeMapOptions*—In the following format—`filtering-router filteringRouterName filteringRouterOptions | in | out`
- *filtering-router*—Logs events only if the access class or route map are defined on a specific virtual router
- *filteringRouterName*—Virtual router where the access class or route map or both are defined
- *filteringRouterOptions*—`in | out`
- *in*—Matches on traffic coming into the access class, route map, or virtual router
- *out*—Matches on traffic sent out of the access class, route map, or virtual router

- Filter 2** `peer peerIpAddress | peerIpv6Address`
`[access-class accessClassName accessClassOptions |`
`route-map routeMapName routeMapOptions |`
`filtering-router filteringRouterName filteringRouterOptions | in | out]`
- `peer`—Logs events for traffic that matches a specific peer
 - `peerIpAddress`—IP address of the peer for which you want to log events
 - `peerIpv6Address`—IPv6 address of the peer for which you want to log events
 - `access-class`—Logs events for traffic that matches a specific access class
 - `accessClassName`—Name of the access class for which you want to log events
 - `accessClassOptions`—In the following format—`filtering-router filteringRouterName filteringRouterOptions | in | out`
 - `route-map`—Logs events for traffic that matches a specific route map
 - `routeMapName`—Name of route map for which you want to log events
 - `routeMapOptions`—In the following format—`filtering-router filteringRouterName filteringRouterOptions | in | out`
 - `filtering-router`—Logs events only if the peer, access class or route map are defined on a specific virtual router
 - `filteringRouterName`—Virtual router where the peer, access class or route map or both are defined
 - `filteringRouterOptions`—`in | out`
 - `in`—Matches on traffic coming into the peer, access class, route map, or virtual router
 - `out`—Matches on traffic sent out of the peer, access class, route map, or virtual router
- Filter 3** `route-map routeMapName`
`[filtering-router filteringRouterName filteringRouterOptions | in | out]`
- `route-map`—Logs events for traffic that matches a specific route map
 - `routeMapName`—Name of route map for which you want to log events
 - `filtering-router`—Logs events only if the route map is defined on a specific virtual router
 - `filteringRouterName`—Virtual router where the route map is defined
 - `filteringRouterOptions`—`in | out`
 - `in`—Matches on traffic coming into the route map or virtual router
 - `out`—Matches on traffic sent out of the route map or virtual router
- Filter 4** `router virtualRouterName [access-class accessClassName accessClassOptions |`
`route-map routeMapName routeMapOptions |`
`filtering-router filteringRouterName filteringRouterOptions |`
`peer peerIpAddress peerOptions | in | out]`

- **router**—Logs events for traffic on a specific virtual router
- **virtualRouterName**—Name of virtual router
- **access-class**—Logs events for traffic that matches a specific access class on the specified router
- **accessClassName**—Name of the access class for which you want to log events
- **accessClassOptions**—In the following format—route-map *routeMapName routeMapOptions* | virtual-router *virtualRouterName virtualRouterOptions* | in | out
- **route-map**—Logs events for traffic that matches a specific route map
- **routeMapName**—Name of route map for which you want to log events
- **routeMapOptions**—In the following format—virtual-router *virtualRouterName virtualRouterOptions* | in | out
- **filtering-router**—Logs events only if the access class or route map is defined on a specific virtual router
- **filteringRouterName**—Virtual router where the access class or route map is defined
- **filteringRouterOptions**—In the following format—in | out
- **peer**—Logs events for traffic that matches a specific peer
- **peerIpAddress**—Address of the peer for which you want to log events
- **peerOptions**—In the following format—access-class *accessClassName accessClassOptions* | filtering-router *filteringRouterName filteringRouterOptions* | route-map *routeMapName routeMapOptions* | in | out
- **in**—Matches on traffic coming into the virtual router, access class, or route map
- **out**—Matches on traffic sent out of the virtual router, access class, or route map

Filter 5 in—Matches on traffic coming into the router

Filter 6 out—Matches on traffic going out of the router

bridge

Description	Bridge group configuration
Emergency	None
Alert	None
Critical	None
Error	Bridge interface, learning, aging, and static MAC address errors

Warning Log	Bridge resources (maximum interfaces, memory exhaustion)
Notice Log	Bridge group interface location availability, operation status, and MTU changes
Info	Bridge group state changes (start, shutdown); bridge interface, learning, aging, and static MAC address modifications
Debug	Verbose bridge interface, learning, aging, and static MAC address configuration and status
Filter	None

bridgeEngine

Description	Bridge engine configuration
Emergency	None
Alert	None
Critical	None
Error	Bridge engine, bridge agent, and bridge interface errors
Warning Log	Bridge engine resources (maximum interfaces, memory exhaustion)
Notice Log	Slot status; bridge interface location availability
Info	Bridge engine and bridge agent state changes (create, start, stop delete); bridge engine, bridge agent, and bridge interface modifications
Debug	Verbose bridge engine, bridge agent, and bridge interface configuration and status
Filter	None

bridgingMgr

Description	Bridging manager configuration
Emergency	None
Alert	None

Critical	None
Error	Bridge mode, bridge group, and subscriber policy errors
Warning Log	Bridging manager resources (maximum bridge groups, maximum subscriber policies, memory exhaustion)
Notice Log	None
Info	Bridging manager operation state changes (init, start, shutdown); bridge mode, bridge group, and subscriber policy modifications
Debug	Verbose bridge mode, bridge group, and subscriber policy configuration and status
Filter	None

bulkStats

Description	Bulk statistics collector
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Operational failures, such as failed transfer–reverting to secondary receiver, file full, file creation failure, file deletion failure
Notice Log	File full or file nearly full conditions, preparing to send an SNMP trap
Info	Status of user configuration commands
Debug	Tracks performance progress of bulkstats application
Filter	None

Chapter 5


C Commands

- cacGeneral on page 51
- cacIntf on page 52
- cliCommand on page 52
- cliGeneral on page 53
- connectionManager on page 53
- cops on page 54
- copsPr on page 54
- coreDump on page 55
- ctreeLog on page 56

cacGeneral

Description	CAC general purpose
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Unusual conditions in IGP/CAC interaction
Notice Log	None
Info	None
Debug	General debugging info
Filter	None

cacIntf

Description	CAC interface events
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Unusual or failure situations in interface processing
Notice Log	None
Info	None
Debug	Interface level debugging info
Filter	interface interfaceType interfaceSpecifier <ul style="list-style-type: none"> ■ interface—Logs events for a specific interface ■ <i>interfaceType</i>—Type of interface on which you want to log events ■ <i>interfaceSpecifier</i>—Location of interface in the appropriate format
	NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in <i>JUNOS Command Reference Guide</i> .

cliCommand

Description	CLI commands
Emergency	None
Alert	None
Critical	None
Error	None

Warning Log	None
Notice Log	All successful CLI configuration commands
Info	All unsuccessful CLI configuration commands; all nonconfiguration commands
Debug	None
Filter	None

cliGeneral

Description	CLI general log
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	CLI command mode from prior release no longer exists; the overridden privilege level command will be discarded
Notice Log	None
Info	None
Debug	None
Filter	None

connectionManager

Description	Logging various conditions in the component that manages the chassis fabric.
Emergency	None
Alert	None
Critical	10G and 5G SRP modules only—Detection that the FPGAs have not been loaded (results in an SRP [and chassis] reset)

Error	10G and 5G SRP modules only—That there is not enough bandwidth for a particular board in the system, that connections could not be added in the fabric due to resource limitations (such as memory), that a board was just removed and the resource will not be needed when this condition is detected momentarily, or that a connection cannot be closed or a multicast destination cannot be dropped.
Warning Log	Cannot connect to a particular source or destination address (board may have just been removed)
Notice Log	A connection that previously could not be closed has now closed; a multicast destination that previously could not be dropped has now been dropped
Info	Various logs to indicate events and transitions for low level diagnosis
Debug	Various logs to indicate events and transitions for low level diagnosis
Filter	None

cops

Description	Common Open Policy Service (COPS) protocol
Emergency	None
Alert	None
Critical	None
Error	COPS message with bad header, version, length, or client
Warning Log	Unexpected socket event
Notice Log	COPS layer enabled or disabled; socket remotely closed
Info	None
Debug	COPS session instantiation or removal; COPS connection or socket creation or deletion; keepalive value
Filter	None

copsPr

Description	COPS-PR general log
--------------------	---------------------

Emergency	None
Alert	None
Critical	None
Error	Error decoding COPS-PR messages received from the SDX program
Warning Log	Outstanding COPS-PR pool allocations while attempting to shut down SSC client; temporary resource allocations while sending COPS-PR messages to SDX program
Notice Log	None
Info	None
Debug	None
Filter	None

coreDump

Description	Core dump events
Emergency	None
Alert	None
Critical	None
Error	Connection errors; file open errors; write failures; core dump failures; transfer errors
Warning Log	Core dump configuration changes due to core dump monitor; core dump monitor memory allocation errors
Notice Log	Successful line card core dump; core dump attempts; core dump progression; core dump monitor checks; core dump monitor transfer completions; core dump monitor dump file deletion
Info	None
Debug	lcLoader creation; dump request receipt; core dump monitor start; core dump monitor stop
Filter	None

ctreeLog

Description	For internal maintenance of IP routes
Emergency	None
Alert	None
Critical	None
Error	Failure in insertion, deletion, and update of IP routes in internal data structure used to maintain the routes
Warning Log	None
Notice Log	None
Info	None
Debug	Creation or deletion of an internal data structure
Filter	None

Chapter 6

D Commands

- dcm on page 58
- dcmEngineGeneral on page 58
- debounceEvents on page 59
- debounceGeneral on page 59
- dhcpCapture on page 60
- dhcpExternal on page 60
- dhcpExternalEngine on page 61
- dhcpGeneral on page 61
- dhcpIssuLog on page 62
- dhcpLocalClients on page 63
- dhcpLocalGeneral on page 63
- dhcpLocalHighAvailability on page 64
- dhcpLocalPool on page 64
- dhcpLocalProtocol on page 65
- dhcpOfferLog on page 66
- dhcpPbeGeneral on page 66
- dhcpProxyGeneral on page 67
- dhcpRelayGeneral on page 67
- dhcpRelayNvWriterGeneral on page 68
- dhcpv6Client on page 68
- dhcpv6DemuxGeneral on page 69
- dhcpv6LsGeneral on page 69
- dismanEventMgr on page 70
- dnsGeneralLog on page 71
- dosProtection on page 71
- ds1 on page 72
- ds3 on page 72
- dvmrpGeneral on page 73
- dvmrpGracefulRestart on page 74

- dvmrpMcastTable on page 75
- dvmrpProbeRcv on page 75
- dvmrpProbeSent on page 76
- dvmrpRtTable on page 76

dcm

Description	Dynamic Configuration Manager
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Schedule engine event; status of dynamic interface creation; receipt of teardown signal for a dynamic interface; no interface adapter to propagate teardown; creation of dynamic PPP interface failed; creation of dynamic PPPoE interface failed
Filter	None

dcmEngineGeneral

Description	DCM engine general
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None

Notice Log	None
Info	None
Debug	Giving notify credits to line module; receipt of request buffer from line module; starting line module communication session; Ack/Nack dynamic interface creation request
Filter	None

debounceEvents

Description	Events causing changes to the upper-layer link status based on Ethernet debounce configuration
Emergency	None
Alert	Debounce preempted; link stabilized to operational up or down status
Critical	None
Error	None
Warning Log	None
Notice Log	Events causing finite state machine transitions
Info	Events not causing finite state machine transitions
Debug	None
Filter	None

debounceGeneral

Description	Ethernet debounce configuration status log
Emergency	None
Alert	None
Critical	None

Error Error in enabling or disabling the debounce timer on the Ethernet interface

Warning Log None

Notice Log Debounce timer enabled or disabled on the Ethernet interface

Info None

Debug None

Filter None

dhcpCapture

Description DHCP packet capture

Emergency None

Alert None

Critical None

Error Configuration errors

Warning Log Processing errors (resource exhaustion)

Notice Log None

Info Logged DHCP packets, configured by the **ip dhcp-capture** command (specify high verbosity for detail)

Debug Configuration change details; DHCP discover, offer, request, decline, and ACK/NAK packets on a per-interface basis

Filter None

dhcpExternal

Description DHCP external

Emergency None

Alert None

Critical	None
Error	Configuration errors; client processing errors (invalid data)
Warning Log	Client processing errors (resource exhaustion)
Notice Log	Configuration changes
Info	None
Debug	Configuration change details; client events
Filter	None

dhcpExternalEngine

Description	DHCP external engine
Emergency	None
Alert	None
Critical	None
Error	Configuration errors; client processing errors (invalid data)
Warning Log	None
Notice Log	None
Info	System events (line cards online/offline)
Debug	Configuration change details; client events
Filter	None

dhcpGeneral

Description	DHCP general
Emergency	None

Alert	Rvn8
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	DHCP message received
Filter	None

dhcplssuLog

Description	DHCP ISSU information
Emergency	None
Alert	None
Critical	None
Error	Error recreating DHCP ISSU IC shadow and its data structures, followed by an ISSU halt
Warning Log	Buffering capacity exceeded between DHCP engine and the driver/ISSU shadow driver
Notice Log	None
Info	None
Debug	Normal operation: packet processing events, creation and deletion of DHCP common objects during ISSU
Filter	None

dhcpLocalClients

Description	DHCP local server clients
Emergency	None
Alert	None
Critical	None
Error	Cannot find the client's interface; cannot find the client to expire the lease or remove it from the database; trying to expire client's lease or remove it from database with bad IP address; requested MAC address does not match the available address; cannot allocate SDX subscriber information
Warning Log	Cannot find the DHCP instance for the client with an expired lease; cannot find the DHCP instance to release the client IP address; secondary DNS without primary DNS configured, using DHCP values; secondary NetBIOS Name Server (NBNS) without primary NBNS configured, using DHCP values
Notice Log	None
Info	None
Debug	Removing stale offers to clients and stale clients; adding and removing clients; expiring client's lease; client's transactions with DHCP local server
Filter	None

dhcpLocalGeneral

Description	General DHCP local server
Emergency	None
Alert	None
Critical	None
Error	Memory allocation failure; cannot find interface location for the UID
Warning Log	No DHCP instance to process the received packet; hard limits reached; packet discarded due to no resources

Notice Log	DHCP local server not configured; client's session failed to start
Info	Client per-interface limit exceeded; client per-interface exceeded condition abated
Debug	Any log message that indicates the status of the general operation of the DHCP local server; NVS actions; grace period lease state; configuration changes
Filter	None



NOTE: This category replaces the dhcpLocalServerGeneral category.

dhcpLocalHighAvailability

Description	DHCP local high availability
Emergency	None
Alert	None
Critical	None
Error	Out of resources errors; nonrecoverable software errors during client restoration or mirroring, pool creation/modification; recoverable software errors during modification of existing client
Warning Log	Recoverable software errors during client, server or pool configuration; out of resources on new client, server, or pool configuration; timer configuration problems
Notice Log	Normal recovery following SRP switch
Info	None
Debug	Normal client, server, pool processing
Filter	None

dhcpLocalPool

Description	DHCP local address pool, including normal, linked, and shared pools
Emergency	None

Alert	Local pool IP address is exhausted (address limit violation)
Critical	Higher limit of address pool utilization reached
Error	None
Warning Log	Lower limit of address pool utilization reached; invalid DHCP local address pool attributes
Notice Log	None
Info	None
Debug	DHCP local address pool resolution; address allocation
Filter	None

dhcpLocalProtocol

Description	DHCP local server protocol
Emergency	None
Alert	None
Critical	None
Error	Cannot find interface; remote client bind add failed; client failed to decline IP address; client failed to decline a null offered IP address; delete remote client entry failed
Warning Log	AAA not responding; SDX program not responding; rediscovering with no IP address allocated; a renewal is received on the line module for an unknown client; secondary DNS without primary DNS configured, using DHCP values; secondary NetBIOS Name Server (NBNS) without primary NBNS configured, using DHCP values; duplicate MAC address detected
Notice Log	None
Info	None
Debug	Received packet; transmit packet; authentication status; DHCP local server state transitions
Filter	interface interfaceType interfaceSpecifier

- `interface`—Logs events for a specific interface
- `interfaceType`—Type of interface for which you want to log events
- `interfaceSpecifier`—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

dhcpOfferLog

Description	DHCP offer selection process log
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Status of the offer selection process
Filter	None

dhcpPbeGeneral

Description	DHCP Proxy Backend Log
Emergency	None
Alert	None
Critical	None
Error	Heap exhaustion

Warning Log	Failure to send a DHCP message to a client
Notice Log	Failure to restore client after reboot or interface change; failure to allocate memory from task-controlled pools
Info	None
Debug	Status of task and DHCP operations
Filter	None

dhcpProxyGeneral

Description	DHCP Proxy general
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Control flow and key events
Filter	None

dhcpRelayGeneral

Description	DHCP Relay general
Emergency	None
Alert	None
Critical	None

Error	None
Warning Log	None
Notice Log	Warm start recovery problems (high availability and unified ISSU)
Info	None
Debug	Control flow and key events, packets that are transmitted using the layer 2 unicast feature, status and changes to DHCP relay agent information option and suboptions
Filter	None

dhcpRelayNvWriterGeneral

Description	DHCP host route preservation
Emergency	None
Alert	None
Critical	None
Error	Out of memory conditions
Warning Log	Unexpected unified ISSU signal, removing all NVS and routing table entries at startup, removing routing table entries at startup due to inconsistencies
Notice Log	Removing or adding entries on start up due to inconsistencies
Info	None
Debug	Receiving unified ISSU signal, construction of the writer, saving to NVS, removing router, removing routes, adding routes
Filter	None

dhcpcv6Client

Description	DHCPv6 internal test client events
Emergency	None

Alert	None
Critical	None
Error	Problems communicating with IPv6; invalid message types received; out-of-memory conditions; serious DHCPv6 protocol state errors; internal errors
Warning Log	Minor DHCPv6 protocol errors
Notice Log	None
Info	None
Debug	None
Filter	None

dhcpv6DemuxGeneral

Description	DHCPv6 packet demultiplexer events
Emergency	None
Alert	None
Critical	None
Error	UDP transmit errors, out-of-memory conditions, internal errors
Warning Log	Invalid DHCPv6 packet type received
Notice Log	None
Info	None
Debug	None
Filter	None

dhcpv6LsGeneral

Description	DHCPv6 local server events
--------------------	----------------------------

Emergency	None
Alert	None
Critical	None
Error	Failure to create server (bad router or out of memory)
Warning Log	Attempt to remove a nonexistent server
Notice Log	Failure to create server (IPv6 not licensed); cold/warm restart of DHCPv6 local server; before/after restoring client bindings;
Info	None
Debug	Server bind, creation, deletion, unbind, and restoration of bindings post warm SRP switchover
Filter	None

dismanEventMgr

Description	Distributed management event manager
Emergency	None
Alert	None
Critical	None
Error	Configuration errors; Sampling, testing and setting errors
Warning Log	Limit maximums reached
Notice Log	Trigger values reached
Info	Application started; traps activated; sampling information provided
Debug	None
Filter	None

dnsGeneralLog

Description	DNS general
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Failure to post a message to DNS about the query response from DNS server
Notice Log	None
Info	None
Debug	Dump DNS response packet; trace DNS query submission; trace DNS response parsing and processing; trace dropped queries if router is shutting down or DNS disabled in virtual router; trace DNS cache cleanup
Filter	None

dosProtection

Description	DoS general
Emergency	None
Alert	None
Critical	Suspicious control flows exceed threshold for specific line module; possible distributed DoS attack
Error	Control flow changed to suspicious.
Warning Log	Flow table overflow, protocol (or priority) has transitioned to suspicious
Notice Log	Suspicious control flow returned to nonsuspicious protocol (or priority) has transitioned from suspicious

