Release Notes: Junos® OS Release 15.1X53-D30 for QFX5200 Switches

Release 15.1X53-D30
8 November 2016
Revision 4

Contents

Junos OS Release Notes for QFX5200 Switches

These release notes accompany Junos OS Release 15.1X53-D30 for QFX5200 switches.

New and Changed Features for QFX5200 Switches

This section describes the new features in Junos OS Release 15.1X53-D30 for QFX5200 switches.

NOTE: For further information about the features, see the Complete Software Guide for Junos OS for QFX5200 Switches, Release 15.1X53-D30.

- New Features in Release 15.1X53-D30 on page 3

New Features in Release 15.1X53-D30

Hardware

- **QFX5200-32C switch**—The Juniper Networks QFX5200 line of fixed-configuration access switches is designed for cloud builders and data centers deploying next-generation IP fabric networks. The QFX5200-32C is a highly flexible, 32-port, fixed-configuration switch that can be configured for 10/25/40/50/100-Gigabit Ethernet speeds. The QFX5200-32C provides 100-Gbps spine and leaf connectivity in Layer 3 fabrics for cloud and web services.

  The QFX5200-32C is a compact, 1 U standalone switch that provides a throughput of up to 3.2 Tbps, very low latency, and a rich set of Layer 3 features. The Routing Engine and control plane are driven by the 1.8 Ghz quad-core Intel CPU with 16 GB of memory and two 32 GB solid-state drives (SSDs) for storage.

- **Support for 100-Gigabit optical transceivers (QFX5200 switch)**—Provides support for:

  - JNP-QSFP 100G-SR4—QSFP28 module 100GBASE-SR4, 100-Gigabit Ethernet pluggable; 850 nm for up to 150 m transmission on multi-mode fiber (MMF) cable.
  - JNP-QSFP-100G-LR4—QSFP28 module 100GBASE-LR4, 100-Gigabit Ethernet pluggable; 1310 nm for up to 10 km single-mode fiber-optic (SMF) cable.

- **Support for 40-Gigabit optical transceivers (QFX5200 switch)**—Provides support for:

  - QFX-QSFP-40G-SR4—QSFP+ module 40GBASE-SR4, 40-Gigabit Ethernet optics; 100 m transmission on OM3, MMF cable and 150 m transmission on OM4, MMF cable
  - QFX-QSFP-40G-ESR4—Juniper Networks proprietary 4X10G-IR parallel single mode QSFP+ module, 40-Gigabit Ethernet- optics; 300m transmission on OM3, MMF cable or 400 M transmission on OM4 cable
  - JNP-QSFP-4X10GE-IR—QSFP+ parallel single mode module 40-Gigabit Ethernet pluggable; 1.4 km transmission on SMF cable

  - JNP-QSFP-40GE-IR4—Juniper Networks proprietary 40GBASE-IR4, 40Gigabit Ethernet pluggable; 2 km transmission on SMF cable.
  - JNP-QSFP-40G-LR4—QSFP+ module 40GBASE-LR4, 40-Gigabit Ethernet pluggable; 10 km transmission on SMF cable
  - JNP-QSFP-40G-LX4—QSFP+ module 40GBASE-LX4, 40-Gigabit Ethernet pluggable;2 km transmission on SMF cable, 100 m transmission on OM3, MMF cable, or 150 m transmission on OM4, MMF cable

- **Support for 1-Gigabit optical transceivers on the SFP management port (QFX5200 switch)**—Provides support for:
  - QFX-SFP-1GE-SX—SFP module 1000BASE-SX Gigabit Ethernet; 220 m transmission on FDDI, MMF cable, 275 m transmission on OM1, MMF cable, or 550 m transmission on OM2 cable
  - QFX-SFP-1GE-T—SFP module 1000BASE-T Gigabit Ethernet; 100m transmission on Category 5 cable

- **Support for QSFP+ direct attach copper (DAC) cables (QFX5200 switch)**—Provides support for:
  - EX-QSFP-40GE-DAC-CM—QSFP+ DAC assembly; 0.5 m, passive
  - QFX-QSFP-DAC-1M—QSFP+ DAC assembly, 1 M, passive
  - QFX-QSFP-DAC-3M—QSFP+ DAC assembly, 3 M, passive
  - QFX-QSFP-DAC-5M—QSFP+ DAC assembly, 5 M, passive
  - QFX-QSFP-DAC-7MA—QSFP+ DAC assembly, 7 M, active
  - QFX-QSFP-DAC-10MA—QSFP+ DAC assembly; 10 M, active