Info	Suspicious control flow deleted
Debug	None
Filter	None

ds1

Description	DS1 layer
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Interface creation or binding failure
Notice Log	Failure to bring line module application online; dropped interface state change notification due to lack of resources; discarded stale line module notification
Info	Dropped interface state change notification for unknown or removed interface
Debug	None
Filter	None

ds3

Description	DS3 layer
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Failure to create or bind interface

Notice Log	Failure to bring line module application online; dropped interface state change notification due to lack of resources; discarded stale line module notification
Info	Dropped interface state change notification for unknown or removed interface
Debug	None
Filter	None

dvmrpGeneral

Description	DVMRP general
Emergency	None
Alert	None
Critical	None
Error	Memory allocation errors; bad parameters (internal errors); designated forwarder errors (two for same interface, DoNotForward by no designated forwarder); processing prune errors; graft errors; internal errors; catastrophic RT table errors; management interaction errors; NVS errors
Warning Log	Unable to add local route; routeHogCheck; routeLimit
Notice Log	Route expiration; pruneProcessing (send or receive); graftAck processing; source group (SG) state information; deletion of an output interface; nbrQuickDelete; nbrReset; nbrTimeOut; error adding neighbor on Route Report Reception
Info	Designated forwarder election information; sending graft; timer expired for MulticastEntry; attempting to log duplicate accept filter; external route deleted or added
Debug	Local address creation or deletion; information about accept filters; dvmrpInterface creation or deletion; sgTimeout information; noMoreOifs info; sg creation information; multicastForwarding enabled or disabled; DvmrpInit; dvmrpEnable/Disable; rpfCallback
Filter 1	interface interfaceType interfaceSpecifier <ul style="list-style-type: none"> ■ interface—Logs events for a specific interface ■ <i>interfaceType</i>—Type of interface for which you want to log events ■ <i>interfaceSpecifier</i>—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

Filter 2 router virtualRouterName [interface interfaceType *interfaceSpecifier*]

- router—Logs events for a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events
- interface—Logs events on a specific interface on the virtual router
- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

dvmrpGracefulRestart

Description	DVMRP graceful restart
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	DVMRP graceful restart complete
Info	None
Debug	None
Filter	None

dvmrpMcastTable

Description	DVMRP multicast table messages
Emergency	None
Alert	None
Critical	None
Error	Error removing MulticastEntry; adding duplicate MulticastEntry; adding nonexistent MulticastEntry; attempting to send prune to nonexistent neighbor; error deleting MulticastEntry; error adding outgoing interfaces
Warning Log	Deleting MulticastEntry with no SG state found; attempting to create MulticastEntry, but unable to do so
Notice Log	Creating MulticastEntry
Info	rePruning; delOif; add outgoing interface; not adding outgoing interface for some reason; creating sgoiflist; pruneDelayCallback; prune; deleting MulticastEntry
Debug	None
Filter 1	interface—See description of the dvmrpGeneral interface filter for information about this filter
Filter 2	router—See description of the dvmrpGeneral router filter for information about this filter

dvmrpProbeRcv

Description	DVMRP probe received
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None

Notice Log	procProbe new neighbor
Info	None
Debug	Processing probe (verified has our address in packet); display probe
Filter 1	interface—See description of the dvmrpGeneral interface filter for information about this filter
Filter 2	router—See description of the dvmrpGeneral router filter for information about this filter

dvmrpProbeSent

Description	DVMRP probe sent
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Send probe
Filter 1	interface—See description of the dvmrpGeneral interface filter for information about this filter
Filter 2	router—See description of the dvmrpGeneral router filter for information about this filter

dvmrpRtTable

Description	DVMRP Routing Table
Emergency	None

Alert	None
Critical	None
Error	Route error; router report error; error replacing route after applying accept filter; internal errors
Warning Log	Unable to create new route; deleting routing table
Notice Log	Error in report packet; adding or replacing local route; ignoring poison on upstream user interface (USIF); deleting all dependent neighbors
Info	Processing report; added route from report; declaring ourselves as designated forwarder; route update
Debug	Delete route; insert route
Filter 1	interface—See description of the dvmpGeneral interface filter for information about this filter
Filter 2	router—See description of the dvmpGeneral router filter for information about this filter

Chapter 7

E Commands

- ethernet on page 79
- ethernetStateSession on page 79

ethernet

Description	Ethernet layer
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Cannot configure Ethernet interface successfully; memory pool depleted
Notice Log	No pool space; can bring interface up
Info	Hardware present or not present notification
Debug	Interface created or deleted
Filter	None

ethernetStateSession

Description	Configuration of the Fast Ethernet management port on the SRP IOA on the E320 router or the E120 router
Emergency	None
Alert	None

Critical	None
Error	Configuration errors for duplex mode and speed settings on the Fast Ethernet management port
Warning Log	Configuration did not occur for duplex mode and speed on the Fast Ethernet management port
Notice Log	None
Info	None
Debug	None
Filter	None

Chapter 8

F Commands

- `fileSystem` on page 81
- `flowInspection` on page 82
- `flowInspectionEngine` on page 82
- `flowServicesFirewallAlert` on page 83
- `flowServicesFirewallAudit` on page 83
- `frameRelay` on page 84
- `fsAgent` on page 84
- `ft1` on page 85
- `ftpClient` on page 85
- `ftpServer` on page 86

fileSystem

Description	File system
Emergency	None
Alert	None
Critical	Configuration consistency check failed; HA/sync may be disabled
Error	Error enabling or disabling
Warning Log	Missing of invalid armed files
Notice Log	Configuration checker enabled or disabled
Info	None
Debug	Timestamp of last synchronization
Filter	None

flowInspection

Description	Flow inspection
Emergency	None
Alert	None
Critical	None
Error	Configuration error for bulk static translations; failure to increase size of translation database; pool range overlap; more DNS queries than can be processed
Warning Log	Translation timeout change not applied to existing translations; failure to install translations
Notice Log	None
Info	Allocation and deallocation of NAT address or NAPT address/port
Debug	Increase size of translation database; add or remove address pool ranges
Filter	None

flowInspectionEngine

Description	Flow inspection engine
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Virtual router not found during deletion request
Notice Log	None
Info	None

Debug Engine creation, timer state information, setCoreLocation notification

Filter None

flowServicesFirewallAlert

Description Firewall

Emergency None

Alert None

Critical None

Error No resources; number of connections has exceeded the specified limit; destination host is blocked or cleared; NAT disallows a connection; no controlling list; bad packet received

Warning Log None

Notice Log Oldest entry deleted; rate of connections has decreased to the specified limit; number of connections has decreased to below the specified limit

Info None

Debug None

Filter None

flowServicesFirewallAudit

Description Firewall

Emergency None

Alert None

Critical None

Error New connection disallowed

Warning Log None

Notice Log Transition from half-open to fully complete connection; transition to half-open connection

Info None

Debug None

Filter None

frameRelay

Description Frame Relay layer

Emergency None

Alert None

Critical Failure to bring up the application due to lack of memory resources

Error Summary information about automatic removal of interface or circuit from nonvolatile storage on startup; internal resource pool is too small

Warning Log None

Notice Log Lack of pool space for SNMP traps (it is permissible for SNMP traps to be unreliable); failure to obtain line module configuration on line module insertion

Info Line module insertion and removal information

Debug Creation of interfaces or circuits from nonvolatile storage on startup; detailed information about automatic removal of interfaces or circuit from nonvolatile storage on startup; reporting on SNMP traps for interfaces or circuits; engine debug messages

Filter None

fsAgent

Description File System Agent

Emergency None

Alert None

Critical	Previous file system sync failed—booting protected images
Error	File system unavailable
Warning Log	File transfer initialization failure; unexpected software error
Notice Log	None
Info	File transfer notification; platform or release mismatch; file transfer error; release file is corrupt; image path not found; insufficient resources to copy release
Debug	Status of copy running-config; file transfer status; backup boot-setting configuration notification; subsystem release configuration notification
Filter	None

ft1

Description	FT1 layer
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Interface creation or binding failure
Notice Log	Failure to bring line module application online; dropped interface state change notification due to lack of resources; discarded stale line module notification
Info	Dropped interface state change notification for unknown or removed interface
Debug	None
Filter	None

ftpClient

Description	FTP client
--------------------	------------

Emergency None

Alert None

Critical None

Error Unexpected results during a transfer

Warning Log None

Notice Log Completion status of a network connection command (example: “ Succeeded creating data socket”)

Info Completion status of a user command (example: “ IS command succeeded”)

Debug None

Filter None

ftpServer

Description FTP server

Emergency None

Alert None

Critical None

Error Error listening for new client connection; error creating daemon task

Warning Log Error creating new server task; socket write error; error adjusting socket window size

Notice Log Daemon task created; waiting for new client connection; accept client from host a.b.c.d; maximum client sessions exceeded; FTP daemon shutdown complete

Info Starting FTP daemon shutdown

Debug Read FTP command

Filter None

Chapter 9

G and H Commands

- gplan on page 87
- ha on page 87
- hdlc on page 88
- hotfixGeneral on page 89
- httpServer on page 89

gplan

Description	General purpose locally allocated address notifier
Emergency	None
Alert	None
Critical	None
Error	Out of resources
Warning Log	None
Notice Log	Task creation or deletion
Info	None
Debug	Adding or deleting IP addresses; adding or deleting user sessions
Filter	None

ha

Description	High availability messages
--------------------	----------------------------

Emergency	None
Alert	None
Critical	None
Error	Accessing redundancy mode is not supported on the standby SRP; changing redundancy mode is not supported on the standby SRP; high availability disabled due to state error
Warning Log	High availability disabled due to incompatible release on standby; high availability disabled due to user initiated disable
Notice Log	High availability disabled due to standby down; high availability is now active
Info	None
Debug	None
Filter	None

hdlc

Description	HDLC layer
Emergency	None
Alert	None
Critical	None
Error	Interface creation failures (interface is not created); interface configuration errors; interface pool failures
Warning Log	Interface creation failures during initialization; interface deletion failures (interface is still deleted); interface pool failures (might not cause problems)
Notice Log	Interface pool changes
Info	Layer initialization messages; interface creation; interface modification; interface deletion
Debug	Detailed layer initialization; interface creation details; interface deletion details

Filter None

hotfixGeneral

Description Hotfix general

Emergency None

Alert None

Critical None

Error Error conditions causing startup hotfix activation to fail

Warning Log Failed to deactivate or disarm a hotfix; attempts to activate incompatible hotfixes

Notice Log Activation or arming of a hotfix

Info None

Debug None

Filter None

httpServer

Description Embedded HTTP server

Emergency None

Alert None

Critical None

Error Failure to enable HTTP daemons (httpd); failure to remove httpd; failure to grow pool of httpds or pool of HTTP connections (httpcs); failure to listen on httpd socket; failure to set TCP socket options; failure to remove TCP socket; failure to queue HTTP event (socket accept, socket approve, socket send, socket receive); failure to queue HTTP event for maximum connection aging; invalid HTTP event

Warning Log Refused HTTP connection due to too many simultaneous connections from same host; refused HTTP connection due to access list deny; failure to perform TCP socket approval; failure to send data on TCP socket

Notice Log None

Info Start or stop HTTP process; create or remove httpd; growing a pool of httpds; enable or disable httpd; growing a pool of HTTP connections (httpcs); failure to perform TCP socket accept; growing a pool of HTTP events; updated HTTP scalars; handed out (global/token) address to dhcp-ls client; authentication passed from dhcp-ls for a given client; renewing token address for dhcp-ls client; removed session with dhcp-ls; removed global address through gplaaDelete; dhcp-ls user login/logout/shortcut login; create or remove HTTP interface redirect URL

Debug Server self-bind (for example, started HTTP without instantiating any httpd); attempt to remove nonexistent httpd; attempt to reread from NVS; updated httpd; create or remove session with dhcp-ls; bind or unbind with policy table; invalid or valid TCP socket approve or accept; received data from stale socket; create or remove HTTP connection; receive data from httpc; queued HTTP event; aging group of httpcs; added new address at dhcp-ls session; phase 1 of 2 for authentication passed from dhcp-ls for a given client; revoking token address for a given dhcp-ls client

Filter None

Chapter 10

I Commands

- `icImageFixServer` on page 92
- `icmpTraffic` on page 93
- `icmpv6Traffic` on page 94
- `icrPartitionManager` on page 95
- `igmpGeneral` on page 95
- `igmpGracefulRestart` on page 96
- `igmpGroupState` on page 97
- `ikeCertificateMgr` on page 98
- `ikeEnrollment` on page 98
- `ikepki` on page 99
- `interModuleCommunication` on page 99
- `ipAccessList` on page 100
- `ipEngine` on page 101
- `ipflowstats` on page 101
- `ipflowstatsEngine` on page 102
- `ipGeneral` on page 102
- `ipIfCreator` on page 104
- `ipInterface` on page 104
- `ipNhopTrackerGeneral` on page 105
- `ipProfileMgr` on page 105
- `ipRoutePolicy` on page 106
- `ipRouteTable` on page 107
- `ipseclddb` on page 107
- `ipsecP1Throttler` on page 108
- `ipsecXcfgSM` on page 108
- `ipSubscriberMgr` on page 109
- `ipTraffic` on page 109
- `ipTunnel` on page 110
- `ipv6AccessList` on page 110

- ipv6General on page 111
- ipv6Interface on page 112
- ipv6ProfileMgr on page 113
- ipv6RouteTable on page 113
- ipv6Traffic on page 114
- ipv6Types on page 115
- isisAdjChange on page 115
- isisAdjPackets on page 116
- isisBfdEvents on page 117
- isisChecksumErr on page 117
- isisGeneral on page 118
- isisHelloGeneral on page 119
- isisHelloPackets on page 119
- isisIpv6Log on page 120
- isisLdpEvents on page 120
- isisLocalUpdate on page 121
- isisMplsTeAdvertisements on page 122
- isisMplsTeEvents on page 122
- isisNsfEvents on page 123
- isisProtocolErr on page 123
- isisSnpPackets on page 124
- isisSpfEvents on page 124
- isisSpfStatistics on page 125
- isisSpfTriggers on page 126
- isisUpdatePackets on page 126
- isVoice on page 127
- itm on page 127

icImageFixServer

Description IC image fix server

Emergency None

Alert None

Critical None

Error	Memory allocation failure; ImageFix load failure; manual ImageFix activation failure; ImageFix file errors
Warning Log	Buffer allocation failure; unexpected status received in state X
Notice Log	Application image up, startup ImageFixes activated; reversion from FC ImageFix to release FC image requires reload of line module; FC ImageFix found for line module
Info	State machine change; unexpected internal communication error; loading complete announcement; IC up-to-date following SRP switch; sending ImageFix descriptor to line module
Debug	Controller state change announcement; board state change announcement; manual ImageFix [de]activation attempt; subsystem announced
Filter	None

icmpTraffic

Description	ICMP frame transmit or receive
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	All ICMP transmit or receive events
Filter 1	remote-ip-address <i>ipAddress</i> [<i>ipAddressMask</i>] <ul style="list-style-type: none"> ■ remote-ip-address—Logs events for a remote address ■ <i>ipAddress</i>—Address of remote system for which you want to log messages ■ <i>ipAddressMask</i>—Mask for the remote address
Filter 2	router <i>virtualRouterName</i> [remote-ip-address <i>ipAddress</i> [<i>ipAddressMask</i>]]

- *router*—Logs events on a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events
- *remote-ip-address*—Logs events for a remote address
- *ipAddress*—Address of remote system for which you want to log messages
- *ipAddressMask*—Mask for the remote address

icmpv6Traffic

Description ICMPv6 frame transmit or receive

Emergency None

Alert None

Critical None

Error None

Warning Log Packets of unknown types, invalid headers, with header errors

Notice Log None

Info Failures due to checksum errors, unsupported

Debug All ICMPv6 transmit or receive events

Filter 1 [*remote-ipv6-address* *ipv6Address*]

- *remote-ipv6-address*—Logs events for packets arriving from or going to a specified IPv6 address
- *ipv6Address*—IPv6 address of remote system for which you want to log messages

Filter 2 *router* *virtualRouterName* [*address* *ipv6Address*]

- *router*—Logs events on a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events
- *address*—Logs events on a specific IPv6 address
- *ipv6Address*—Address of remote system for which you want to log messages

icrPartitionManager

Description	Interchassis Redundancy Partition Manager
Emergency	None
Alert	None
Critical	None
Error	Errors allocating memory for any ICR activity; Error adding, configuring, removing ICR partitions and other errors during ICR transition.
Warning Log	None
Notice Log	Delay in changing the state of the ICR partition; Unable to change the state of the ICR partition because of RADIUS access issues.
Info	None
Debug	Successful ICR configuration such as creation and removal of ICR partition ; Addition and removal of ICR group members within partition, PPP, AAA, and Ethernet acknowledgement messages during ICR transitions, and other messages.
Filter	None

igmpGeneral

Description	IGMP general
Emergency	None
Alert	None
Critical	None
Error	Nonrecoverable errors
Warning Log	NVS errors
Notice Log	Errors while configuring or learning groups

Info None

Debug IGMP interface or group state change; errors in packet transmit or receive

Filter 1 interface interfaceType interfaceSpecifier

- interface—Logs events for a specific interface
- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

Filter 2 router virtualRouterName [interface interfaceType interfaceSpecifier]

- router—Logs events for a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events
- interface—Logs events on a specific interface on the virtual router
- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

igmpGracefulRestart

Description IGMP graceful restart

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log IGMP/MLD graceful restart complete

Info	None
Debug	None
Filter	None

igmpGroupState

Description IGMP group state change events

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log None

Info igmp v2 first host join, last host leave events (Release 5.0 and earlier); igmp v3 state change and source-list change events aggregated across all hosts on the interface (Release 5.1.0 and later)

Debug None

Filter router virtualRouterName [interface interfaceType interfaceSpecifier]

- router—Logs events for a specific virtual router
- *virtualRouterName*—Name of the virtual router for which you want to log events
- interface—Logs events on a specific interface on the virtual router
- *interfaceType*—Type of the interface for which you want to log events. For example, atm or fastEthernet.
- *interfaceSpecifier*—Location of the interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

ikeCertificateMgr

Description	Displays events relating to ERX key generation, certificate status, and certificate processing
Emergency	None
Alert	None
Critical	None
Error	Initialization problems
Warning Log	Missing ERX private key; public key does not match private key; certificate expired; memory allocation problems; CRL too large; attempt to generate new key pair before deleting old one; key generation problems; problem reading private key
Notice Log	Problem decoding certificates; IKE authentication problems related to certificates
Info	None
Debug	Certificate database notifications
Filter	None

ikeEnrollment

Description	Displays events relating to certificate enrollment
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Identity not set; missing ERX private key; missing CA certificate; enrollment failures
Notice Log	None

Info	Received CA certificate; received CA and RA certificate chain; received ERX certificate; retry scep poll message
Debug	Found CA certificate; found ERX certificates; enrollment failure details
Filter	None

ikepki

Description	IKE SA negotiation
Emergency	None
Alert	None
Critical	None
Error	Event occurred that is unexpected for the current state
Warning Log	Memory pool growth problems; recoverable state problems; receiving IKE packets for unconfigured peer
Notice Log	IKE configuration problems—no preshared keys for peer; recoverable status conditions
Info	Number of successful SAs negotiation, both phase 1 and phase 2; unsuccessful phase 1 negotiation information; unsuccessful phase 2 negotiation information
Debug	Detailed SA negotiation debug information
Filter	None

interModuleCommunication

Description	Intermodule communication monitoring
Emergency	None
Alert	None
Critical	Line module resetting after recovery attempts fail; standby SRP module resetting after monitoring thresholds exceeded; primary SRP module resetting after all line modules fail because of issue with primary SRP module

Error	None
Warning Log	Line module recovery attempts after monitoring thresholds exceeded
Notice Log	Ping monitoring threshold exceeded; ICC session monitoring threshold exceeded; ICC connection monitoring threshold exceeded
Info	Intermodule communication monitoring condition, state change, and corresponding action
Debug	None
Filter	slot <i>slotNumber</i> <ul style="list-style-type: none"> ■ slot—Logs events for a specific slot ■ <i>slotNumber</i>—Number of slot for which you want to log events

ipAccessList

Description	IP access list matching
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Access list rule has been matched
Debug	None
Filter 1	accessList <ul style="list-style-type: none"> ■ accessList—Logs a match on any access-list entry for all access lists
Filter 2	accessList router <i>virtualRouterName</i> access-list <i>accessListName</i> access-element-id <i>idNumber</i>

- `accessList`—Logs a match on any access-list entry
- `router`—Logs events for a specific virtual router
- `virtualRouterName`—Name of virtual router for which you want to log events
- `access-list`—Logs events for a specific access list
- `accessListName`—Name of access list for which you want to log events
- `access-element-id`—Logs events for a specific element ID
- `idNumber`—Element ID number for which you want to log events; the element ID is automatically assigned for access-list rules that you explicitly create and is shown by issuing the **show access-list detail** command

ipEngine

Description	IP chassis manager
Emergency	None
Alert	None
Critical	None
Error	Failure in operations such as adding, removing, or deleting interfaces or distributing routing tables to line modules
Warning Log	Errors such as attempting to configure something that is not supported on a module, or routing table memory is approaching 80 percent full
Notice Log	Something unexpected happened; for example, an interface was deleted twice or, internal to the software, connections between IC and SRP were deleted twice
Info	Completion status of a user command (for example: “IS command succeeded”)
Debug	An engine or agent that corresponds to a virtual router is added or deleted; an interface is added or deleted
Filter	None

ipflowstats

Description	J-Flow statistics
Emergency	None

Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	Application starting
Info	Interfaces become available or unavailable
Debug	Main and History cache tables are cleared
Filter	None

ipflowstatsEngine

Description	J-Flow statistics engine
Emergency	None
Alert	None
Critical	None
Error	Agents stopping or deleting; memory allocation errors; line module errors
Warning Log	Problems bring modules or slots up or down
Notice Log	None
Info	Agent or master creation; slot or operation state information
Debug	Creation or removal of engine; initialization problems
Filter	None

ipGeneral

Description	IP general
--------------------	------------

Emergency None

Alert None

Critical (IP) Interface stacking management errors

Error (ARP) Allocation of Ethernet next hop failed
 (IP) Not able to create interface or create address on null 0 interface; undefined IP status code; interface stacking management errors; send and forward failures because of not finding corresponding egress or ingress nodes; conflict in adding hidden routes

Warning Log (IP) NVS load errors; failure to add address on an interface because of low memory

Notice Log None

Info None

Debug (ARP) NextHopPool is out of memory and trying to expire old entries; ARP data events
 (IP) Interface stacking management errors

- Filter 1** `interface interfaceType interfaceSpecifier`
- `interface`—Logs events for a specific interface
 - `interfaceType`—Type of interface for which you want to log events
 - `interfaceSpecifier`—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

- Filter 2** `router virtualRouterName [interface interfaceType interfaceSpecifier]`
- `router`—Logs events for a specific virtual router
 - `virtualRouterName`—Name of virtual router for which you want to log events
 - `interface`—Logs events on a specific interface on the virtual router
 - `interfaceType`—Type of interface for which you want to log events. For example, atm or fastEthernet.
 - `interfaceSpecifier`—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

ipIfCreator

Description	IP interface creator events
Emergency	None
Alert	None
Critical	None
Error	Out of resources failures in midoperation; client application and DCM interaction errors (out-of-range sessionId or enum; unrecognized message type); failure during client callback for interface creation
Warning Log	Client session already unbound; unable to process new configuration requests (out of resources)
Notice Log	Interface deletion failure in DCM (no client acknowledgement required)
Info	None
Debug	Client interaction during bind or unbind, session creation or shutdown, and interface creation or deletion; DCM interaction during interface creation or deletion
Filter	None

ipInterface

Description	IP interface
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Error status is returned by lower layer configuration; best route is pointing to an unnumbered interface with an invalid source IP address; unnumbered interface is pointing to invalid loopback interface problems; packets received with invalid source IP address on interfaces

Notice Log	None
Info	None
Debug	Interface state transitions and deletions; interface state machine events
Filter 1	interface—See description of the ipGeneral interface filter for information about this filter
Filter 2	router—See description of the ipGeneral router filter for information about this filter

ipNhopTrackerGeneral

Description	Next-hop tracker for IP shared interfaces
Emergency	None
Alert	None
Critical	None
Error	Errors in tracking of routes that resolve indirect next hops
Warning Log	None
Notice Log	None
Info	None
Debug	None
Filter	None

ipProfileMgr

Description	IP Profile Manager
Emergency	None
Alert	None
Critical	None

Error	Failure to create or delete dynamic IP interfaces
Warning Log	None
Notice Log	None
Info	None
Debug	Events related to dynamic IP interface creation or deletion; assignment or unassignment of profiles to interfaces
Filter	None

ipRoutePolicy

Description	IP route policy
Emergency	None
Alert	None
Critical	None
Error	Failure to clean up NVS while a routing policy was being deleted; failure to store the routing policy to NVS while a new routing policy was being created; failure to find an expected routing policy created previously
Warning Log	Failure to create a new routing policy due to memory limitation; misuse of a routing policy
Notice Log	None
Info	Result of routing policy check; specifies which routing policy is used
Debug	Successful addition or deletion of routing policies
Filter	router <i>virtualRouterName</i> <ul style="list-style-type: none"> ■ router—Logs IP route policy events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

ipRouteTable

Description	IP routing table
Emergency	None
Alert	None
Critical	None
Error	Next-hop resolution-related problems; exceeding maximum route limit or warning threshold
Warning Log	Failure to add route
Notice Log	None
Info	In process of finding best route information
Debug	Normal routing table updates; next-hop resolution for static routes
Filter 1	interface—See description of the ipGeneral interface filter for information about this filter
Filter 2	router—See description of the ipGeneral router filter for information about this filter

ipseclDb

Description	Phase 1 identity database information. Used for deciding which phase 1 identity to use for incoming IKE negotiations.
Emergency	None
Alert	None
Critical	None
Error	Internal dBase issue with hashes
Warning Log	Problems adding or deleting entries
Notice Log	None

Info Adding entries to database

Debug Detailed database information and transactions

Filter None

ipsecP1Throttler

Description Ongoing phase 1 negotiations

Emergency None

Alert None

Critical None

Error None

Warning Log Throttling instances based on suspicious flows (for example, the same peer failing repeated fast negotiations)

Notice Log None

Info None

Debug None

Filter None

ipsecXcfgSM

Description Xauth application state machine information.

Emergency None

Alert None

Critical None

Error Internal state machine errors

Warning Log State machine unexpected events; problems with xauth negotiations

Notice Log Significant state changes

Info None

Debug None

Filter None

ipSubscriberMgr

Description IP Subscriber Manager

Emergency None

Alert None

Critical None

Error Primary interface not found

Warning Log None

Notice Log None

Info None

Debug Dump parameters for methods; dump results for lookups; dump points during thread execution.

Filter None

ipTraffic

Description IP frame transmit and receive

Emergency None

Alert None

Critical None

Error None

Warning Log	Data errors detected in frames
Notice Log	Dropped frames—No error
Info	None
Debug	Normal data events
Filter 1	interface—See description of the ipGeneral interface filter for information about this filter
Filter 2	router—See description of the ipGeneral router filter for information about this filter

ipTunnel

Description	IP tunnel
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Unexpected but recoverable events
Notice Log	No more pool space for interface up notification
Info	None
Debug	Function trace
Filter	None

ipv6AccessList

Description	IPv6 access list matching
Emergency	None
Alert	None

Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Access list rule has been matched
Debug	None
Filter 1	accessList <ul style="list-style-type: none"> ■ accessList—Logs a match on any access-list entry for all IPv6 access lists
Filter 2	accessList router <i>virtualRouterName</i> access-list <i>accessListName</i> access-element-id <i>idNumber</i> <ul style="list-style-type: none"> ■ accessList—Logs a match on any access-list entry ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events ■ access-list—Logs events for a specific access list ■ <i>accessListName</i> —Name of access list for which you want to log events ■ access-element-id—Logs events for a specific element ID ■ <i>idNumber</i>—Element ID number for which you want to log events; the element ID is automatically assigned for access-list rules that you explicitly create and is shown by issuing the show ipv6 access-list detail command

ipv6General

Description	IPv6 general
Emergency	None
Alert	None
Critical	None
Error	License-related errors (for example, attempting to configure IPv6 without configuring the license first); error in sending interface up or down events to IPv6
Warning Log	Primary IPv6 address on an interface is not found

Notice Log None

Info None

Debug None

- Filter 1** interface *interfaceType* *interfaceSpecifier*
- interface—Logs events for a specific interface
 - *interfaceType*—Type of interface for which you want to log events
 - *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

- Filter 2** router *virtualRouterName* [interface *interfaceType* *interfaceSpecifier*]
- router—Logs events for a specific virtual router
 - *virtualRouterName*—Name of virtual router for which you want to log events
 - interface—Logs events on a specific interface on the virtual router
 - *interfaceType*—Type of interface for which you want to log events (for example, atm or fastEthernet)
 - *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

ipv6Interface

Description IPv6 interface

Emergency None

Alert None

Critical None

Error None

Warning Log	Interface configuration errors; errors in pointing interface to another interface; interface LocalAddress-related errors
Notice Log	None
Info	None
Debug	Interface state transitions
Filter 1	interface—See description of the ipv6General interface filter for information about this filter
Filter 2	router—See description of the ipv6General router filter for information about this filter

ipv6ProfileMgr

Description	IPv6 Profile Manager
Emergency	None
Alert	None
Critical	None
Error	Failure to create or delete dynamic IPv6 interfaces
Warning Log	None
Notice Log	None
Info	None
Debug	Events related to dynamic IPv6 interface creation or deletion; assignment or unassignment of profiles to interfaces
Filter	None

ipv6RouteTable

Description	IPv6 routing table
Emergency	None

Alert	None
Critical	None
Error	Next-hop resolution-related problems; exceeding maximum route limit or warning threshold; route add and delete errors
Warning Log	Route limit-related warnings
Notice Log	Route limit-related messages
Info	None
Debug	Normal routing table updates; next-hop resolution for static routes; redistribution events; overload list processing; routing table session creation; route change notification events; route add/delete information; route cleanup events
Filter 1	interface—See description of the ipv6General interface filter for information about this filter
Filter 2	router—See description of the ipv6General router filter for information about this filter

ipv6Traffic

Description	IPv6 frame transmit and receive
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Normal data events
Filter 1	[router virtualRouterName]

- *router*—Logs events for a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events

Filter 2 [address ipv6Address]

- *address*—Logs events for packets arriving from or going to a specified IPv6 address
- *ipv6Address*—IPv6 address of remote system for which you want to log messages

ipv6Types

Description	IPv6 general
Emergency	None
Alert	None
Critical	System out of memory error for allocating IPv6 addresses; IPv6 shutdown started in all virtual routers
Error	System low on memory; IPv6 address allocation may fail
Warning Log	None
Notice Log	None
Info	None
Debug	None
Filter	None

isisAdjChange

Description	IS-IS adjacency up or down
Emergency	None
Alert	None
Critical	None

Error None

Warning Log None

Notice Log Adjacency state change

Info None

Debug None

Filter 1 interface *interfaceType* *interfaceSpecifier*

- interface—Logs events for a specific interface
- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

Filter 2 router *virtualRouterName* [interface *interfaceType* *interfaceSpecifier*]

- router—Logs events for a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events
- interface—Logs events on a specific interface on the virtual router
- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

isisAdjPackets

Description IS-IS adjacency hello packets

Emergency None

Alert None

Critical None

Error	None
Warning Log	Error in sent IIH or received IIH
Notice Log	Sent or received IIH, DR election
Info	Authentication failed
Debug	Detailed information about IIH
Filter 1	interface—See description of the isisAdjChange interface filter for information about this filter
Filter 2	router—See description of the isisAdjChange router filter for information about this filter

isisBfdEvents

Description	IS-IS and BFD interaction and IS-IS session log
Emergency	None
Alert	None
Critical	None
Error	BFD to IS-IS interaction failure errors; out of memory errors
Warning Log	None
Notice Log	None
Info	BFD session state changes
Debug	None
Filter	Router and interface

isisChecksumErr

Description	IS-IS checksum errors
Emergency	None

Alert	None
Critical	None
Error	None
Warning Log	LSP checksum error
Notice Log	None
Info	None
Debug	None
Filter 1	interface—See description of the isisAdjChange interface filter for information about this filter
Filter 2	router—See description of the isisAdjChange router filter for information about this filter

isisGeneral

Description	IS-IS system notifications
Emergency	None
Alert	None
Critical	None
Error	Error in restoring NVS
Warning Log	Exceeding maximum IP addresses on interface or maximum sequence number
Notice Log	Error in redistributing routes; LAN circuit coming up; BGP converged; BGP not converged and IS-IS times out; transient black hole avoidance suppressed because graceful restart has been configured and is in progress
Info	None
Debug	Redistributed routes
Filter 1	interface—See description of the isisAdjChange interface filter for information about this filter

Filter 2 router—See description of the isisAdjChange router filter for information about this filter

isisHelloGeneral

Description	IS-IS system notifications
Emergency	None
Alert	None
Critical	None
Error	Memory failure and other fatal errors
Warning Log	Communication failure between IS-IS and IS-IS hello
Notice Log	None
Info	None
Debug	Timer expiration and other normal events
Filter 1	interface—See description of the isisAdjChange interface filter for information about this filter
Filter 2	router—See description of the isisAdjChange router filter for information about this filter

isisHelloPackets

Description	IS-IS hello packets
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None

Notice Log	None
Info	Hello packets sent and received
Debug	Dumping hello packet in detail
Filter 1	interface—See description of the isisAdjChange interface filter for information about this filter
Filter 2	router—See description of the isisAdjChange router filter for information about this filter

isisIpv6Log

Description	IS-IS IPv6 events
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	IS-IS IPv6 events
Filter 1	interface—See description of the isisAdjChange interface filter for information about this filter
Filter 2	router—See description of the isisAdjChange router filter for information about this filter

isisLdpEvents

Description	Displays information about the interactions between LDP and IS-IS in the course of LDP-IGP synchronization.
--------------------	---

Emergency	None
Alert	None
Critical	None
Error	Failure to communicate with LDP and out of memory conditions
Warning Log	None
Notice Log	None
Info	None
Debug	LDP interactions
Filter	None

isisLocalUpdate

Description	IS-IS local LSP packets
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	Sent local LSP
Info	None
Debug	None
Filter 1	interface—See description of the isisAdjChange interface filter for information about this filter
Filter 2	router—See description of the isisAdjChange router filter for information about this filter

isisMplsTeAdvertisements

Description	IS-IS MPLS traffic engineering advertisements
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Resource information changes
Filter	None

isisMplsTeEvents

Description	IS-IS MPLS traffic engineering
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Start or stop MPLS function; tunnel in use by IS-IS; explicit route computation
Debug	Detailed debugging information for MPLS function

Filter None

isisNsfEvents

Description	Log events related to IS-IS non-stop forwarding procedure during system warm start
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Logs IS-IS NSF timer related events (for example, expiration and cancellation of timers [T1, T2, T3])
Debug	Restart-request transmit; restart-ack receive; SNP receive processing; LSP synchronization; LSP purging
Filter 1	interface—See description of the isisAdjChange interface filter for information about this filter
Filter 2	router—See description of the isisAdjChange router filter for information about this filter

isisProtocolErr

Description	IS-IS protocol errors
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	LSP protocol error

Notice Log	None
Info	None
Debug	None
Filter	router <i>virtualRouterName</i> <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

isisSnPackets

Description	IS-IS complete sequence numbers PDU (CSNP) and partial sequence numbers PDU (PSNP) packets
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Error in received CSNP or PSNP
Notice Log	Sent PSNP; received CSNP or PSNP packets; PSNP authentication failed
Info	Sent CSNP packets; CSNP authentication failed
Debug	LSP entries
Filter 1	interface—See description of the isisAdjChange interface filter for information about this filter
Filter 2	router—See description of the isisAdjChange router filter for information about this filter

isisSpfEvents

Description	IS-IS Shortest Path First (SPF)
Emergency	None

Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	Start or suspend SPF; updating routing table
Info	Add tent or path; process LSP
Debug	Add route
Filter	router <i>virtualRouterName</i> <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

isisSpfStatistics

Description	IS-IS SPF timing and statistic data
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	SPF compute time
Info	None
Debug	None
Filter	router <i>virtualRouterName</i> <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

isisSpfTriggers

Description	IS-IS SPF triggering
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	SPF trigger event
Info	None
Debug	None
Filter	router <i>virtualRouterName</i> <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

isisUpdatePackets

Description	IS-IS LSP packets sent or received
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Error in received LSP
Notice Log	Sent or received LSP
Info	Authentication failed; processed received LSP

Debug	Set or cleared SRM flags; building LSP
Filter 1	interface—See description of the isisAdjChange interface filter for information about this filter
Filter 2	router—See description of the isisAdjChange router filter for information about this filter

isVoice

Description	IS Voice application
Emergency	None
Alert	None
Critical	None
Error	NVS error; out of resources error; unexpected error
Warning Log	IP request failed
Notice Log	LSP used by IP circuit changes state (up, down, or modified); IP circuit requested, updated, or removed
Info	Voice gateway session established, terminated, or replaced
Debug	Management get, set, create, and remove
Filter	None

itm

Description	IPSec transport mode
Emergency	None
Alert	None
Critical	None
Error	IPSec transport protocol interaction failures; interface engine interaction failures; IPSec transport profile configuration errors; interface configuration errors

Warning Log Recoverable IPSec transport interface–related configuration and operational error

Notice Log IPSec transport interface state change

Info IPSec transport interface interaction with IKE protocol; interface pool usage

Debug Details about the interaction between the IPSec transport interface and the IKE protocol; configuration and operational changes of the IPSec transport interface events; interface engine interaction

Filter None

Chapter 11

L Commands

- l2cGeneral on page 130
- l2cKeepAlive on page 130
- l2cPacket on page 131
- l2tp on page 131
- l2tpDialoutGenerator on page 132
- l2tpDisconnectCause on page 132
- l2tpIpLowerBinding on page 133
- l2tpStateMachine on page 133
- lasv6General on page 134
- ldpConnect on page 134
- ldpGeneral on page 135
- ldpGracefulRestart on page 135
- ldpHelloMessages on page 136
- ldpHelloMgr on page 137
- ldpInterface on page 137
- ldpMessages on page 138
- ldpPeer on page 139
- ldpShimInterface on page 139
- ldpSocket on page 140
- ldpTimer on page 141
- ldpVpls on page 141
- ldpWorker on page 142
- localAddressServerGeneral on page 142
- localAuthServer on page 143
- localEnableAuthServer on page 143
- localLinePassword on page 144

I2cGeneral

Description	Layer 2 Control application general
Emergency	None
Alert	None
Critical	None
Error	Signal protocol failures, out of resources errors
Warning Log	Signal unexpected but recoverable socket conditions
Notice Log	None
Info	None
Debug	Neighbor, socket events
Filter	None

I2cKeepAlive

Description	Layer 2 Control adjacency packets
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Adjacency protocol packet processing

Filter None

I2cPacket

Description Layer 2 Control protocol packets

Emergency None

Alert None

Critical None

Error None

Warning Log Signal recoverable, unexpected packet processing failures

Notice Log None

Info None

Debug Protocol packet exchange

Filter None

I2tp

Description Layer 2 Tunneling Protocol

Emergency None

Alert None

Critical Nonrecoverable error

Error Configuration error

Warning Log Protocol error; insufficient resources

Notice Log Status change; protocol warnings

Info Protocol operational information

Debug Detailed debugging information

Filter None

I2tpDialoutGenerator

Description L2TP dial-out

Emergency None

Alert None

Critical None

Error Internal software consistency errors; dial-out service denial because of insufficient resources; dial-out session failure

Warning Log Dial-out NVS consistency errors; restrictions on maximum simultaneous dial-out components

Notice Log None

Info Dial-out resource pool expansion

Debug None

Filter None

I2tpDisconnectCause

Description L2TP disconnect cause

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log None

Info	Disconnect error code information generated at LAC
Debug	None
Filter	None

I2tpIpLowerBinding

Description	Lower binding for L2TP and IP
Emergency	None
Alert	None
Critical	None
Error	Virtual router does not have a configured router ID; virtual router has a null router ID
Warning Log	None
Notice Log	None
Info	None
Debug	None
Filter	None

I2tpStateMachine

Description	Layer 2 Tunnel Protocol state machine trace
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None

Notice Log	None
Info	None
Debug	State machine trace
Filter	None

lasv6General

Description	IPv6 local address pool details
Emergency	None
Alert	None
Critical	None
Error	Error in configuration of the command for IPv6 local address pool or runtime errors, if any, that occur
Warning Log	None
Notice Log	LASv6 warm restart complete
Info	None
Debug	Detailed debugging information to assist in troubleshooting and analyzing problems
Filter	None

ldpConnect

Description	LDP connection information
Emergency	None
Alert	None
Critical	None
Error	Memory allocation failure.