Infrastructure and Chassis

- **Disaggregated Junos OS (QFX5200 switch)**-–Starting with the QFX5200 switch, the software has been disaggregated from the hardware. With disaggregated Junos OS, you can now purchase the Junos Base Services (JBS) license to use basic Junos OS functions, the Junos Advanced Services (JAS) license to use Border Gateway Protocol (BGP), Intermediate System-to-Intermediate System (IS-IS), and Virtual Extensible Local Area Network (VXLAN), and the Junos Premium Services (JPS) license to use features supported in the JAS license and the multiprotocol label-switching (MPLS) feature set. The disaggregated Junos OS feature licenses are available on a perpetual basis.

NOTE: You must purchase the JBS license to use basic functions, but you do not need to install the license key in Junos OS Release 15.1X53-D30. JBS basic functions work with this release without installing the license key. However, you will need to install the license key in a future release of Junos OS to be determined, so make sure to retain the authorization code you received from the License Management System to generate a license key for the JBS license.

Interfaces and Chassis

- **Channelizing 100-Gigabit Ethernet QSFP28 interfaces (QFX5200 switch)**—This feature enables you to channelize the 100-Gigabit Ethernet interfaces to two independent 50-Gigabit Ethernet or to four independent 25-Gigabit Ethernet interfaces. The default 100-Gigabit Ethernet interfaces can also be configured as 40-Gigabit Ethernet interfaces, and in this configuration can either operate as dedicated 40-Gigabit Ethernet interfaces or can be channelized to four independent 10-Gigabit Ethernet interfaces using breakout cables.

  There are a total of 32 physical ports on the QFX5200 switch. Any port can be used as either 100-Gigabit Ethernet or 40-Gigabit Ethernet interfaces. You choose the speed by plugging in the appropriate transceiver. They can also be channelized to 50G, 25G or 10G.

  By default, the 100-Gigabit Ethernet and 40-Gigabit Ethernet interfaces appear in the et-fpc/pic/port format. When the 100-Gigabit Ethernet interfaces are channelized as 50-Gigabit Ethernet and 25-Gigabit Ethernet interfaces, the interface names appear in the et-fpc/pic/port:channel format. When the 40-Gigabit Ethernet interfaces are channelized as 10-Gigabit Ethernet interfaces, the interface names appear in the xe-fpc/pic/port:channel format, where channel can be a value of 0 through 3. To channelize the ports, manually configure the port speed using the **set chassis fpc** *slot-number* **port** *port-number* **channel-speed** *speed* command, where the speed can be set to 10G, 25G, or 50G. The ports do not support autochannelization.

  NOTE: **If a 100G transceiver is connected to the switch, channelize the port only to 25G or 50G. If a 40G transceiver is connected, channelize the port only to 10G. Note that there is no commit check for these options.**

- **Link aggregation (QFX5200 switch)**—Link aggregation enables you to use multiple network cables and ports in parallel to increase link speed and redundancy.
- **Multichassis link aggregation group (MC-LAG) (QFX5200 switch)—**MC-LAG enables a client device to form a logical LAG interface using two QFX5200 switches. MC-LAG provides redundancy and load balancing between the two QFX5200 switches, multihoming support, and a loop-free Layer 2 network without running STP.

  On one end of an MC-LAG is an MC-LAG client that has one or more physical links in a LAG. This client does not need to detect the MC-LAG. On the other side of the MC-LAG are two MC-LAG QFX5200 switches. Each of these QFX5200 switches has one or more physical links connected to a single client. The QFX5200 switches coordinate with each other to ensure that data traffic is forwarded properly.

  To configure an MC-LAG, include the following statements:

  - **mc-ae** statement at the **[edit interfaces** *interface-name* **aggregated-ether-options]** hierarchy level
  - **iccp** statement at the [**edit protocols]** hierarchy level
  - **multi-chassis** statement at the **[edit]** hierarchy level

- **Resilient hashing support for link aggregation groups and equal cost multipath routes (QFX5200 switch)**—Resilient hashing is supported by link aggregation groups (LAGs) and equal cost multipath (ECMP) sets.