Warning Log	None
Notice Log	LDP connection creation and deletion information
Info	None
Debug	None
Filter	router <i>virtualRouterName</i> <ul style="list-style-type: none">■ router—Logs events for a specific virtual router■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

IdpGeneral

Description	Label Distribution Protocol general events
Emergency	None
Alert	None
Critical	None
Error	Memory allocation failures; protocol interaction failures
Warning Log	Message processing errors
Notice Log	Interface transition; adjacency transition
Info	Minor timer processing error
Debug	LDP finite state machine transactions; RouteTable interaction transaction; message processing transaction
Filter	router <i>virtualRouterName</i> <ul style="list-style-type: none">■ router—Logs events for a specific virtual router■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

IdpGracefulRestart

Description	LDP graceful restart events
--------------------	-----------------------------

Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	LDP Neighbor Graceful Restart state changes
Info	LDP Graceful Restart timer operation
Debug	LDP Graceful Restart debug message
Filter	router <i>virtualRouterName</i> <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

IdpHelloMessages

Description	Label Distribution Protocol hello message event
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	LDP hello message processing errors
Notice Log	LDP hello message reception and transmission
Info	LDP hello message processing and transmission transaction
Debug	LDP hello message processing and transmission transaction details
Filter	router <i>virtualRouterName</i> <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router

- *virtualRouterName*—Name of virtual router for which you want to log events

IdpHelloMgr

Description	Displays details about the task dedicated for sending LDP hellos, the LDP hello manager
Emergency	None
Alert	None
Critical	None
Error	Memory allocation failure
Warning Log	None
Notice Log	Hello transmission failure due to interface down
Info	None
Debug	Hello transmission debug information
Filter	router <i>virtualRouterName</i> <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

IdpInterface

Description	LDP interface
Emergency	None
Alert	None
Critical	None
Error	Failure to enable LDP on the interface
Warning Log	None

Notice Log Interface up and interface down events

Info None

Debug Event with detailed interface parameters for normal operation

Filter router virtualRouterName [interface interfaceType interfaceSpecifier]

- router—Logs events for a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events
- interface—Logs events on a specific interface on the virtual router
- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

IdpMessages

Description Label Distribution Protocol session message events

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log Minor TCP transmission error

Info LDP session message processing and transmission transaction

Debug None

Filter router *virtualRouterName*

- router—Logs events for a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events

IdpPeer

Description	LDP peer events
Emergency	None
Alert	None
Critical	None
Error	LDP neighbor authentication setting failure
Warning Log	None
Notice Log	LDP neighbor authentication transaction
Info	None
Debug	LDP peer maintenance transaction
Filter	router <i>virtualRouterName</i> <ul style="list-style-type: none">■ router—Logs events for a specific virtual router■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

IdpShimInterface

Description	LDP shim interface
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None

Debug None

- Filter** router virtualRouterName [interface interfaceType interfaceSpecifier]
- router—Logs events for a specific virtual router
 - *virtualRouterName*—Name of virtual router for which you want to log events
 - interface—Logs events on a specific interface on the virtual router
 - *interfaceType*—Type of interface for which you want to log events
 - *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

IdpSocket

Description Displays details about the socket that is used to exchange LDP session messages and keep alives

Emergency None

Alert None

Critical None

Error Memory allocation failure

Warning Log Socket creation failure

Notice Log Socket creation and deletion information

Info None

Debug Socket send and receive information

- Filter** router *virtualRouterName*
- router—Logs events for a specific virtual router
 - *virtualRouterName*—Name of virtual router for which you want to log events

IdpTimer

Description	Displays details about LDP timer events; when a timer expires or is scheduled
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Timer event information
Filter	router <i>virtualRouterName</i> <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

IdpVpls

Description	Displays details about LDP signaling for VPLS configurations
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	VPLS failure
Notice Log	VPLS up and down state information
Info	None

Debug VPLS debug information

Filter router *virtualRouterName*

- router—Logs events for a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events

IdpWorker

Description Displays details about the background LDP jobs (LDP worker events)

Emergency None

Alert None

Critical None

Error Memory allocation failure

Warning Log Invalid PDU

Notice Log Worker creation and deletion information

Info TCP socket reset by peer

Debug Worker running information

Filter router *virtualRouterName*

- router—Logs events for a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events

localAddressServerGeneral

Description LAS general

Emergency None

Alert None

Critical None

Error None

Warning Log	Attempts to set a local pool group name; attempts to restore an overlapping address range from a previous version of the software
Notice Log	Attempts to allocate an address from the backup local address pool group name because all the addresses in the primary local address pool group have been already allocated.
Info	None
Debug	Control flow and key events
Filter	None

localAuthServer

Description	Local authentication server
Emergency	None
Alert	None
Critical	None
Error	Cannot bind to local authentication server; memory cannot be allocated for local authentication server; cannot send configuration request; cannot send information request; invalid virtual router; error with specified user database; cannot create local user database at startup
Warning Log	Internal AAA user profile missing; cannot create users at startup; user associated with invalid virtual router; users reassigned to default user database; invalid user database; cannot associate users with virtual router
Notice Log	None
Info	None
Debug	Server started; server bind occurred; no user name provided; no CHAP challenge provided; no authenticate request message allocated
Filter	None

localEnableAuthServer

Description	Authentication server using locally stored enable secret
--------------------	--

Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Connection granted: no secrets are configured
Notice Log	None
Info	None
Debug	Authentication attempted; no memory for protocol message; connection granted: correct password; connection denied: incorrect password
Filter	None

localLinePassword

Description	Local line password authentication server
Emergency	None
Alert	None
Critical	None
Error	Unknown algorithm for local password
Warning Log	Connection granted or denied due to possible misconfiguration
Notice Log	None
Info	None
Debug	Connection granted or denied due to incorrect password
Filter	None

Chapter 12

M Commands

- macroData on page 146
- macroScheduler on page 146
- mgmtGeneral on page 147
- mgmtGracefulRestart on page 148
- mgmtmv6General on page 148
- mgmtmv6GracefulRestart on page 149
- mldGeneral on page 150
- mldGracefulRestart on page 151
- mldGroupState on page 151
- mmcd on page 152
- mobileIpv4HaBinding on page 153
- mobileIpv4HaEng on page 153
- mobileIpv4HaEvent on page 154
- mobileIpv4HaLog on page 154
- mplsFwdTable on page 155
- mplsGeneral on page 155
- mplsHighAvailability on page 156
- mplsMajorInterface on page 156
- mplsMinorInterface on page 157
- mplsRouter on page 158
- mplsShimInterface on page 159
- mplsTraffic on page 160
- mrInfoLog on page 160
- mrInfoRcvdLog on page 161
- mrInfoSentLog on page 161
- mtraceLog on page 162
- mtraceRcvdLog on page 162
- mtraceSentLog on page 163
- multicastTraffic on page 163

macroData

Description	Macro information
Emergency	None
Alert	None
Critical	None
Error	Error while running the macro
Warning Log	None
Notice Log	Data from env.setResults
Info	None
Debug	None
Filter	None

macroScheduler

Description	Macro information
Emergency	None
Alert	None
Critical	None
Error	Scheduled macro cannot be run
Warning Log	None
Notice Log	Start and completion of scheduled macro, Values set using env.setResult
Info	None
Debug	None

Filter None

mgmtGeneral

Description IP multicast group table manager general information

Emergency None

Alert None

Critical None

Error Major errors in MGTM API calls resulting in failure

Warning Log IP Multicast fastpath forwarding not supported on interface

Notice Log Errors in MGTM API calls

Info State change events; invalid parameters in API calls

Debug (Source, Group) entries not found

Filter 1 interface *interfaceType interfaceSpecifier*

- interface—Logs events for a specific interface
- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

Filter 2 router *virtualRouterName [interface interfaceType interfaceSpecifier]*

- router—Logs events for a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events
- interface—Logs events on a specific interface on the virtual router
- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

mgmtGracefulRestart

Description	MGTm graceful restart
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	Multicast graceful restart complete
Info	None
Debug	IGMP, PIM, IP route table multicast graceful restart complete
Filter	None

mgmtv6General

Description	IPv6 multicast group table manager general information
Emergency	None
Alert	None
Critical	None
Error	Major errors in MGTM API calls resulting in failure
Warning Log	IPv6 Multicast fastpath forwarding not supported on interface
Notice Log	Errors in MGTM API calls

Info State change events; invalid parameters in API calls

Debug (Source, Group) entries not found

Filter 1 interface *interfaceType interfaceSpecifier*

- interface—Logs events for a specific interface
- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

Filter 2 router *virtualRouterName [interface interfaceType interfaceSpecifier]*

- router—Logs events for a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events
- interface—Logs events on a specific interface on the virtual router
- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

mgtmv6GracefulRestart

Description MGTM V6 graceful restart

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log Multicast graceful restart complete

Info None

Debug IGMP, PIM, IP route table multicast graceful restart complete

Filter None

mldGeneral

Description Multicast Listener Discovery (MLD) general

Emergency None

Alert None

Critical None

Error Nonrecoverable errors

Warning Log NVS errors

Notice Log Errors while configuring or learning groups

Info None

Debug MLD interface or group state change

Filter 1 interface *interfaceType* *interfaceSpecifier*

- interface—Logs events for a specific interface
- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

Filter 2 router *virtualRouterName* [*interface* *interfaceType* *interfaceSpecifier*]

- router—Logs events for a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events
- *interface*—Logs events on a specific interface on the virtual router

- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

mldGracefulRestart

Description	MLD graceful restart
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	IGMP/MLD graceful restart complete
Info	None
Debug	None
Filter	None

mldGroupState

Description	Multicast Listener Discovery (MLD) group state change events
Emergency	None
Alert	None
Critical	None
Error	None

Warning Log None

Notice Log None

Info MLDv1 first host join, last host done events; MLDv2 state change and source-list change events aggregated across all hosts on the interface

Debug None

Filter router *virtualRouterName* [*interface interfaceType interfaceSpecifier*]

- router—Logs events for a specific virtual router
- *virtualRouterName*—Name of the virtual router for which you want to log events
- interface—Logs events on a specific interface on the virtual router
- *interfaceType*—The type of the interface for which you want to log events. For example, atm or fastEthernet.
- *interfaceSpecifier*—The location of the interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

mmcd

Description MMC switch fabric driver

Emergency None

Alert None

Critical None

Error Errors in hardware configuration; resource limitation in fabric reached; errors in hardware

Warning Log None

Notice Log None

Info None

Debug Initialization details; configuration details; connection status details

Filter None

mobileipv4HaBinding

Description Mobile IPv4 home agent binding

Emergency None

Alert None

Critical None

Error Registration request (RRQ) from foreign agent is prohibited by host access control list (ACL)

Warning Log None

Notice Log None

Info None

Debug Mobile IP timer started for n seconds, where n is the number of seconds

Filter None

mobileipv4HaEng

Description Mobile IPv4 home agent engineering

Emergency None

Alert None

Critical None

Error Home agent does not exist in the virtual router

Warning Log None

Notice Log Mobile IP warm restart initiated

Info None

Debug Verifying replay attack

Filter None

mobileipv4HaEvent

Description Mobile IPv4 home agent events

Emergency None

Alert None

Critical None

Error Authentication check failed

Warning Log None

Notice Log None

Info None

Debug Authentication check succeeded

Filter None

mobileipv4HaLog

Description Mobile IPv4 home agent log

Emergency None

Alert None

Critical None

Error Registration request sanity check failed

Warning Log None

Notice Log Home agent deactivated in virtual router

Info	Home agent activated in virtual router
Debug	Authentication, authorization, and accounting (AAA) granted
Filter	None

mplsFwdTable

Description	MPLS forwarding table events
Emergency	None
Alert	None
Critical	None
Error	Nonfatal internal errors
Warning Log	Minor nonfatal internal errors
Notice Log	None
Info	None
Debug	Addition, deletion, and modification of table entries
Filter	router <i>virtualRouterName</i> <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

mplsGeneral

Description	MPLS general purpose
Emergency	None
Alert	None
Critical	None
Error	Nonfatal internal errors; configuration errors

Warning Log	Major interface deletion; minor internal errors
Notice Log	None
Info	NVS operations
Debug	NVS operations; timer operations; minor interface label stacking; function flows; L2VPN instance created, destroyed
Filter	router virtualRouterName <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

mplsHighAvailability

Description	MPLS high availability events
Emergency	None
Alert	None
Critical	None
Error	Nonfatal internal errors
Warning Log	Minor nonfatal internal errors
Notice Log	None
Info	Recovery of state information from NVS and mirrored storage; high-availability interactions with MPLS signaling protocols and line cards (major events)
Debug	High-availability interactions with MPLS signaling protocols and line modules (minor events)
Filter	None

mplsMajorInterface

Description	MPLS major interface
Emergency	None

Alert	None
Critical	None
Error	Signaling protocol interaction failures; major interface engine interaction failures; major interface finite state machine bad state transitions; major interface configuration errors; LSM interface label space interaction failures
Warning Log	None
Notice Log	None
Info	None
Debug	Major interface finite state machine transitions; signaling protocol interaction; major interface to engine transactions; major interface configuration transactions; LSM interface label space transactions
Filter	router <i>virtualRouterName</i> [<i>interface interfaceType interfaceSpecifier</i>] <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events ■ interface—Logs events on a specific interface on the virtual router ■ <i>interfaceType</i>—Type of interface for which you want to log events ■ <i>interfaceSpecifier</i>—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

mplsMinorInterface

Description	MPLS minor interface
Emergency	None
Alert	None
Critical	None
Error	Tunnel/LSP setup or teardown signaling protocol interaction failures; minor interface engine interaction failures; minor interface finite state machine bad state transitions; minor interface configuration errors; minor interface to IP interaction failures

Warning Log None

Notice Log None

Info None

Debug Minor interface to engine transactions; minor interface to IP transactions; minor interface configuration transactions; signaling protocol LSP setup or teardown transactions; minor interface finite state machine transitions

Filter 1 `interface interfaceType interfaceSpecifier`

- `interface`—Logs events for a specific interface
- `interfaceType`—Type of interface for which you want to log events
- `interfaceSpecifier`—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

Filter 2 `router virtualRouterName`

- `router`—Logs events for a specific virtual router
- `virtualRouterName`—Name of virtual router for which you want to log events

mplsRouter

Description MPLS router events

Emergency None

Alert None

Critical None

Error Nonfatal internal errors

Warning Log Minor nonfatal internal errors

Notice Log None

Info Creation or removal of MPLS router

Debug Configuration changes for per-VR attributes; dynamic interface creation events

Filter None

mplsShimInterface

Description MPLS Shim Interface events

Emergency None

Alert None

Critical None

Error Signaling protocol interaction failures; shim interface engine interaction failures; shim interface finite state machine bad state transitions; shim interface configuration errors

Warning Log None

Notice Log None

Info None

Debug Shim interface finite state machine transitions; signaling protocol interaction; shim interface to engine transactions; shim interface configuration transactions

Filter router *virtualRouterName* [*interface* *interfaceType* *interfaceSpecifier*]

- router—Logs events for a specific virtual router
- *virtualRouterName*—Name of the virtual router for which you want to log events
- *interface*—Logs events on a specific interface on the virtual router
- *interfaceType*—Type of the interface for which you want to log events. For example, atm.
- *interfaceSpecifier*—Location of the interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

mplsTraffic

Description	Logging for MPLS slow-path, ping, and trace packets; MPLS packets exceptioned to the SRP module for any reason
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	MPLS packets discarded on transmit or receive for any reason
Notice Log	None
Info	Abnormal conditions encountered during MPLS packet processing (when packets are not discarded); for example, truncating a packet or ignoring packet fields
Debug	Detailed debugging information for all MPLS packets transmitted to and received from the SRP module
Filter	None

mrInfoLog

Description	General multicast router information
Emergency	None
Alert	None
Critical	None
Error	Application startup or shutdown failures, resource allocation failures
Warning Log	None
Notice Log	Protocol Errors on received packets
Info	None

Debug Trace application startup/shutdown/operation

Filter None

mrInfoRcvdLog

Description Multicast router received information

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log None

Info Number of trace packets received

Debug Hexidecimal dump of packets received

Filter None

mrInfoSentLog

Description Multicast router sent information

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log None

Info	Number of trace packets sent
Debug	Hexidecimal dump of packets sent
Filter	None

mtraceLog

Description	General Mtrace server information
Emergency	None
Alert	None
Critical	None
Error	Error creating or deleting Mtrace server; error communicating with other modules; allocation failures
Warning Log	None
Notice Log	Error in received or sent mtrace packets
Info	None
Debug	Creation or deletion of Mtrace server; communication with other modules
Filter	None

mtraceRcvdLog

Description	mtrace packets received
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None

Notice Log	None
Info	Short description of the received mtrace packets
Debug	Complete print of the received mtrace packets
Filter	None

mtraceSentLog

Description	mtrace packets sent
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Short description of the mtrace packets sent
Debug	Complete print of the mtrace packets sent
Filter	None

multicastTraffic

Description	IP multicast frame transmit or receive
Emergency	None
Alert	None
Critical	None
Error	None

Warning Log None

Notice Log None

Info None

Debug IP multicast packet transmit or receive information

Filter 1 remote-ip-address *ipAddress* [*ipAddressMask*]

- remote-ip-address—Logs events for a remote address
- *ipAddress*—Address of remote system for which you want to log messages
- *ipAddressMask*—Mask for the remote address

Filter 2 router *virtualRouterName* [remote-ip-address *ipAddress* [*ipAddressMask*]]

- router—Logs events on a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events
- remote-ip-address—Logs events for a remote address
- *ipAddress*—Address of remote system for which you want to log messages
- *ipAddressMask*—Mask for the remote address

Chapter 13

N Commands

- nameResolverLog on page 165
- nfsClient on page 165
- noneAaaAddrServer on page 166
- noneAaaServer on page 167
- ntpGeneral on page 167

nameResolverLog

Description	Name resolver table
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Name lookup failures
Debug	Name lookup processing events
Filter	None

nfsClient

Description	NFS client log
--------------------	----------------

Emergency	None
Alert	None
Critical	None
Error	Error installing NFS driver; error mounting or unmounting remote file system with specific error indication (if known); error accessing file on remote file system
Warning Log	Attempting to reuse already used local mount point when mounting remote file system; attempting to unmount remote file system with outstanding open files
Notice Log	None
Info	NFS client driver installed or uninstalled; mounting or unmounting remote file system; opening or closing remote files
Debug	None
Filter	None

noneAaaAddrServer

Description	AAA address client
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Notification of automatic success response to address request
Filter	None

noneAaaServer

Description	Authentication and accounting client
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Notification of automatic success response to authentication or accounting request
Filter	None

ntpGeneral

Description	Network Time Protocol (NTP) system notifications
Emergency	None
Alert	None
Critical	None
Error	NVS configuration errors; insufficient memory resources; protocol errors; time adjustment failures
Warning Log	No usable servers, NTP synchronization lost
Notice Log	System time adjustment
Info	Attach to or detach from virtual router; shutting down NTP IP session; shutting down NTP UDP session; enable or disable NTP; connection established with NTP server; announce system clock precision

Debug None

Filter router ID

Chapter 14

O Commands

- os on page 170
- ospfElectDr on page 170
- ospfGeneral on page 172
- ospfHelloPktsRcvd on page 172
- ospfHelloPktsSent on page 173
- ospfInterface on page 174
- ospfLdpEvents on page 175
- ospfLsa on page 175
- ospfNeighbor on page 176
- ospfPktsRcvd on page 177
- ospfPktsSent on page 177
- ospfRestart on page 178
- ospfRoute on page 178
- ospfSpfExt on page 179
- ospfSpfInter on page 180
- ospfSpfIntra on page 180
- ospfTeDatabase on page 181
- ospfTeSpf on page 181
- ospfv3ElectDr on page 182
- ospfv3General on page 183
- ospfv3HelloPktsRcvd on page 184
- ospfv3HelloPktsSent on page 185
- ospfv3Interface on page 185
- ospfv3Lsa on page 186
- ospfv3Neighbor on page 187
- ospfv3PktsRcvd on page 187
- ospfv3PktsSent on page 188
- ospfv3Route on page 189
- ospfv3SpfExt on page 189

- ospfV3SpfInter on page 190
- ospfV3SpfIntra on page 191

OS

Description	Operating system (including image loader)
Emergency	None
Alert	Fatal software error notification (assertions, panics, exceptions); panic timer expiration; ECC memory errors
Critical	System halt; NVS reverting to factory defaults
Error	File system errors; image checksum failure; POST test failure; unexpected software error; scheduled reload cancelled due to ongoing NVS flush; image not found or invalid; core dump host connect failure; SRP synchronization failure notification; I/O module mismatch or missing; NVS configuration errors
Warning Log	OsTask client failed to initialize; file system capacity low (15 %); heap utilization high (85 %); crash dump save failure; unknown reset type; image loader failures (will retry); boot ROM programming failure; hardware upgrade necessary notification; NVS config file read or write errors; release file invalid
Notice Log	OsAppRegistrar client names; OsAppRegistrar state change; version display; last reset type; file system condition abatement; POST start or done; NVS config file initialized or converted; scheduled reload notification; heap utilization abatement (75 %); file system release file copy notification; erasing boot ROM notification; core dump notification and status; NVS config boot status (factory defaults, running, file)
Info	Image loader request; image loader success; SC-srpIc mailbox client up; POST test passed; NVS config cache enable, disable, flush, or termination; release path notification; diag-level diagnostic feature is also applicable to standby SRP
Debug	High-frequency debug messages (enabled with various build defines); cached file hit, miss, or close; image loader frame retry; NVS config cache flush status
Filter	None

ospfElectDr

Description	OSPF designated router (DR) election
Emergency	None

Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	DR election events
Info	None
Debug	None
Filter 1	<p>interface-ip-address [ip-address <i>ipAddress</i> unnumbered <i>interfaceType</i> <i>interfaceSpecifier</i>]</p> <ul style="list-style-type: none"> ■ interface-ip-address—Logs events for a specific interface ■ ip-address—Specifies that you will identify the interface by entering an IP address ■ <i>ipAddress</i>—IP address of interface for which you want to log events ■ unnumbered—Specifies that the interface is unnumbered ■ <i>interfaceType</i>—Type of interface for which you want to log events ■ <i>interfaceSpecifier</i>—Location of the unnumbered interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

Filter 2	<p>router <i>virtualRouterName</i> [interface-ip-address [ip-address <i>ipAddress</i> unnumbered <i>interfaceType</i> <i>interfaceSpecifier</i>]]</p> <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events ■ interface-ip-address—Logs events for a specific interface on the virtual router ■ ip-address—Specifies that you will identify the interface by entering an IP address ■ <i>ipAddress</i>—IP address of interface for which you want to log events ■ unnumbered—Specifies that the interface is unnumbered ■ <i>interfaceType</i>—Type of interface for which you want to log events ■ <i>interfaceSpecifier</i>—Location of the unnumbered interface in the appropriate format
-----------------	---



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

ospfGeneral

Description	OSPF general
Emergency	None
Alert	None
Critical	None
Error	Error enabling or disabling OSPF; allocation errors
Warning Log	State change errors (for example, OSPF could not be enabled); errors creating or destroying an area, an OSPF range, or a virtual link; error enabling OSPF protocol
Notice Log	OSPF enabled or disabled; BFD enabled or disable on an OSPF interface
Info	Event for a dynamic neighbor
Debug	Bouncing adjacency with a neighbor
Filter 1	interface-ip-address—See description of the ospfElectDr interface-ip-address filter for information about this filter
Filter 2	router—See description of the ospfElectDr router filter for information about this filter

ospfHelloPktsRcvd

Description	Processing of hello messages received on OSPF-enabled interfaces
Emergency	None
Alert	None
Critical	None
Error	None

Warning Log	Invalid packet, hello parameters mismatch (area, network, hello and dead intervals, version, md5 digest)
Notice Log	None
Info	None
Debug	Received hello information (ip source/destination, length)
Filter	router <i>virtualRouterName</i> [<i>interface interfaceType interfaceSpecifier</i>] <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of the virtual router for which you want to log events ■ interface—Logs events on a specific OSPF-enabled interface on the virtual router ■ <i>interfaceType</i>—Type of the interface for which you want to log events (for example, atm or fastEthernet) ■ <i>interfaceSpecifier</i>—Location of the interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

ospfHelloPktsSent

Description	Sending of hello messages on OSPF-enabled interfaces
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Information about hello messages sent on OSPF-enabled interfaces (ip source/destination, length)

- Filter** router *virtualRouterName* [*interface interfaceType interfaceSpecifier*]
- router—Logs events for a specific virtual router
 - *virtualRouterName*—Name of the virtual router for which you want to log events
 - interface—Logs events on a specific OSPF-enabled interface on the virtual router
 - *interfaceType*—Type of the interface for which you want to log events (for example, atm or fastEthernet)
 - *interfaceSpecifier*—Location of the interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

ospfInterface

Description	OSPF interface
Emergency	None
Alert	None
Critical	None
Error	Error saving or restoring OSPF interface configuration
Warning Log	Errors for packets sent or received over the OSPF interface
Notice Log	Creation or deletion of OSPF interfaces
Info	None
Debug	None
Filter 1	interface-ip-address—See description of the ospfElectDr interface-ip-address filter for information about this filter
Filter 2	router—See description of the ospfElectDr router filter for information about this filter

ospfLdpEvents

Description	Displays information about the interactions between LDP and OSPF in the course of LDP-IGP synchronization.
Emergency	None
Alert	None
Critical	None
Error	Failure to communicate with LDP and out of memory conditions
Warning Log	None
Notice Log	None
Info	None
Debug	LDP interactions
Filter	None

ospfLsa

Description	OSPF link-state advertisement (LSA) events
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	LSA discard errors
Notice Log	LSA add, update, or delete events; LSA purge, refresh, and max-age events; LSA send and receive events (Ack, delayed Ack, retransmit)
Info	None

Debug None

Filter 1 neighbor *neighborIpAddress*

- neighbor—Logs events associated with a specific neighbor
- *neighborIpAddress*—IP address of neighbor for which you want to log events

Filter 2 router *virtualRouterName* [neighbor *neighborIpAddress*]

- router—Logs events on a specific virtual router
- *virtualRouterName*—Virtual router on which you want to log events
- neighbor—Logs events associated with a specific neighbor
- *neighborIpAddress*—IP address of neighbor for which you want to log events

ospfNeighbor

Description OSPF neighbor change

Emergency None

Alert None

Critical None

Error Neighbor MTU negotiation rejects

Warning Log Flooding event errors; neighbor transition from Full state to Down state; invalid neighbor LSA requests; neighbor MTU negotiation mismatches

Notice Log Database description neighbor exchange; neighbor state changes; neighbor retransmissions

Info None

Debug None

Filter 1 neighbor—See description of the ospfLsa neighbor filter for information about this filter

Filter 2 router—See description of the ospfLsa router filter for information about this filter

ospfPktsRcvd

Description	OSPF packet received
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Packets discarded; validation errors
Notice Log	Number of LSAs packed in different packet types (LSA Ack, LSA update); packets received over Down interface
Info	None
Debug	Packets received description
Filter 1	interface-ip-address—See description of the ospfElectDr interface-ip-address filter for information about this filter
Filter 2	router—See description of the ospfElectDr router filter for information about this filter

ospfPktsSent

Description	OSPF packet sent
Emergency	None
Alert	None
Critical	None
Error	Packet sent errors (for example, dropped OSPF packets)
Warning Log	None
Notice Log	Number of LSAs packed in different packet types (LSA Ack, LSA update)

Info	None
Debug	Packets sent description
Filter 1	interface-ip-address—See description of the ospfElectDr interface-ip-address filter for information about this filter
Filter 2	router—See description of the ospfElectDr router filter for information about this filter

ospfRestart

Description	OSPF graceful restart events
Emergency	None
Alert	None
Critical	None
Error	Unexpected events during restart
Warning Log	None
Notice Log	None
Info	General information about significant restart operation events (for example, restart entry, exit, abort, and neighbor acquisition)
Debug	Details about restart operation events
Filter	router—See description of the ospfElectDr router filter for information about this filter

ospfRoute

Description	OSPF route
Emergency	None
Alert	None
Critical	None

Error	OSPF route addition, deletion, or replacement errors in the routing table
Warning Log	Errors for routes imported into OSPF
Notice Log	Forwarding address decision algorithm events
Info	OSPF route added to, replaced, or deleted from the routing table; route imported into OSPF
Debug	None
Filter 1	interface-ip-address—See description of the ospfElectDr interface-ip-address filter for information about this filter
Filter 2	router—See description of the ospfElectDr router filter for information about this filter

ospfSpfExt

Description	OSPF SPF external calculation
Emergency	None
Alert	None
Critical	None
Error	Errors in adding, modifying, or removing entries in tentative path entry table (TENT) and path entry table (PATH)
Warning Log	None
Notice Log	SPF (Dijkstra Shortest Path First algorithm) chunking events (for example, number of LSAs processed in an SPF chunk)
Info	SPF results
Debug	Events in building TENT and PATH
Filter 1	interface-ip-address—See description of the ospfElectDr interface-ip-address filter for information about this filter
Filter 2	router—See description of the ospfElectDr router filter for information about this filter

ospfSpfInter

Description	OSPF SPF interarea calculation
Emergency	None
Alert	None
Critical	None
Error	Errors in adding, modifying, or removing entries in tentative path entry table (TENT) and path entry table (PATH)
Warning Log	None
Notice Log	SPF chunking events (for example, number of LSAs processed in an SPF chunk)
Info	SPF results
Debug	Events in building TENT and PATH
Filter 1	interface-ip-address—See description of the ospfElectDr interface-ip-address filter for information about this filter
Filter 2	router—See description of the ospfElectDr router filter for information about this filter

ospfSpfIntra

Description	OSPF SPF intra-area calculation
Emergency	None
Alert	None
Critical	None
Error	Errors in adding, modifying, or removing entries in tentative path entry table (TENT) and path entry table (PATH)
Warning Log	None

Notice Log	SPF chunking events (for example, number of LSAs processed in an SPF chunk)
Info	SPF results
Debug	Events in building TENT and PATH
Filter 1	interface-ip-address—See description of the ospfElectDr interface-ip-address filter for information about this filter
Filter 2	router—See description of the ospfElectDr router filter for information about this filter

ospfTeDatabase

Description	OSPF traffic engineering database
Emergency	None
Alert	None
Critical	None
Error	Error in adding, deleting, or updating a record in the TE database
Warning Log	None
Notice Log	None
Info	General information about a record being added, deleted, or updated in the TE database
Debug	None
Filter	router name <i>virtualRouterName</i> <ul style="list-style-type: none">■ router name—Logs events for a specific virtual router■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

ospfTeSpf

Description	OSPF traffic engineering SPF
Emergency	None

Alert	None
Critical	None
Error	Any error in constrained SPF calculation
Warning Log	None
Notice Log	information about explicit path found as a result of TE SPF; information about type of failure in finding a constrained path
Info	None
Debug	None
Filter	router name <i>virtualRouterName</i> <ul style="list-style-type: none"> ■ router name—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

ospfv3ElectDr

Description	OSPFv3 designated router (DR) election
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	DR election events
Info	None
Debug	None
Filter 1	interface-ip-address [ip-address <i>ipAddress</i> unnumbered <i>interfaceType</i> <i>interfaceSpecifier</i>]

- interface-ip-address—Logs events for a specific interface
- ip-address—Specifies that you will identify the interface by entering an IP address
- *ipAddress*—IP address of interface for which you want to log events
- unnumbered—Specifies that the interface is unnumbered
- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of the unnumbered interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

- Filter 2** router *virtualRouterName* [interface-ip-address [ip-address *ipAddress* | unnumbered *interfaceType* *interfaceSpecifier*]]
- router—Logs events for a specific virtual router
 - *virtualRouterName*—Name of virtual router for which you want to log events
 - interface-ip-address—Logs events for a specific interface on the virtual router
 - ip-address—Specifies that you will identify the interface by entering an IP address
 - *ipAddress*—IP address of interface for which you want to log events
 - unnumbered—Specifies that the interface is unnumbered
 - *interfaceType*—Type of interface for which you want to log events
 - *interfaceSpecifier*—Location of the unnumbered interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*, .

ospfv3General

Description	OSPFv3 general
Emergency	None
Alert	None
Critical	None
Error	Error enabling or disabling OSPFv3; allocation errors

Warning Log	State change errors (for example, OSPFv3 could not be enabled); errors creating or destroying an area, an OSPFv3 range, or a virtual link
Notice Log	OSPFv3 enabled or disabled; BFD enabled or disabled on an OSPF interface
Info	None
Debug	None
Filter 1	interface-ip-address—See description of the ospfElectDr interface-ip-address filter for information about this filter
Filter 2	router—See description of the ospfElectDr router filter for information about this filter

ospfv3HelloPktsRcvd

Description	Processing of hello messages received on OSPFv3-enabled interfaces
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Invalid packet, hello parameters mismatch (area, network, hello and dead intervals, version, md5 digest)
Notice Log	None
Info	None
Debug	Received hello information (ip source/destination, length)
Filter	router <i>virtualRouterName</i> [<i>interface interfaceType interfaceSpecifier</i>] <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of the virtual router for which you want to log events ■ interface—Logs events on a specific OSPFv3-enabled interface on the virtual router

- *interfaceType*—Type of the interface for which you want to log events (for example, atm or fastEthernet)
- *interfaceSpecifier*—Location of the interface in the appropriate format

ospfv3HelloPktsSent

Description	Sending of hello messages on OSPFv3-enabled interfaces
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Information about hello messages sent on OSPFv3-enabled interfaces (ip source/destination, length)
Filter	router <i>virtualRouterName</i> [<i>interface interfaceType interfaceSpecifier</i>] <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of the virtual router for which you want to log events ■ interface—Logs events on a specific OSPFv3-enabled interface on the virtual router ■ <i>interfaceType</i>—Type of the interface for which you want to log events (for example, atm or fastEthernet) ■ <i>interfaceSpecifier</i>—Location of the interface in the appropriate format

ospfv3Interface

Description	OSPFv3 interface
Emergency	None
Alert	None

Critical	None
Error	Error saving or restoring OSPFv3 interface configuration
Warning Log	Errors for packets sent or received over the OSPFv3 interface
Notice Log	Creation or deletion of OSPFv3 interfaces
Info	None
Debug	None
Filter 1	interface-ip-address—See description of the ospfElectDr interface-ip-address filter for information about this filter
Filter 2	router—See description of the ospfElectDr router filter for information about this filter

ospfV3Lsa

Description	OSPFv3 link-state advertisement (LSA) events
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	LSA discard errors
Notice Log	LSA add, update, or delete events; LSA purge, refresh, and max-age events; LSA send and receive events (Ack, delayed Ack, retransmit)
Info	None
Debug	None
Filter 1	neighbor <i>neighborIpAddress</i> <ul style="list-style-type: none"> ■ neighbor—Logs events associated with a specific neighbor ■ <i>neighborIpAddress</i>—IP address of neighbor for which you want to log events

- Filter 2** router *virtualRouterName* [neighbor *neighborIpAddress*]
- router—Logs events on a specific virtual router
 - *virtualRouterName*—Virtual router on which you want to log events
 - neighbor—Logs events associated with a specific neighbor
 - *neighborIpAddress*—IP address of neighbor for which you want to log events

ospfv3Neighbor

Description	OSPFv3 neighbor change
Emergency	None
Alert	None
Critical	None
Error	Neighbor MTU negotiation rejects
Warning Log	Flooding event errors; neighbor transition from Full state to Down state; invalid neighbor LSA requests; neighbor MTU negotiation mismatches; disregarding graceful restart notification (when graceful restart helper mode is not configured and the router gets a Grace LSA from a neighbor); aborting graceful restart due to time out (when the Grace LSA expires before the neighbor exited graceful restart); aborting graceful restart help due to topology change
Notice Log	Database description neighbor exchange; neighbor state changes; neighbor retransmissions
Info	None
Debug	Router exits graceful restart; helping router with graceful restart
Filter 1	neighbor—See description of the ospfLsa neighbor filter for information about this filter
Filter 2	router—See description of the ospfLsa router filter for information about this filter

ospfv3PktsRcvd

Description	OSPFv3 packet received
Emergency	None

Alert	None
Critical	None
Error	None
Warning Log	Packets discarded; validation errors
Notice Log	Number of LSAs packed in different packet types (LSA Ack, LSA update); packets received over Down interface
Info	None
Debug	Packets received description
Filter 1	interface-ip-address—See description of the ospfElectDr interface-ip-address filter for information about this filter
Filter 2	router—See description of the ospfElectDr router filter for information about this filter

ospfv3PktsSent

Description	OSPFv3 packet sent
Emergency	None
Alert	None
Critical	None
Error	Packet sent errors (for example, dropped OSPF packets)
Warning Log	None
Notice Log	Number of LSAs packed in different packet types (LSA Ack, LSA update)
Info	None
Debug	Packets sent description
Filter 1	interface-ip-address—See description of the ospfElectDr interface-ip-address filter for information about this filter

Filter 2 router—See description of the ospfElectDr router filter for information about this filter

ospfv3Route

Description	OSPF route
Emergency	None
Alert	None
Critical	None
Error	OSPF route addition, deletion, or replacement errors in the routing table
Warning Log	Errors for routes imported into OSPF
Notice Log	Forwarding address decision algorithm events
Info	OSPF route added to, replaced, or deleted from the routing table; route imported into OSPF
Debug	None
Filter 1	interface-ip-address—See description of the ospfElectDr interface-ip-address filter for information about this filter
Filter 2	router—See description of the ospfElectDr router filter for information about this filter

ospfv3SpfExt

Description	OSPFv3 SPF external calculation
Emergency	None
Alert	None
Critical	None
Error	Errors in adding, modifying, or removing entries in tentative path entry table (TENT) and path entry table (PATH)