  A LAG combines Ethernet interfaces (members) to form a logical point-to-point link that increases bandwidth, provides reliability, and allows load balancing. Resilient hashing enhances LAGs by minimizing destination remapping when a new member is added to or deleted from the LAG.

  Resilient hashing works in conjunction with the default static hashing algorithm. It distributes traffic across all members of a LAG by tracking the flow's LAG member utilization. When a flow is affected by a LAG member change, the Packet Forwarding Engine (PFE) rebalances the flow by reprogramming the flow set table. Destination paths are remapped when a new member is added to or existing members are deleted from a LAG.

  Resilient hashing applies only to unicast traffic and supports a maximum of 1024 LAGs, with each group having a maximum of 256 members.

  An ECMP group for a route contains multiple next-hop equal cost addresses for the same destination in the routing table. (Routes of equal cost have the same preference and metric values.)

  Junos OS uses a hash algorithm to choose one of the next-hop addresses in the ECMP group to install in the forwarding table. Flows to the destination are rebalanced using resilient hashing.

  Resilient hashing enhances ECMPs by minimizing destination remapping when a new member is added to or deleted from the ECMP group.

- **Ability to create link aggregation groups with interfaces operating at different speeds (QFX5200 switch)**—You can add 10-, 25-, 40-, 50-, and 100-Gigabit Ethernet interfaces into the same link aggregation group (LAG).

- **Support for Layer 3 logical interfaces (QFX5200 switch)**—A Layer 3 logical interface is a logical division of a physical interface or an aggregated Ethernet interface that operates at the network level and that can receive and forward IEEE 802.1Q VLAN tags. You can use these interfaces to route traffic between multiple VLANs along a single trunk line that connects a QFX5200 switch to a Layer 2 switch. Only one physical connection is required between the switches.

- **Generic routing encapsulation (GRE) support (QFX5200 switch)**—You can use GRE tunneling services to encapsulate any network layer protocol over an IP network. Acting as a tunnel source router, the switch encapsulates a payload packet that is to be transported through a tunnel to a destination network. The switch first adds a GRE header and then adds an outer IP header that is used to route the packet. When it receives the packet, a switch performing the role of a tunnel remote router extracts the tunneled packet and forwards the packet to the destination network. GRE tunnels can be used to connect noncontiguous networks and to provide options for networks that contain protocols with limited hop counts.

Layer 2 Features

- **VLAN support (QFX5200 switch)**—VLANs enable you to divide one physical broadcast domain into multiple virtual domains.
- **Link Layer Discovery Protocol (LLDP) support (QFX5200 switch)**—LLDP enables a switch to advertise its identity and capabilities on a LAN, as well as receive information about other network devices.
- **Q-in-Q tunneling support (QFX5200 switch)**—This feature allows service providers on Ethernet access networks to extend a Layer 2 Ethernet connection between two customer sites. Using Q-in-Q tunneling, providers can also segregate or bundle customer traffic into fewer VLANs or different VLANs by adding another layer of 802.1Q tags. Q-in-Q tunneling is useful when customers have overlapping VLAN IDs, because the customer's 802.1Q (dot1Q) VLAN tags are prepended by the service VLAN (S-VLAN) tag.
- **Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSTP), and VLAN Spanning Tree Protocol (VSTP) support (QFX5200 switch)**—These protocols enable a switch to advertise its identity and capabilities on a LAN and receive information about other network devices.

Layer 3 Features

- **BGP support (QFX5200 switch)**—BGP is an exterior gateway protocol (EGP) for routing traffic between autonomous systems (ASs). You can configure BGP at the **[edit protocols bgp]** hierarchy level.
- **OSPF support (QFX5200 switch)**—The IPv4 OSPF protocol is an interior gateway protocol (IGP) for routing traffic within an autonomous system (AS). QFX5200 switches support OSPFv1 and OSPFv2. You can configure OSPF at the **[edit protocols ospf]** hierarchy level.
- **Bidirectional Forwarding Detection (BFD) support for static routes and the BGP, IS-IS, OSPF, PIM, and RIP protocols (QFX5200 switch)**—BFD uses control packets and shorter detection time limits to rapidly detect failures in a network. Hello packets are sent at a specified, regular interval by routing devices. A neighbor failure is detected when a routing device stops receiving a reply after a specified interval.

  On a QFX5200 switch, you can configure BFD for static routes and for the BGP, IS-IS, OSPF, PIM, and RIP protocols.
- **IS-IS support (QFX5200 switch)**—The IS-IS protocol is an IGP for routing traffic within an AS.
- **Virtual Router Redundancy Protocol (VRRP) support (QFX5200 switch)**—VRRP enables you to provide alternative gateways for end hosts that are configured with static default routes. You can implement VRRP to provide a highly available default

path to a gateway without needing to configure dynamic routing or router discovery protocols on end hosts.

- **Hierarchical ECMP (QFX5200 switch)**—Hierarchical ECMP resolves route prefixes to two-level ECMP automatically, allowing better load-balancing of traffic. Hierarchical ECMP is enabled by default.

Multicast Protocols

- **Internet Group Management Protocol (IGMP) support (QFX5200 switch)**—IGMP manages the membership of hosts and routers in multicast groups. IP hosts use IGMP to report their multicast group memberships to any immediately neighboring multicast routers. Multicast routers use IGMP to learn, for each of their attached physical networks, which groups have members.
- **IGMP snooping support (QFX5200 switch)**—IGMP snooping regulates multicast traffic in a switched network. With IGMP snooping enabled, a LAN switch monitors the IGMP transmissions between a host (a network device) and a multicast router, keeping track of the multicast groups and associated member interfaces. The switch uses that information to make intelligent multicast-forwarding decisions and forward traffic to the intended destination interfaces.
- **Protocol Independent Multicast (PIM) sparse mode support (QFX5200 switch)**—PIM sparse mode enables efficient routing to multicast groups with receivers that are sparsely spread over multiple networks. To configure PIM sparse mode, include the **pim** statement at the **[edit protocols]** hierarchy level.
- **PIM source-specific multicast (PIM SSM) support (QFX5200 switch)**—PIM SSM uses a subset of PIM sparse mode and IGMPv3 to enable a client to receive multicast traffic directly from the source. PIM-SSM uses the PIM sparse-mode functionality to create a shortest-path tree (SPT) between the client and the source, but builds the SPT without the help of a rendezvous point.
- **Multicast Source Discovery Protocol (MSDP) support (QFX5200 switch)**—MSDP enables you to connect multiple domains to one another. MSDP typically runs on the same routing device as a PIM sparse mode rendezvous point. Each MSDP routing device establishes adjacencies with internal and external MSDP peers, similar to how BGP peering works. These peers inform each other about active sources within the domain. When they detect active sources, the peers send PIM sparse mode explicit join messages to the active source. To configure MSDP, include the **msdp** statement at the **[edit protocols]** hierarchy level and specify groups of local addresses and MSDP peer addresses.
- **Rendezvous point (RP) support (QFX5200 switch)**—This feature supports multiple rendezvous points using anycast addresses (RPs sharing a single routable IP address) in either a PIM or MSDP-enabled network. To configure anycast RP, include the **anycast-pim** statement at the **[edit protocols pim rp local family inet]** hierarchy level.
- **IGMP querier support (QFX5200 switch)**—This feature enables multicast traffic to be forwarded between connected switches in pure Layer 2 networks. If you enable IGMP snooping in a Layer 2 network without a multicast router, the IGMP snooping reports are not forwarded between connected switches. This means that if hosts connected to different switches in the network join the same multicast group, and

traffic for that group arrives on one of the switches, the traffic is not forwarded to the other switches that have hosts that should receive the traffic. If you enable IGMP querying for a VLAN, multicast traffic is forwarded between switches that participate in the VLAN if they are connected to hosts that are members of the relevant multicast group.