Warning Log	None
Notice Log	SPF (Dijkstra Shortest Path First algorithm) chunking events (for example, number of LSAs processed in an SPF chunk)
Info	SPF results
Debug	Events in building TENT and PATH
Filter 1	interface-ip-address—See description of the ospfElectDr interface-ip-address filter for information about this filter
Filter 2	router—See description of the ospfElectDr router filter for information about this filter

ospfV3SpfInter

Description	OSPFv3 SPF interarea calculation
Emergency	None
Alert	None
Critical	None
Error	Errors in adding, modifying, or removing entries in tentative path entry table (TENT) and path entry table (PATH)
Warning Log	None
Notice Log	SPF chunking events (for example, number of LSAs processed in an SPF chunk)
Info	SPF results
Debug	Events in building TENT and PATH
Filter 1	interface-ip-address—See description of the ospfElectDr interface-ip-address filter for information about this filter
Filter 2	router—See description of the ospfElectDr router filter for information about this filter

ospfV3SpfIntra

Description	OSPFv3 SPF intra-area calculation
Emergency	None
Alert	None
Critical	None
Error	Errors in adding, modifying, or removing entries in tentative path entry table (TENT) and path entry table (PATH)
Warning Log	None
Notice Log	SPF chunking events (for example, number of LSAs processed in an SPF chunk)
Info	SPF results
Debug	Events in building TENT and PATH
Filter 1	interface-ip-address—See description of the ospfElectDr interface-ip-address filter for information about this filter
Filter 2	router—See description of the ospfElectDr router filter for information about this filter

Chapter 15

P Commands

- pimAutoRPRcvdLog on page 194
- pimAutoRPSentLog on page 195
- pimBsrRcvdLog on page 195
- pimBsrSentLog on page 196
- pimGracefulRestartLog on page 197
- pimHelloRcvdLog on page 197
- pimHelloSentLog on page 198
- pimIpv6AutoRPRcvdLog on page 198
- pimIpv6AutoRPSentLog on page 200
- pimIpv6BsrRcvdLog on page 200
- pimIpv6BsrSentLog on page 201
- pimIpv6GracefulRestartLog on page 201
- pimIpv6HelloRcvdLog on page 202
- pimIpv6HelloSentLog on page 203
- pimIpv6PktsRcvdLog on page 204
- pimIpv6PktsSentLog on page 204
- pimPktsRcvdLog on page 205
- pimPktsSentLog on page 206
- pimsmGeneral on page 206
- pimsmMvpn on page 207
- policyMgrAttachment on page 207
- policyMgrGeneral on page 208
- policyMgrPacketLog on page 208
- ppp on page 209
- pppoe on page 210
- pppoeControlPacket on page 210
- pppPacket on page 211
- pppStateMachine on page 212
- profileMgr on page 212

pimAutoRPRcvdLog

Description Protocol Independent Multicast (PIM) AutoRP messages received

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log None

Info Short description of received PIM AutoRP packets

Debug Complete print of received PIM AutoRP packets

Filter 1 interface-ip-address [ip-address *ipAddress* | unnumbered *interfaceType* *interfaceSpecifier*]

- interface-ip-address—Logs events for a specific interface
- ip-address—Specifies that you will identify the interface by entering an IP address
- *ipAddress*—IP address of interface for which you want to log events
- unnumbered—Specifies that the interface is unnumbered
- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of unnumbered interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

Filter 2 router *virtualRouterName* [interface-ip-address [ip-address *ipAddress* | unnumbered *interfaceType* *interfaceSpecifier*]]

- router—Logs events for a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events
- interface-ip-address—Logs events for a specific interface on the virtual router
- ip-address—Specifies that you will identify the interface by entering an IP address

- *ipAddress*—IP address of interface for which you want to log events
- *unnumbered*—Specifies that the interface is unnumbered
- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of unnumbered interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

pimAutoRPSentLog

Description	Protocol Independent Multicast (PIM) AutoRP messages sent
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Short description of the sent PIM AutoRP packets
Debug	Complete print of the sent PIM AutoRP packets
Filter 1	interface-ip-address—See description of the pimAutoRPRcvdLog interface-ip-address filter for information about this filter
Filter 2	router—See description of the pimAutoRPRcvdLog router filter for information about this filter

pimBsrRcvdLog

Description	Reception of PIM-SM IPv4 BSR messages (BSM and C-RP-Advs)
Emergency	None

Alert	None
Critical	None
Error	Parse errors
Warning Log	Context errors
Notice Log	None
Info	Description of received messages (specify high verbosity for detail)
Debug	None
Filter 1	interface-ip-address—See description of the pimAutoRPRcvdLog interface-ip-address filter for information about this filter
Filter 2	router—See description of the pimAutoRPRcvdLog router filter for information about this filter

pimBsrSentLog

Description	Transmission of PIM-SM IPv4 BSR messages (BSM and C-RP-Advs)
Emergency	None
Alert	None
Critical	None
Error	System errors
Warning Log	None
Notice Log	None
Info	Description of transmitted messages (specify high verbosity for detail)
Debug	None
Filter 1	interface-ip-address—See description of the pimAutoRPRcvdLog interface-ip-address filter for information about this filter

Filter 2 router—See description of the pimAutoRPRcvdLog router filter for information about this filter

pimGracefulRestartLog

Description	PIM graceful restart
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	PIM graceful restart complete
Info	None
Debug	None
Filter	None

pimHelloRcvdLog

Description	Protocol Independent Multicast (PIM) hello messages received
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Short description of the received PIM hello messages

Debug	Complete printout of the received PIM hello messages
Filter 1	interface-ip-address—See description of the pimAutoRPRcvdLog interface-ip-address filter for information about this filter
Filter 2	router—See description of the pimAutoRPRcvdLog router filter for information about this filter

pimHelloSentLog

Description	Protocol Independent Multicast (PIM) hello messages sent
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Short description of the PIM hello messages sent
Debug	Complete description of the PIM hello messages sent
Filter 1	interface-ip-address—See description of the pimAutoRPRcvdLog interface-ip-address filter for information about this filter
Filter 2	router—See description of the pimAutoRPRcvdLog router filter for information about this filter

pimIpv6AutoRPRcvdLog

Description	Protocol Independent Multicast (PIM) AutoRP messages received
Emergency	None
Alert	None
Critical	None

Error None

Warning Log None

Notice Log None

Info Short description of received PIM AutoRP packets

Debug Complete print of received PIM AutoRP packets

- Filter 1** `interface-ipv6-address [ipv6-address ipv6Address | unnumbered interfaceType interfaceSpecifier]`
- `interface-ipv6-address`—Logs events for a specific interface
 - `ipv6-address`—Specifies that you will identify the interface by entering an IPv6 address
 - `ipv6Address`—IPv6 address of interface for which you want to log events
 - `unnumbered`—Specifies that the interface is unnumbered
 - `interfaceType`—Type of interface for which you want to log events
 - `interfaceSpecifier`—Location of unnumbered interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

- Filter 2** `router virtualRouterName [interface-ipv6-address [ipv6-address ipv6Address | unnumbered interfaceType interfaceSpecifier]]`
- `router`—Logs events for a specific virtual router
 - `virtualRouterName`—Name of virtual router for which you want to log events
 - `interface-ipv6-address`—Logs events for a specific interface on the virtual router
 - `ipv6-address`—Specifies that you will identify the interface by entering an IPv6 address
 - `ipv6Address`—IPv6 address of interface for which you want to log events
 - `unnumbered`—Specifies that the interface is unnumbered
 - `interfaceType`—Type of interface for which you want to log events
 - `interfaceSpecifier`—Location of unnumbered interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

pimIpv6AutoRPSentLog

Description	Protocol Independent Multicast (PIM) AutoRP messages sent
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Short description of the sent PIM AutoRP packets
Debug	Complete print of the sent PIM AutoRP packets
Filter 1	interface-ipv6-address—See description of the pimIpv6AutoRPRcvdLog interface-ipv6-address filter for information about this filter
Filter 2	router—See description of the pimIpv6AutoRPRcvdLog router filter for information about this filter

pimIpv6BsrRcvdLog

Description	Reception of PIM-SM IPv6 BSR messages (BSM and C-RP-Advs)
Emergency	None
Alert	None
Critical	None
Error	Parse errors
Warning Log	Context errors
Notice Log	None

Info	Description of received messages (specify high verbosity for detail)
Debug	None
Filter 1	interface-ip-address—See description of the pimAutoRPRcvdLog interface-ip-address filter for information about this filter
Filter 2	router—See description of the pimAutoRPRcvdLog router filter for information about this filter

pimIpv6BsrSentLog

Description	Transmission of PIM-SM IPv6 BSR messages (BSM and C-RP-Advs)
Emergency	None
Alert	None
Critical	None
Error	System errors
Warning Log	None
Notice Log	None
Info	Description of transmitted messages (specify high verbosity for detail)
Debug	None
Filter 1	interface-ip-address—See description of the pimAutoRPRcvdLog interface-ip-address filter for information about this filter
Filter 2	router—See description of the pimAutoRPRcvdLog router filter for information about this filter

pimIpv6GracefulRestartLog

Description	PIM IPv6 graceful restart
Emergency	None
Alert	None

Critical	None
Error	None
Warning Log	None
Notice Log	PIM graceful restart complete
Info	None
Debug	None
Filter	None

pimIcmpv6HelloRcvdLog

Description	Protocol Independent Multicast (PIM) hello messages received
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Short description of the received PIM hello messages
Debug	Complete printout of the received PIM hello messages
Filter 1	<p>interface-ipv6-address [ipv6-address <i>ipv6Address</i> unnumbered <i>interfaceType interfaceSpecifier</i>]</p> <ul style="list-style-type: none"> ■ interface-ipv6-address—Logs events for a specific interface ■ ipv6-address—Specifies that you will identify the interface by entering an IPv6 address ■ <i>ipv6Address</i>—IPv6 address of interface for which you want to log events ■ unnumbered—Specifies that the interface is unnumbered

- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of unnumbered interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

- Filter 2** router *virtualRouterName* [interface-ipv6-address [ipv6-address *ipv6Address* | unnumbered *interfaceType interfaceSpecifier*]]
- router—Logs events for a specific virtual router
 - *virtualRouterName*—Name of virtual router for which you want to log events
 - interface-ipv6-address—Logs events for a specific interface on the virtual router
 - ipv6-address—Specifies that you will identify the interface by entering an IPv6 address
 - *ipv6Address* —IPv6 address of interface for which you want to log events
 - unnumbered—Specifies that the interface is unnumbered
 - *interfaceType*—Type of interface for which you want to log events
 - *interfaceSpecifier*—Location of unnumbered interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

pimIpv6HelloSentLog

Description	Protocol Independent Multicast (PIM) Hello messages sent
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Short description of the PIM hello messages sent

- Debug** Complete description of the PIM hello messages sent
- Filter 1** interface-ipv6-address—See description of the pimIpv6HelloRcvdLog interface-ipv6-address filter for information about this filter
- Filter 2** router—See description of the pimIpv6HelloRcvdLog router filter for information about this filter

pimIpv6PktsRcvdLog

- Description** Protocol Independent Multicast (PIM) nonhello (Register/RegisterStop/JoinPrune/Assert/Graft/GraftAck) messages received
- Emergency** None
- Alert** None
- Critical** None
- Error** None
- Warning Log** None
- Notice Log** None
- Info** Short description of the PIM messages received
- Debug** Complete description of the PIM messages received
- Filter 1** interface-ipv6-address—See description of the pimIpv6HelloRcvdLog interface-ipv6-address filter for information about this filter
- Filter 2** router—See description of the pimIpv6HelloRcvdLog router filter for information about this filter

pimIpv6PktsSentLog

- Description** Protocol Independent Multicast (PIM) nonhello (Register/RegisterStop/JoinPrune/Assert/Graft/GraftAck) messages sent
- Emergency** None
- Alert** None

Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Short description of the PIM messages sent
Debug	Complete description of the PIM messages sent
Filter 1	interface-ipv6-address—See description of the pimIpv6HelloRcvdLog interface-ipv6-address filter for information about this filter
Filter 2	router—See description of the pimIpv6HelloRcvdLog router filter for information about this filter

pimPktsRcvdLog

Description	Protocol Independent Multicast (PIM) nonhello (Register/RegisterStop/JoinPrune/Assert/Graft/GraftAck) messages received
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Short description of the PIM messages received
Debug	Complete description of the PIM messages received
Filter 1	interface-ip-address—See description of the pimAutoRPRcvdLog interface-ip-address filter for information about this filter
Filter 2	router—See description of the pimAutoRPRcvdLog router filter for information about this filter

pimPktsSentLog

Description	Protocol Independent Multicast (PIM) nonhello (Register/RegisterStop/JoinPrune/Assert/Graft/GraftAck) messages sent
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Short description of the PIM messages sent
Debug	Complete description of the PIM messages sent
Filter 1	interface-ip-address—See description of the pimAutoRPRcvdLog interface-ip-address filter for information about this filter
Filter 2	router—See description of the pimAutoRPRcvdLog router filter for information about this filter

pimsmGeneral

Description	General PIM sparse mode events
Emergency	None
Alert	None
Critical	Failure to initialize PIM sparse mode; memory allocation failures
Error	Error enabling or disabling PIM sparse mode; error adding or removing state
Warning Log	None
Notice Log	None

Info	Successful addition or removal of peer
Debug	None
Filter	None

pimsmMvpn

Description	Multicast VPN events, including default and data MDT creation and deletion
Emergency	None
Alert	None
Critical	None
Error	Failure to create MDT
Warning Log	None
Notice Log	Successful creation or deletion of default MDT; switch from data MDT to default MDT or from default MDT to data MDT
Info	Successful creation or deletion of data MDT
Debug	None
Filter	None

policyMgrAttachment

Description	Policy Manager policy attachment activity
Emergency	None
Alert	None
Critical	None
Error	Error attaching policies to static and dynamic interfaces
Warning Log	None

Notice Log None

Info Successful attachment of policies to dynamic interfaces

Debug CAM resource allocation on a line module is exceeded; the particular policy fails to be attached to the interface

Filter None

policyMgrGeneral

Description Policy Manager general information

Emergency None

Alert None

Critical None

Error Error storing or restoring policy manager data to and from NVS; resource exhaustion errors

Warning Log None

Notice Log None

Info None

Debug 144-bit, 288-bit, or 576-bit CAM entry allocated for a classifier entry in a particular policy

Filter None

policyMgrPacketLog

Description Policy Manager packets

Emergency None

Alert None

Critical None

Error	None
Warning Log	None
Notice Log	None
Info	Packet trace
Debug	None
Filter	None

ppp

Description	Point-to-Point Protocol layer
Emergency	None
Alert	None
Critical	Nonrecoverable error
Error	Recoverable error
Warning Log	Resource or configuration problem
Notice Log	Authentication actions
Info	Downstream buffer slot and upstream buffer slot details
Debug	Detailed debugging information
Filter	interface <i>interfaceType</i> <i>interfaceSpecifier</i> <ul style="list-style-type: none"> ■ interface—Logs PPP events for a specific interface ■ <i>interfaceType</i>—Type of interface for which you want to log PPP events ■ <i>interfaceSpecifier</i>—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

pppoe

Description	Point-to-Point over Ethernet layer
Emergency	None
Alert	None
Critical	None
Error	Error enabling control packet log
Warning Log	PPPoE interface or subInterface removed from NVS
Notice Log	PPPoE enabled; status change for subInterface
Info	Line module status change
Debug	None
Filter	interface <i>interfaceType interfaceSpecifier</i> <ul style="list-style-type: none"> ■ interface—Logs PPP events for a specific interface ■ <i>interfaceType</i>—Type of interface for which you want to log PPP events ■ <i>interfaceSpecifier</i>—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

pppoeControlPacket

Description	PPPoE control packet trace
Emergency	None
Alert	None
Critical	None
Error	None

Warning Log None

Notice Log None

Info None

Debug Control packets logged; control packet log enabled

Filter interface *interfaceType* *interfaceSpecifier*

- interface—Logs PPP events for a specific interface
- *interfaceType*—Type of interface for which you want to log PPP events
- *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

pppPacket

Description PPP packet capture

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log None

Info None

Debug Packet trace

Filter interface *interfaceType* *interfaceSpecifier*

- interface—Logs PPP events for a specific interface
- *interfaceType*—Type of interface for which you want to log PPP events
- *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

pppStateMachine

Description	PPP state machine trace
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	State machine trace
Filter	interface <i>interfaceType</i> <i>interfaceSpecifier</i> <ul style="list-style-type: none"> ■ interface—Logs PPP events for a specific interface ■ <i>interfaceType</i>—Type of interface for which you want to log PPP events. For example, atm or fastEthernet ■ <i>interfaceSpecifier</i>—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

profileMgr

Description	Profile manager
Emergency	None

Alert	None
Critical	None
Error	Profile manager process creation failed
Warning Log	Profile being removed was not found
Notice Log	None
Info	None
Debug	Initialize profiles from NVS at startup; dump list of profiles after startup initialization; read or save profile numbering seed to and from NVS; profile manager process creation succeeded; NVS updated; profile lookup succeeded; validating or executing removal of profile
Filter	None

Chapter 16

Q Commands

- qm on page 215
- qos on page 215
- qosAttachment on page 216

qm

Description	Queue manager
Emergency	None
Alert	None
Critical	None
Error	Queue memory errors; line module queue errors; queue database synchronization errors
Warning Log	None
Notice Log	None
Info	None
Debug	None
Filter	None

qos

Description	QoS events
Emergency	None

Alert	None
Critical	None
Error	QoS object creation and modification failures due to resource limitations or configuration limitations; QoS profile to interface attachment failures; QoS failover messages reported by line module
Warning Log	None
Notice Log	None
Info	Modification, creation, and destruction of QoS objects; attachment of modification of QoS objects; attachment of QoS profiles to interfaces; detachment of QoS profiles from interfaces; modification of QoS profiles; QoS interface location availability operations
Debug	Dynamic attachment of QoS profile to interfaces
Filter	None

qosAttachment

Description	QoS profile attachment to interface configuration
Emergency	None
Alert	None
Critical	None
Error	QoS attachment failures
Warning Log	None
Notice Log	None
Info	Attachment of QoS profiles; modification of QoS profile attachments
Debug	Dynamic attachment of QoS profiles; QoS profile attach/detach tracing
Filter	None