Multiprotocol Label Switching (MPLS)

- **MPLS support (QFX5200 switch)**—MPLS provides both label edge router (LER) and label switch router (LSR) and provides the following capabilities:
  - Support for both MPLS major protocols, LDP and RSVP
  - IS-IS interior gateway protocol (IGP) traffic engineering
  - Class of service (CoS)
  - Object access method, including ping, traceroute, and Bidirectional Forwarding Detection (BFD)
  - Fast reroute (FRR), a component of MPLS local protection

    Both one-to-one local protection and many-to-one local protection are supported.
  - Loop free alternate (LFA) FRR
  - 6PE devices
  - Layer 3 VPNs for IPv4
  - LDP tunneling over RSVP
  - L2 Circuit (draft Martini) support
  - L3VPN Carrier-Over-Carrier (CoC)
  - ECMP on LSR
  - RSVP auto bandwidth
- **Equal cost multipath (ECMP) groups on label-switching router (LSR) devices for MPLS (QFX5200 switch)**—When a link goes down, ECMP uses fast reroute protection to shift packet forwarding to use operational links, thereby decreasing packet loss.

Network Management and Monitoring

- **Cloud Analytics Engine network device support (QFX5200 switch)**—Cloud Analytics Engine network device support on QFX5200 switches provides flow path data analysis functions to help improve application performance and availability on the network. Cloud Analytics Engine includes components that enable network data collection, analysis, and correlation, helping you better understand the behavior of workloads and applications across the physical and virtual infrastructure.
- **SNMP support (QFX5200 switch)**—SNMP includes versions 1, 2, and 3 for monitoring system activity.
- **System logging (syslog) support (QFX5200 switch)**—Syslog enables you to log system messages into a local directory on the switch or to a syslog server.

- **sFlow technology support (QFX5200 switch)**—This feature provides monitoring technology for high-speed switched or routed networks. You can configure sFlow technology to monitor traffic continuously at wire speed on all interfaces simultaneously. sFlow technology also collects samples of network packets, providing you with visibility into network traffic information. You configure sFlow monitoring at the **[edit protocols sflow]** hierarchy level. sFlow operational commands include **show sflow** and **clear sflow collector statistics**.
- **Port mirroring support (QFX5200 switch)**—Port mirroring copies packets entering or exiting a port or entering a VLAN and sends the copies to a local interface for local monitoring. You can use port mirroring to send traffic to applications that analyze traffic for purposes such as monitoring compliance, enforcing policies, detecting intrusions, monitoring and predicting traffic patterns, correlating events, and so on.

Security

- **Firewall filter support (QFX5200 switch)**—You can provide rules that define whether to accept or discard packets. You can use firewall filters on interfaces, VLANs, routed VLAN interfaces (RVIs), link aggregation groups (LAGs), and loopback interfaces.
- **Policing support (QFX5200 switch)**—You can use policing to apply limits to traffic flow and to set consequences for packets that exceed those limits.
- **Storm control support (QFX5200 switch)**—You can enable the switch to monitor traffic levels and take a specified action when a specified traffic level—called the storm control level—is exceeded, preventing packets from proliferating and degrading service. You can configure a switch to drop broadcast and unknown unicast packets, shut down interfaces, or temporarily disable interfaces when a traffic storm occurs.

Software Installation and Upgrade

- **Support for FreeBSD 10 kernel for Junos OS (QFX5200 switches)**—On QFX5200 switches, FreeBSD 10 is the underlying OS that enables SMP for Junos OS, rather than the FreeBSD 6.1 that is used in some older Juniper Networks devices. If you compare the QFX5200 to devices that run the older kernel, you will notice that some system commands display different output and a few others are deprecated.

Storage

- **FIP snooping and Data Center Bridging Capability Exchange (DCBX) protocol (QFX5200 switch)**—QFX5200 supports both FIP snooping and DCBX. FIP snooping filters prevent an FCoE device from gaining unauthorized access to a Fibre Channel (FC) storage device or to another FCoE device. DCBX discovers the data center bridging (DCB) capabilities of connected peers. DCBX advertises the capabilities of applications on interfaces by exchanging application protocol information through application time-length-values (TLVs).
- **CEE (QFX5200 switch)**—CEE is an enhanced single interconnect Ethernet technology developed to converge a variety of applications in data centers. CEE's primary focus is to consolidate the number of cables and adapters connected to servers. You can use data center bridging features on QFX5200 CEE-enabled switches to transport converged Ethernet and FC traffic while providing the class-of-service (CoS)

characteristics and other characteristics FC requires for transmitting storage traffic. Only port schedulers are supported; ETS is not supported.

System Management

- **Login authentication using RADIUS and TACACS+ (QFX5200 switch)**—You can use RADIUS and TACACS+ authentication to validate users who attempt to access the switch.
- **System utilization alarms support (QFX5200 switch)**—This feature provides system alarms to alert you of high disk usage in the /var partition on the switch. You can display these alarm messages by issuing the **show system alarms** operational mode command if the /var partition usage is higher than 75 percent. A usage level between 76 and 90 percent indicates high usage and raises a minor alarm condition, whereas a usage level over 90 percent indicates that the partition is full and raises a major alarm condition.

Traffic Management

- **Class of service (CoS) (QFX5200 switch)**—When a packet traverses a switch, the switch provides the appropriate level of service to the packet using either default class-of-service(CoS) settings or CoS settings that you configure. On ingress ports, the switch classifies packets into appropriate forwarding classes and assigns a loss priority to the packets. On egress ports, the switch applies packet scheduling and any rewrite rules to re-mark packets.
- **Class-of-service (CoS) rewrite rules and classifier support (QFX5200 switch)**—You can use rewrite rules to set the value of the CoS bits within a packet header, so you can alter the CoS settings of incoming packets. Packet classification maps incoming packets to a particular class-of-service (CoS) servicing level. You can use classifiers to map packets to a forwarding class and a loss priority and to assign packets to output queues based on the forwarding class.
- **Port scheduling with queue shaping support (QFX5200 switch)**—You can manage excess traffic and avoid congestion on a network interface where traffic might exceed the maximum port bandwidth. You can manage parameters such as transmit rate, shaping rate, and priority on each queue.
- **Priority-based flow control support (QFX5200 switch)**—This feature provides you with PFC (standard IEEE 802.1Qbb) capability, a link-level flow control mechanism that you can use to pause traffic selectively according to its class. You must use PFC for Fibre Channel over Ethernet (FCoE) traffic.
- **Ethernet PAUSE autonegotiation support (QFX5200 switch)**—You can configure symmetric flow control. To configure PAUSE, include the **flow-control** statement at the **[edit interfaces interface-name ether-options]** hierarchy level.

Related Documentation

- Known Behavior for QFX5200 Switches on page 12
- Known Issues for QFX5200 Switches on page 12
- Migration, Upgrade, and Downgrade Instructions for QFX5200 Switches on page 13
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Known Behavior for QFX5200 Switches

This section lists known behavior, system maximums, and limitations in hardware and software in Junos OS Releases 15.1X53 for QFX5200 switches.

For the most complete and latest information about known Junos OS defects, use the Juniper Networks online Junos Problem Report Search application.

- Infrastructure on page 12

Infrastructure

- The QFX5200 switch does not support cut-through switching mode. PR1145359

Related Documentation

- New and Changed Features for QFX5200 Switches on page 3
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Known Issues for QFX5200 Switches

This section lists the known issues in hardware and software in Junos OS Release 15.1X53-D30 for QFX5200 switches.

For the most complete and latest information about known Junos OS defects, use the Juniper Networks online Junos Problem Report Search application.

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Interfaces and Chassis

- On a QFX5200 switch, the **show chassis led** command displays incorrect status for the Link/Activity LED. For example, when an interface is administratively disabled, **show chassis led** shows the LED status as green even though the Link/Activity LED indicates that the port is disabled. PR1081459
- On a QFX5200 switch, the **show interface statistics detail** command displays the speed as 1000m for the em0 interface regardless of what the correct speed is. PR1083176
- On an MC-AE node on a QFX5200 switch, OSPF enabled on a VRRP-based IRB interface might stay in ExStart state if the routing instance has both VRRP-based IRB and **mcae-mac-synchronize** -based IRB . PR1139558

MPLS

- QFX5200 switches do not support having the same interface as part of both an MPLS configuration and a routing-instance configuration. When the same interface is configured for MPLS and for a routing instance, a commit does not work and an error occurs. PR1097427
- On QFX5200 switches, if you apply either an 802.1p rewrite rule or a DSCP rewrite rule on a network interface that has a Layer 2 circuit that is configured but not yet up, the rewrite rule does not work. If you apply the rewrite rule after the Layer 2 circuit is up, the rewrite rules are applied and work correctly. PR1105354