Chapter 17

R Commands

- radiusAttributes on page 217
- radiusClient on page 218
- radiusCoAAttributes on page 218
- radiusDisconnectGeneral on page 219
- radiusRelayGeneral on page 220
- radiusSendAttributes on page 220
- remOps on page 221
- resourceThresholdTrap on page 221
- ripBfd on page 222
- ripGeneral on page 222
- ripRoute on page 223
- ripRtTable on page 224
- routeDownloader on page 225
- routerLog on page 225
- rsvpAsyncMgr on page 226
- rsvpBfd on page 226
- rsvpGeneral on page 227
- rsvpGracefulRestart on page 227
- rsvpInterface on page 228
- rsvpTunnel on page 229

radiusAttributes

Description RADIUS user attributes

Emergency None

Alert None

Critical None

Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Supported RADIUS attributes found in the Access-Accept or Access-Reject packet; reports changes to the Service-Acct-Interval attribute (Juniper VSA 26-140)
Filter	None

radiusClient

Description	RADIUS Authentication and Accounting Client
Emergency	None
Alert	None
Critical	None
Error	Internal allocation error of base RADIUS server table; invalid virtual router for user's context; failure to include the ICR-Partition-Id VSA in Access-Request and accounting messages when the ICR partition is not found in the AAA list
Warning Log	Failure to send accounting on or accounting off; tunnel password format error; tunnel accounting request
Notice Log	Dropping tunnel attribute
Info	ICR partition accounting message failures when the Accounting-On response is pending from the RADIUS server
Debug	Authentication or accounting failure due to internal memory allocation failure; memory allocation failure for profile; failed to insert tunnel attribute and tunnel tag table; found unexpected tunnel table
Filter	None

radiusCoAAttributes

Description	RADIUS CoA attributes
--------------------	-----------------------

Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Displays CoA requests and replies received by the router, including the attributes; reports changes to the Service-Acct-Interval attribute (Juniper VSA 26-140)
Filter	None

radiusDisconnectGeneral

Description	RADIUS Disconnect and CoA General
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	CoA failures resulting from memory allocation failures
Debug	CoA results received that do not match pending CoA requests
Filter	None

radiusRelayGeneral

Description	RADIUS Relay Server general
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Memory-allocation; NVS update failure; subscriber session timeouts
Notice Log	None
Info	None
Debug	Receiving invalid radius request. Debugging interaction with AAA/GPLAAN
Filter	None

radiusSendAttributes

Description	RADIUS attributes added to Access-Accept (inbound RADIUS requests), Acct-Start, Interim-Acct, and Acct-Stop messages
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Parse errors that occur in L2C and DSL Forum attribute strings

Debug	Attributes that are added to outbound RADIUS requests, including Access-Request, Acct-Start, Acct-Stop, interim accounting requests, tunnel accounting requests, and ICR partition accounting requests; IPv6 accounting VSA attributes (IPv6-Acct-Input-Octets [26-151], IPv6-Acct-Output-Octets [26-152], IPv6-Acct-Input-Packets [26-153], IPv6-Acct-Output-Packets [26-154], IPv6-Acct-Input-Gigawords [26-155], and IPv6-Acct-Output-Gigawords [26-156]) that are added to outbound RADIUS requests, including Acct-Stop and interim accounting requests; IPv6 RADIUS IETF and VSA attributes (Ipv6-NdRa-Prefix [26-129], Ipv6-Virtual-Router [26-45], Ipv6-Local-Interface [26-46], Ipv6-Primary-DNS [26-47], Ipv6-Secondary-DNS [26-48], Framed-IPv6-Route [99], Framed-IPv6-Pool [100], Delegated-Ipv6-Prefix [123]) that are added to Access-Accept (inbound RADIUS requests), Acct-Start, Interim-Acct, and Acct-Stop messages
Filter	None

remOps

Description	Remote operations
Emergency	None
Alert	None
Critical	None
Error	Internal error
Warning Log	Maximum table size reached; ICMP failure; same target probed by more than one entry
Notice Log	Remote operations application begin/start; ping, traceroute, or nslookup entry; create, modify, or remove; unexpected packet receive; invalid target or source address; late packet receive
Info	None
Debug	Ping, traceroute, or nslookup session begin or end; packet receive; duplicate receive
Filter	None

resourceThresholdTrap

Description	Resource threshold trap log
Emergency	None

Alert	None
Critical	None
Error	None
Warning Log	Rising trap
Notice Log	Falling trap
Info	None
Debug	None
Filter	None

ripBfd

Description	RIP and BFD interaction and RIP session log
Emergency	None
Alert	None
Critical	None
Error	Client session creation, update, and deletion failures
Warning Log	unknown RIP peer
Notice Log	None
Info	BFD session state changes
Debug	None
Filter	Router and interface

ripGeneral

Description	RIP system notifications
--------------------	--------------------------

Emergency	None
Alert	None
Critical	None
Error	Failed to redistribute an external route to the RIP; failed to establish peer with neighbor due to the memory limitation; general RIP configuration error, such as an access list name or route map name specified in the RIP config mode exceed maximum allowable length
Warning Log	Failed to process a RIP packet due to the current memory limitation
Notice Log	Enable or disable RIP application
Info	None
Debug	RIP query; RIP peer address
Filter 1	interface <i>interfaceType interfaceSpecifier</i> <ul style="list-style-type: none">■ interface—Logs PPP events for a specific interface■ <i>interfaceType</i>—Type of interface for which you want to log events■ <i>interfaceSpecifier</i>—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

Filter 2	router <i>virtualRouterName</i> <ul style="list-style-type: none">■ router—Logs events for a specific virtual router■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events
-----------------	---

ripRoute

Description	RIP route
Emergency	None
Alert	None
Critical	None

Error None

Warning Log None

Notice Log None

Info None

Debug Routes sent or received by RIP; if a route is rejected or not sent, gives the reason

Filter 1 interface *interfaceType interfaceSpecifier*

- interface—Logs PPP events for a specific interface
- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

Filter 2 router *virtualRouterName*

- router—Logs events for a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events

ripRtTable

Description RIP routing table

Emergency None

Alert None

Critical None

Error Failed to remove a RIP route from the IP routing table

Warning Log Failed to added a RIP route to the IP routing table

Notice Log None

Info None

Debug Add or remove a route to the RIP routing table

Filter None

routeDownloader

Description RADIUS route-download server operation

Emergency None

Alert None

Critical None

Error Unable to create application process when configured

Warning Log Write to mirrored storage memory failed

Notice Log No IP Application is found on warm start; unable to retrieve a route from AAA; route string parse error; too many downloaded routes; invalid destination of a downloaded route; **clear all** command is terminated due to download failure; empty download

Info Download started, completed, or finalized; IP update started, completed, or finalized

Debug Download operation information; such as download request sent. download response received

Filter None

routerLog

Description Virtual router log

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log	Creation and deletion of virtual routers
Info	None
Debug	None
Filter	router <i>virtualRouterName</i> <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

rsvpAsyncMgr

Description	RSVP asynchronous manager events
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Events processed by the asynchronous manager (for example, qos-profile/policy creation/deletion/attachment)
Filter	None

rsvpBfd

Description	RSVP-TE and BFD interaction
Emergency	None
Alert	None
Critical	None

Error	None
Warning Log	RSVP-TE client session create failed
Notice Log	None
Info	BFD session create failed for IP address
Debug	Delete BFD; RSVP-TE established session with BFD manager; Creating BFD session for interface; deleting BFD session for interface
Filter	Router and interface

rsvpGeneral

Description	RSVP general purpose
Emergency	None
Alert	None
Critical	Initialization failures; fatal resource allocation failures; fatal internal errors.
Error	Signaling protocol errors; nonfatal internal errors; configuration errors
Warning Log	Minor internal errors
Notice Log	Very minor internal errors
Info	Minor internal errors
Debug	Function flows; parameter passing; timer operations
Filter	router <i>virtualRouterName</i> <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

rsvpGracefulRestart

Description	RSVP graceful restart
Emergency	None

Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	RSVP graceful restart complete
Info	None
Debug	None
Filter	None

rsvpInterface

Description	RSVP interface
Emergency	None
Alert	None
Critical	None
Error	Setup errors; operational errors; invalid configuration errors
Warning Log	Nonfatal allocation errors
Notice Log	None
Info	Minor internal errors
Debug	Function flows
Filter	router <i>virtualRouterName</i> [<i>interface interfaceType interfaceSpecifier</i>] <ul style="list-style-type: none"> ■ router—Logs events for a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events ■ interface—Logs events on a specific interface on the virtual router

- *interfaceType*—Type of interface for which you want to log events
- *interfaceSpecifier*—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

rsvpTunnel

Description	RSVP tunnels
Emergency	None
Alert	None
Critical	Critical operational errors
Error	Operational errors; resource allocation failures
Warning Log	Operational failures; fast-reroute triggering
Notice Log	Less serious operational failures; network changes
Info	Minor internal errors; timer operations
Debug	Function flows, parameter passing
Filter	router <i>virtualRouterName</i> <ul style="list-style-type: none">■ router—Logs events for traffic on a specific virtual router■ <i>virtualRouterName</i>—Name of virtual router

Chapter 18

S Commands

- security on page 232
- serviceability on page 232
- serviceMgr on page 233
- serviceMgrClientSession on page 233
- serviceMgrDcm on page 234
- serviceMgrMacroManager on page 234
- serviceMgrPerformance on page 235
- serviceMgrServiceDef on page 235
- serviceMgrServiceInstance on page 236
- serviceMgrServiceSession on page 236
- serviceMgrSubscriberSession on page 237
- slep on page 237
- snmp on page 238
- snmpIfMib on page 239
- snmpPduAudit on page 239
- snmpSetPduAudit on page 240
- snmpTrap on page 240
- sonet on page 241
- sonetPath on page 241
- sonetVT on page 242
- sscdDetailPm on page 242
- sscdDetailSsc on page 243
- sscdGeneral on page 243
- sscdLacGeneral on page 244
- ssh on page 245
- stTunnel on page 245
- stTunnelEngine on page 246
- system on page 246

security

Description	CLI security messages
Emergency	None
Alert	None
Critical	Suspected denial of service attack
Error	None
Warning Log	Unrecognized username, invalid password, denied host
Notice Log	User connect, user disconnect
Info	vty allocation success and failure, vty disconnect.
Debug	None
Filter	None

serviceability

Description	Log for serviceability features (currently only for the show tech-support command)
Emergency	None
Alert	None
Critical	None
Error	Insufficient memory to complete the command
Warning Log	The file to support this command is invalid
Notice Log	Normal milestones of command completion
Info	Timing information of show tech-support command
Debug	Detailed information of show tech-support command progress

Filter None

serviceMgr

Description Service manager

Emergency None

Alert None

Critical None

Error Information about detected abnormalities during execution

Warning Log Information about exceeded thresholds

Notice Log None

Info None

Debug Information about the code path executed along with values of parameters

Filter None

serviceMgrClientSession

Description Service manager client session

Emergency None

Alert None

Critical None

Error Information about detected abnormalities during execution

Warning Log Information about exceeded thresholds

Notice Log None

Info None

Debug Information about the code path executed along with values of parameters

Filter None

serviceMgrDcm

Description Service manager DCM

Emergency None

Alert None

Critical None

Error Information about detected abnormalities during execution

Warning Log Information about exceeded thresholds

Notice Log None

Info None

Debug Information about the code path executed along with values of parameters

Filter None

serviceMgrMacroManager

Description Service manager macro manager

Emergency None

Alert None

Critical None

Error Information about detected abnormalities during execution

Warning Log Information about exceeded thresholds

Notice Log None

Info None

Debug Information about the code path executed along with values of parameters

Filter None

serviceMgrPerformance

Description Service manager performance

Emergency None

Alert None

Critical None

Error Information about detected abnormalities during execution

Warning Log Information about exceeded thresholds

Notice Log None

Info None

Debug Information about the code path executed along with values of parameters

Filter None

serviceMgrServiceDef

Description Service manager definition

Emergency None

Alert None

Critical None

Error Information about detected abnormalities during execution

Warning Log Information about exceeded thresholds

Notice Log	None
Info	None
Debug	Information about the code path executed along with values of parameters
Filter	None

serviceMgrServiceInstance

Description	Service manager service instance
Emergency	None
Alert	None
Critical	None
Error	Information about detected abnormalities during execution
Warning Log	Information about exceeded thresholds
Notice Log	None
Info	None
Debug	Information about the code path executed along with values of parameters
Filter	None

serviceMgrServiceSession

Description	Service manager service session
Emergency	None
Alert	None
Critical	None
Error	Information about detected abnormalities during execution

Warning Log	Information about exceeded thresholds
Notice Log	None
Info	None
Debug	Information about the code path executed along with values of parameters
Filter	None

serviceMgrSubscriberSession

Description	Service manager subscriber session
Emergency	None
Alert	None
Critical	None
Error	Information about detected abnormalities during execution
Warning Log	Information about exceeded thresholds
Notice Log	None
Info	None
Debug	Information about the code path executed along with values of parameters
Filter	None

slep

Description	Point-to-Point Protocol layer
Emergency	None
Alert	None
Critical	Startup interface out of resources failure

Error Remove or unbind interface failure; unknown or missing lower binding failure

Warning Log Attempt to set characteristics with invalid value

Notice Log None

Info Hardware state change notification

Debug None

Filter serial *interfaceSpecifier*

- serial—Logs SLEP events for a specific serial Cisco-HDLC interface
- *interfaceSpecifier*—Identifier for a serial Cisco-HDLC interface



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

snmp

Description Embedded SNMP agent

Emergency None

Alert None

Critical None

Error None

Warning Log Access violation due to underprivileged community string or a bad proxy selector; access denial due to configured access list; configuration of SNMP failed; trap is dropped because of the severity level filter or because the trap category is not enabled

Notice Log None

Info SNMP agent has been enabled or disabled

Debug Trap request dropped; trap processing summary statistics

Filter None

snmplfMib

Description	SNMP Interfaces MIB
Emergency	None
Alert	None
Critical	None
Error	Invalid ifTableLastChange reported by an interface
Warning Log	Failed to process an interface for ifNumber MIB attribute computation
Notice Log	None
Info	None
Debug	None
Filter	None

snmpPduAudit

Description	SNMP PDUs
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Identifies the following fields in all SNMP PDUs sent to the E Series router and all trap PDUs that leave the system: source and destination IP address, PDU type, snmpVersion, requested, errorStatus, errorIndex, variable count, variable object identifier and data

Debug None

Filter None

snmpSetPduAudit

Description SNMP set PDUs

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log None

Info Identifies the following fields in SNMP set PDUs: source and destination IP address, PDU type, snmpVersion, requested, errorStatus, errorIndex, variable count, variable object identifier and data

Debug None

Filter None

snmpTrap

Description SNMP Trap PDU events

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log None

Info	SNMP trap PDUs that the corresponding SNMP agent transmitted
Debug	None
Filter	None

sonet

Description	SONET
Emergency	None
Alert	None
Critical	None
Error	Configuration errors, NVS failures
Warning Log	NV interface removal after failed init from NV; errors during interface add/update or during hwPresent notification; path capability notification; failed pool expansion
Notice Log	Pool expansion, dropped SNMP traps
Info	NV interface creation; interface modification from path capability; unknown interface during hwNotPresent notification; interface notification for unknown interface
Debug	Application initialization trace, interface creation/deletion events
Filter	None

sonetPath

Description	SONET Path
Emergency	None
Alert	None
Critical	None
Error	None

Warning Log	Errors during interface removal (for removable paths); path update failures from path configuration notification; failed mapping from SONET status; errors during path creation; engine addInterface errors during hwPresent notification; errors during path creation for nonchannelized interfaces; failed pool expansion
Notice Log	Pool expansion
Info	Init from NV failures; NV upgrade; path update progress; path configuration notification
Debug	Path update
Filter	None

sonetVT

Description	SONET virtual tributary
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Init from NV failures; errors during remove interface; failed pool expansion
Notice Log	Engine add interface retry; pool expansion
Info	Errors during add interface
Debug	None
Filter	None

ssccDetailPm

Description	SDX client (formerly SSCC) detail for policy manager (PM) interaction
Emergency	None
Alert	None

Critical	None
Error	Failure of policy manager calls (detail)
Warning Log	None
Notice Log	None
Info	None
Debug	Policy manager function call made; Policy manager attempts to get statistics
Filter	None

ssccDetailSsc

Description	SDX client (formerly SSCC) detail for SDX interaction
Emergency	None
Alert	None
Critical	None
Error	More detail for SDX management errors
Warning Log	None
Notice Log	None
Info	None
Debug	More detail for SDX events
Filter	None

ssccGeneral

Description	SDX client (formerly SSCC) general
Emergency	None

Alert	None
Critical	None
Error	Failure to get heap space; packet decode errors; SDX inconsistency errors; packet creation errors; failure of calls to policy manager (changing, attaching policy); attempt to manage unknown interface
Warning Log	None
Notice Log	None
Info	Creation or deletion of SDX client
Debug	Events (create interface, reports, removals); policy deletions; policy reattachments; CLI events; connection retries
Filter	None

ssccLacGeneral

Description	L2TP LAC interfaces details for policy and QoS management by the COPS client
Emergency	None
Alert	None
Critical	None
Error	Error encountered while managing L2TP LAC interfaces, or during the installation and removal of policies from the L2TP LAC interfaces
Warning Log	Unexpected events related to policy and QoS management of LAC interfaces by the COPS protocol that are handled appropriately by the software
Notice Log	None
Info	Creation or deletion of SDX client
Debug	Detailed debugging information related to L2TP LAC interfaces to assist in troubleshooting and analyzing problems
Filter	None

ssh

Description	Secure Shell (SSH) Server
Emergency	None
Alert	None
Critical	None
Error	Cannot create SSH daemon; unexpected socket condition; packet overrun; AAA failure; resource allocation failure; host key read error
Warning Log	Missing/invalid public user key; possible DoS attack (invalid reported field length); unknown protocol message; protocol message received during wrong state; unsupported key exchange algorithm; unsupported cipher algorithm; unsupported encryption algorithm; unsupported MAC algorithm; unsupported compression algorithm; unexpected session/channel error; window adjust failure; user lock out announcement; user denied due to lock-out; packet encryption/decryption failure; unexpected protocol error; packet send failure; unsupported client version; malformed packet; packet MAC failure; user timeout
Notice Log	AAA user authentication failure; ignored channel request; client connect/disconnect
Info	Detailed client connection info (per connection attempt)
Debug	Daemon instance creation/removal; detailed packet info (per packet)
Filter	None

stTunnel

Description	Secure tunnel (ST) interface
Emergency	None
Alert	None
Critical	None
Error	ST interface configuration error; ST interface engine interaction failures; IPSec service line module resource error

Warning Log	ST interface pool exhausted; manual session key length input problems; problem relocating ST interface
Notice Log	ST interface memory pool extension
Info	Transport virtual router table downloading; ST interface status retrieval; transport virtual router table down; information about clear sa command
Debug	Detailed debug information related to the ST
Filter	None

stTunnelEngine

Description	Logs events and conditions related to the communication between the IPsec tunnels application and the IPsec server and line modules
Emergency	None
Alert	None
Critical	None
Error	Unexpected and nonrecoverable communication errors
Warning Log	Unexpected but recoverable events
Notice Log	Controller up/down and restart up/down events
Info	Processing of controller up/down and restart up/down events; processing of synchronization events following a cold- or warm-restart
Debug	Detailed debug information related to all communication between the IPsec tunnels application and the IPsec server and line modules; interactions with the IP Engine application for virtual router table download to designated IPsec server modules
Filter	None

system

Description	System management and monitoring
Emergency	None

Alert None

Critical Line module ping failure threshold exceeded; test failure on line module or standby SRP module; test failure on line module or standby SRP module

Error Error on line module or standby SRP module; critical subsystem failure condition (NVS, power, fan, network timing, temperature); unrecognized module type; module ID mismatch; line module memory reduction; line module bandwidth misconfiguration; unrecoverable file system synchronization errors; software incompatibility issue

Warning Log Noncritical subsystem failure condition (heap/CPU utilization, NVS, network timing); unexpected software error; recoverable file system synchronization errors; file system out of synchronization notification; NVS subsystem redundancy size mismatch; line module ID block misconfigured

Notice Log Subsystem failure condition abatement (heap/CPU utilization, NVS, power, fan, network timing, temperature); new module announcement; module revision mismatch; module upgraded or downgraded (ECC/non-ECC); module online or offline

Info Synchronization start, complete; line module set timing failed (not necessarily an error); NVS volume flush

Debug Module state change; module memory announcement; redundancy role changes; server role changes; module enable, disable, or clear notification; file system synchronization (normal operation); line module timing source set failure (not necessarily an error); image protection notification

Filter slot *slotNumber*

- slot—Logs events for a specific slot
- *slotNumber*—Number of slot for which you want to log events

Chapter 19

T Commands

- tacacsPlusServer on page 249
- tcpGeneral on page 250
- tcpTraffic on page 250
- tcpv6Traffic on page 251
- telnet on page 252
- telnetClient on page 252
- tftpClient on page 253
- trackerEvents on page 253
- trackerGeneral on page 254
- tsm on page 255

tacacsPlusServer

Description TACACS + server

Emergency None

Alert None

Critical None

Error Unable to start TACACS + ; failed to create tacacsPlusProcess instance while in startup

Warning Log Failed to create a host while reading parameters from NVS; primary host not found in NVS; more than one primary host found in NVS; number of primary hosts in NVS is not one, and attempts to correct this condition failed; unable to bind socket to source address configured to TACACS + server

Notice Log Received unexpected data from the TACACS + host, which will result in authentication failure; either there is no host in NVS, or all attempts to configure a host failed

Info None

Debug Authentication attempted while TACACS+ is being shutdown; not enough memory for sending authentication requests; socket allocation limit reached; failed to allocate new socket for a request; not enough memory for protocol message; received unexpected notification on the socket

Filter None

tcpGeneral

Description TCP system

Emergency None

Alert None

Critical None

Error None

Warning Log None

Notice Log TCP state change event info (brief)

Info None

Debug TCP state changes (detail); TCP packet transmission; minor TCP errors

Filter router virtualRouterName

- router—Logs events for a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events

tcpTraffic

Description TCP frame transmit and receive

Emergency None

Alert None

Critical None

Error None

Warning Log	None
Notice Log	TCP packet discards due to MD5 authorization failure and checksum failure
Info	None
Debug	Report all TCP receive and transmit events
Filter 1	remote-ip-address <i>ipAddress</i> [<i>ipAddressMask</i>] <ul style="list-style-type: none"> ■ remote-ip-address—Logs events for a remote address ■ <i>ipAddress</i>—Address of remote system for which you want to log messages ■ <i>ipAddressMask</i>—Mask for the remote address
Filter 2	router <i>virtualRouterName</i> [remote-ip-address <i>ipAddress</i> [<i>ipAddressMask</i>]] <ul style="list-style-type: none"> ■ router—Logs events on a specific virtual router ■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events ■ remote-ip-address—Logs events for a remote address ■ <i>ipAddress</i>—Address of remote system for which you want to log messages ■ <i>ipAddressMask</i>—Mask for the remote address

tcpv6Traffic

Description	TCP frame transmit and receive
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	TCP packet discards due to MD5 authorization failure and checksum failure
Info	None
Debug	Report all TCP receive and transmit events

Filter 1 remote-ip-address *ipAddress* [*ipAddressMask*]

- remote-ip-address—Logs events for a remote address
- *ipAddress*—Address of remote system for which you want to log messages
- *ipAddressMask*—Mask for the remote address

Filter 2 router *virtualRouterName* [remote-ip-address *ipAddress* [*ipAddressMask*]]

- router—Logs events on a specific virtual router
- *virtualRouterName*—Name of virtual router for which you want to log events
- remote-ip-address—Logs events for a remote address
- *ipAddress*—Address of remote system for which you want to log messages
- *ipAddressMask*—Mask for the remote address

telnet

Description Telnet daemon

Emergency None

Alert None

Critical None

Error Error condition binding to or listening on Telnet sockets; unexpected software error; NVS mismatch; insufficient memory resources

Warning Log None

Notice Log None

Info None

Debug Stopped listening on a specified router

Filter None

telnetClient

Description Telnet client log

Emergency None

Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	Unexpected socket condition; unable to connect to remote host; successful connection; ENV send failure; resource allocation failure
Info	Connection attempt; detailed connection information (per connection); escape character announcement; connection closed
Debug	None
Filter	None

tftpClient

Description	TFTP client log
Emergency	None
Alert	None
Critical	None
Error	Memory allocation failures
Warning Log	None
Notice Log	TFTP error message received from remote host
Info	Initiating communication with remote host; discarded messages
Debug	TFTP responses received from incorrect source port on remote host
Filter	None

trackerEvents

Description	Tracker event propagation
--------------------	---------------------------

Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Indicates if there is a memory shortage for event propagation
Debug	Provides debug information for event propagation from the tracker component
Filter	None

trackerGeneral

Description	Tracker component
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	Indicates if there is a memory shortage for tracker operations
Notice Log	None
Info	Indicates if there is a memory shortage for accommodating new clients
Debug	Provides debug information for the tracker component
Filter	None

tsm

Description	Tunnel server manager
Emergency	None
Alert	None
Critical	Number of interfaces in use is critically close to maximum
Error	Memory exhaustion errors
Warning Log	Nonvolatile storage integrity problems; memory exhaustion-based denial of service; number of interfaces in use reaching high levels
Notice Log	Nonvolatile storage allocation problems; memory pool expansion
Info	Resource-restriction based denial of service; line module up or down transitions
Debug	Program debugging information including function call tracing
Filter	None

Chapter 20

U Commands

- udpTraffic on page 257
- udpv6Traffic on page 258

udpTraffic

Description	UDP frame transmit or receive
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Report all UDP receive or transmit events
Filter 1	remote-ip-address <i>ipAddress</i> [<i>ipAddressMask</i>] <ul style="list-style-type: none">■ remote-ip-address—Logs events for a remote address■ <i>ipAddress</i>—Address of remote system for which you want to log messages■ <i>ipAddressMask</i>—Mask for the remote address
Filter 2	router <i>virtualRouterName</i> [remote-ip-address <i>ipAddress</i> [<i>ipAddressMask</i>]] <ul style="list-style-type: none">■ router—Logs events on a specific virtual router■ <i>virtualRouterName</i>—Name of virtual router for which you want to log events

- `remote-ip-address`—Logs events for a remote address
- `ipAddress`—Address of remote system for which you want to log messages
- `ipAddressMask`—Mask for the remote address

udpv6Traffic

Description	UDIPv6 packet transmit and receive events
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	All UDIPv6 packet receive and transmit events
Filter 1	[router <i>virtualRouterName</i>] <ul style="list-style-type: none"> ■ <code>router</code>—Logs events for a specific virtual router ■ <code>virtualRouterName</code>—Name of virtual router for which you want to log events
Filter 2	[remote-ipv6-address <i>ipv6Address</i>] <ul style="list-style-type: none"> ■ <code>remote-ipv6-address</code>—Logs events for packets arriving from or going to a specified IPv6 address ■ <code>ipv6Address</code>—IPv6 address of remote system for which you want to log messages

Chapter 21

V Commands

- vrrp on page 259
- vrrpTracking on page 260
- vsm on page 260
- vsmEngine on page 261

vrrp

Description	Virtual Router Redundancy Protocol
Emergency	None
Alert	None
Critical	NVS error; out of resources; unexpected error
Error	Virtual router ID (VRID) creation or modification failure; association addresses creation or modification failure
Warning Log	IP interface used by VRRP was removed; unexpected advertisement received from neighbor; invalid authentication detected; unable to get IP interface's primary address
Notice Log	VRRP neighbor found
Info	State machine change
Debug	Management get, set, create, and remove
Filter	interface <i>interfaceType</i> <i>interfaceSpecifier</i> [<i>vrrpIdentifier</i>] <ul style="list-style-type: none">■ interface—Logs events on a specific interface■ <i>interfaceType</i>—Type of interface for which you want to log events■ <i>interfaceSpecifier</i>—Location of interface in the appropriate format



NOTE: For information about interface types and specifiers, see Interface Types and Specifiers in *JUNOS Command Reference Guide*.

- *vrpIdentifier*—ID of the VRRP router for which you want to log events

vrpTracking

Description	Virtual Router Redundancy Protocol tracking
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	Information about interaction between VRRP and the tracker module
Debug	Management get, set, create, and remove
Filter	None

vsm

Description	VLAN subinterface manager
Emergency	None
Alert	None
Critical	Unable to find VLAN major interface for agent-circuit-id-based VLAN
Error	Truncating agent-circuit-id string
Warning Log	Creation failure

Notice Log	Out of pool space
Info	Replay of unknown interface after high availability switchover
Debug	General VSM operations, such as agent-circuit-id-based VLAN created
Filter	None

vsmEngine

Description	VLAN subinterface manager engine
Emergency	None
Alert	None
Critical	None
Error	None
Warning Log	None
Notice Log	None
Info	None
Debug	Recoverable out-of-sync conditions after high availability switchover
Filter	None

Part 3

Index

- Index on page 265

Index

B

baseline commands
 baseline log.....5

C

conventions
 notice icons.....xxi
 text and syntax.....xxii
customer support.....xxiii
 contacting JTAC.....xxiii

D

destination
 logging messages by.....5
documentation set
 comments on.....xxiii

E

engineering logs
 enabling.....5

F

fields
 adding to logs.....5

L

legacy-configuration-guidelines.....14, 17
log commands.....5
 baseline log.....5
 log destination.....5
 log engineering.....5
 log field.....5
 log here.....5
 log severity.....5
 log unlimit.....5
 log verbosity.....5
 no log filters.....17
 See also show log commands

log event categories.....23
 aaaAtm1483Cfg.....23
 aaaEngineGeneral.....23
 aaaQosCfg.....23
 aaaServerGeneral.....23
 aaaUserAccess.....23
 addressServerGeneral.....23
 ar1AaaServerGeneral.....23
 atm.....23
 atm1483.....23
 atm1483VcClass.....23
 atmAal5.....23
 atmVcClass.....23
 auditIpsec.....34
 bfdAdaptivity.....35
 bfdEvents.....36
 bfdGeneral.....36
 bfdSession.....37
 bgpConnections.....37
 bgpDampening.....38
 bgpEvents.....39
 bgpGeneral.....40
 bgpGracefulRestart.....41
 bgpIpv6NextHops.....42
 bgpKeepAlives.....42
 bgpMessages.....43
 bgpNeighborChanges.....44
 bgpNextHops.....45
 bgpRoutes.....45
 bridge.....47
 bridgeEngine.....47
 bridgingMgr.....47
 bulkStats.....47
 cacGeneral.....47
 cacIntf.....47
 cliCommand.....47
 cliGeneral.....47
 connectionManager.....47
 cops.....47
 copsPr.....47
 coreDump.....47
 ctreeLog.....47
 dcm.....47
 dcmEngineGeneral.....47
 debounceEvents.....59
 debounceGeneral.....59

dhcpCapture.....	47	ipAccessList.....	100
dhcpExternal.....	47	ipEngine.....	101
dhcpExternalEngine.....	47	ipflowstats.....	101
dhcpGeneral.....	47	ipflowstatsEngine.....	102
dhcpIssuLog.....	47	ipGeneral.....	102
dhcpLocalClients.....	47	ipIfCreator.....	103
dhcpLocalGeneral.....	47	ipInterface.....	103
dhcpLocalHighAvailability.....	47	ipNhopTrackerGeneral.....	103
dhcpLocalPool.....	47	ipProfileMgr.....	103
dhcpLocalProtocol.....	47	ipRoutePolicy.....	103
dhcpNvGeneral.....	47	ipRouteTable.....	103
dhcpOfferLog.....	47	ipseclDb.....	103
dhcpPbeGeneral.....	47	ipsecP1Throttler.....	103
dhcpProxyGeneral.....	47	ipsecXcfgSM.....	103
dhcpRelayGeneral.....	47	ipSubscriberMgr.....	103
dhcpv6Client.....	47	ipTraffic.....	103
dhcpv6DemuxGeneral.....	47	ipTunnel.....	103
dhcpv6LsGeneral.....	47	ipv6AccessList.....	103
dismanEventMgr.....	47	ipv6General.....	103
dnsGeneralLog.....	47	ipv6Interface.....	103
dosProtection.....	47	ipv6ProfileMgr.....	103
ds1.....	47	ipv6RouteTable.....	103
ds3.....	47	ipv6Traffic.....	103
dvmrpGeneral.....	47	ipv6Types.....	103
dvmrpGracefulRestart.....	74	isisAdjChange.....	103
dvmrpMcastTable.....	74	isisAdjPackets.....	116
dvmrpProbeRcv.....	74	isisBfdEvents.....	116
dvmrpProbeSent.....	74	isisChecksumErr.....	116
dvmrpRtTable.....	74	isisGeneral.....	116
ethernet.....	74	isisHelloGeneral.....	116
ethernetStateSession.....	74	isisHelloPackets.....	116
fileSystem.....	74	isisIpv6Log.....	116
flowInspection.....	74	isisLdpEvents.....	116
flowInspectionEngine.....	74	isisLocalUpdate.....	116
flowServicesFirewallAlert.....	74	isisMplsTeAdvertisements.....	116
flowServicesFirewallAudit.....	74	isisMplsTeEvents.....	116
frameRelay.....	74	isisNsfEvents.....	116
fsAgent.....	74	isisProtocolErr.....	116
ft1.....	74	isisSnppackets.....	116
ftpClient.....	74	isisSpfEvents.....	116
ftpServer.....	74	isisSpfStatistics.....	116
gplaan.....	74	isisSpfTriggers.....	116
ha.....	74	isisUpdatePackets.....	116
hdlc.....	74	isVoice.....	127
hotfixGeneral.....	74	itm.....	127
httpServer.....	74	l2cGeneral.....	130
icImageFixServer.....	74	l2cKeepAlive.....	130
icmpTraffic.....	74	l2cPacket.....	131
icmpv6Traffic.....	74	l2tp.....	131
igmpGeneral.....	74	l2tpDialoutGenerator.....	132
igmpGracefulRestart.....	74	l2tpDisconnectCause.....	132
igmpGroupState.....	74	l2tpIpLowerBinding.....	133
ikeCertificateMgr.....	74	l2tpStateMachine.....	133
ikeEnrollment.....	74	lasv6General.....	134
ikepki.....	99	ldpConnect.....	134
interModuleCommunication.....	99	ldpGeneral.....	135

ldpGracefulRestart.....	135	ospfNeighbor.....	176
ldpHelloMessages.....	136	ospfPktsRcvd.....	176
ldpHelloMgr.....	137	ospfPktsSent.....	176
ldpInterface.....	137	ospfRestart.....	176
ldpMessages.....	138	ospfRoute.....	176
ldpPeer.....	139	ospfSpfExt.....	176
ldpShimInterface.....	139	ospfSpfInter.....	176
ldpSocket.....	140	ospfSpfIntra.....	176
ldpTimer.....	141	ospfTeDatabase.....	176
ldpVpls.....	141	ospfTeSpf.....	176
ldpWorker.....	142	ospfv3ElectDr.....	176
localAddressServerGeneral.....	142	ospfv3General.....	176
localAuthServer.....	143	ospfv3HelloPktsRcvd.....	176
localEnableAuthServer.....	143	ospfv3HelloPktsSent.....	176
localLinePassword.....	144	ospfv3Interface.....	176
macroData.....	146	ospfv3Lsa.....	176
mgmtGeneral.....	147	ospfv3Neighbor.....	176
mgmtGracefulRestart.....	148	ospfv3PktsRcvd.....	176
mgmtmv6General.....	148	ospfv3PktsSent.....	176
mgmtmv6GracefulRestart.....	149	ospfv3Route.....	176
mldGeneral.....	150	ospfv3SpfExt.....	176
mldGracefulRestart.....	151	ospfv3SpfInter.....	176
mldGroupState.....	151	ospfv3SpfIntra.....	176
mmcd.....	152	pimAutoRPRcvdLog.....	176
mobileIpv4HaBinding.....	153	pimAutoRPSentLog.....	194
mobileIpv4HaEng.....	153	pimBsrRcvdLog.....	194
mobileIpv4HaEvent.....	154	pimBsrSentLog.....	194
mobileIpv4HaLog.....	154	pimGracefulRestartLog.....	194
mplsFwdTable.....	155	pimHelloRcvdLog.....	194
mplsGeneral.....	155	pimHelloSentLog.....	194
mplsHighAvailability.....	156	pimIpv6AutoRPRcvdLog.....	194
mplsMajorInterface.....	156	pimIpv6AutoRPSentLog.....	194
mplsMinorInterface.....	157	pimIpv6BsrRcvdLog.....	194
mplsRouter.....	158	pimIpv6BsrSentLog.....	194
mplsShimInterface.....	159	pimIpv6GracefulRestartLog.....	194
mplsTraffic.....	160	pimIpv6HelloRcvdLog.....	194
mrInfoLog.....	160	pimIpv6HelloSentLog.....	194
mrInfoRcvdLog.....	161	pimIpv6PktsRcvdLog.....	194
mrInfoSentLog.....	161	pimIpv6PktsSentLog.....	194
mtraceLog.....	162	pimPktsRcvdLog.....	194
mtraceRcvdLog.....	162	pimPktsSentLog.....	194
mtraceSentLog.....	163	pimsmGeneral.....	194
multicastTraffic.....	163	pimsmMvpn.....	194
nameResolverLog.....	165	policyMgrAttachment.....	194
nfsClient.....	165	policyMgrGeneral.....	194
noneAaaAddrServer.....	166	policyMgrPacketLog.....	194
noneAaaServer.....	167	ppp.....	194
ntpGeneral.....	167	pppoe.....	194
os.....	170	pppoeControlPacket.....	194
ospfElectDr.....	170	pppPacket.....	194
ospfGeneral.....	171	pppStateMachine.....	194
ospfHelloPktsRcvd.....	171	profileMgr.....	194
ospfHelloPktsSent.....	171	qm.....	194
ospfInterface.....	171	qos.....	194
ospfLdpEvents.....	171	qosAttachment.....	194
ospfLsa.....	171	radiusAttributes.....	194

radiusClient.....	194
radiusCoAAttributes.....	194
radiusDisconnectGeneral.....	194
radiusRelayGeneral.....	194
radiusSendAttributes.....	194
remOps.....	194
resourceThresholdTrap.....	194
ripBfd.....	194
ripGeneral.....	194
ripRoute.....	194
ripRtTable.....	194
routeDownloader.....	194
routerLog.....	194
rsvpAsyncMgr.....	194
rsvpBfd.....	194
rsvpGeneral.....	194
rsvpGracefulRestart.....	194
rsvpInterface.....	194
rsvpTunnel.....	194
security.....	194
serviceability.....	194
serviceMgr.....	194
serviceMgrClientSession.....	194
serviceMgrDcm.....	194
serviceMgrMacroManager.....	194
serviceMgrPerformance.....	194
serviceMgrServiceDef.....	194
serviceMgrServiceInstance.....	194
serviceMgrServiceSession.....	194
serviceMgrSubscriberSession.....	194
slep.....	194
snmp.....	194
snmpIfMib.....	194
snmpPduAudit.....	194
snmpSetPduAudit.....	194
snmpTrap.....	194
sonet.....	194
sonetPath.....	194
sonetVT.....	194
ssccDetailPm.....	194
ssccDetailSsc.....	194
ssccGeneral.....	194
ssccLacGeneral.....	244
ssh.....	194
stTunnel.....	245
stTunnelEngine.....	246
system.....	246
tacasPlusServer.....	249
tcpGeneral.....	250
tcpTraffic.....	250
tcpv6Traffic.....	251
telnet.....	252
telnetClient.....	252
tftpClient.....	253
trackerEvents.....	253
trackerGeneral.....	254

tsm.....	255
udpTraffic.....	257
udpv6Traffic.....	258
vrrp.....	259
vrrpTracking.....	260
vsm.....	260
vsmEngine.....	261

M

manuals	
comments on.....	xxiii

N

notice icons.....	xxi
-------------------	-----

P

platform considerations	
system logs.....	5

S

service commands	
service timestamps.....	14
show log commands	
show log configuration.....	17
show log data.....	17
support, technical <i>See</i> technical support	
system event logs	
individual logs.....	10, 14
severity.....	3
system-wide logs.....	10, 14
user-defined classification.....	16
verbosity.....	3
viewing logs.....	17

T

technical support	
contacting JTAC.....	xxiii
text and syntax conventions.....	xxii