Traffic Management

- On QFX5200 switches, the DSCP classifier binding fails if an interface's inet interface configuration and classifier configuration are deleted in a single commit statement and then are added back in the same commit sequence. The following is a sample of the syslog error: **COS(cos_classifier_do_pre_bind_add_action:884): Binding of table <table-id> to ifd <ifd-index> failed ifd already bound to another table.** PR1148125

Related Documentation

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Migration, Upgrade, and Downgrade Instructions for QFX5200 Switches

This section contains the procedure to upgrade Junos OS, and the upgrade and downgrade policies for Junos OS.

- Downloading Software Files with a Browser on page 14
- Backing Up the Current Configuration Files on page 14
- Installing the Software on page 15

Downloading Software Files with a Browser

To download the software package from the Juniper Networks Support website, go to http://www.juniper.net/support/ .

NOTE: To access the download site, you must have a service contract with Juniper Networks and an access account. If you need help obtaining an account, complete the registration form at the Juniper Networks website https://www.juniper.net/registration/Register.jsp .

This procedure shows you how to upgrade software on a QFX5200 switch.

1. Using a Web browser, navigate to http://www.juniper.net/support .
2. Click **Download Software**.
3. In the By Technology box, click **Switching** | **QFX Series** | **QFX5200**.
4. In the QFX Series section, click the name of the platform for which you want to download software.
5. Click the **Software** tab and select the install package from the Install Package box.

   A login screen appears.
6. Enter your name and password and press **Enter**.
7. Read the End User License Agreement, click the **I agree** radio button, and then click **Proceed**.
8. Save the **jinstall-qfx-5e-*version*-domestic-signed.tgz** file on your computer.
9. Open or save the installation package either to the local system in the **var/tmp** directory or to a remote location. If you are saving the installation package to a remote system, make sure that you can access it using HTTP, TFTP, FTP, or scp.

Backing Up the Current Configuration Files

Before you install the new installation package, we strongly recommend that you back up your current configuration files, because the upgrade process removes all of the stored files on the switch.

To back up your current configuration files:

```
user@switch# save filename
```

Executing this command saves a copy of your configuration files to a remote location such as an external USB device.

Installing the Software

NOTE: On the switch, use the **force-host** option to force-install the latest version of the Host OS. However, by default, if the Host OS version is different from the one that is already installed on the switch, the latest version is installed without using the **force-host** option.

If the installation package resides locally on the switch, execute the **request system software add *<pathname><source>* reboot** command.

For example:

```
user@switch> request system software add /var/tmp/jinstall-qfx-5e-15.1X53-D30.n-domestic.tgz
reboot
```

If the Install Package resides remotely from the switch, execute the **request system software add *<pathname><source>* reboot** command.

For example:

```
user@switch> request system software add
ftp://ftpserver/directory/jinstall-qfx-5e-15.1X53-D30.n-domestic.tgz reboot
```

After the reboot has finished, verify that the new version of software has been properly installed by executing the **show version** command.

```
user@switch> show version
```

Related Documentation

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Product Compatibility for QFX5200 Switches

Hardware Compatibility

To obtain information about the components that are supported on the devices, and special compatibility guidelines with the release, see the Hardware Guide for the product.

To determine the features supported on QFX5200 switches in this release, use the Juniper Networks Feature Explorer, a Web-based application that helps you to explore and compare Junos OS feature information to find the right software release and hardware platform for your network. Find Feature Explorer at: http://pathfinder.juniper.net/feature-explorer/

Related Documentation

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Documentation Feedback

We encourage you to provide feedback, comments, and suggestions so that we can improve the documentation. You can provide feedback by using either of the following methods:

- Online feedback rating system—On any page at the Juniper Networks Technical Documentation site at http://www.juniper.net/techpubs/index.html, simply click the stars to rate the content, and use the pop-up form to provide us with information about your experience. Alternately, you can use the online feedback form at http://www.juniper.net/techpubs/feedback/.
- E-mail—Send your comments to techpubs-comments@juniper.net. Include the document or topic name, URL or page number, and software version (if applicable).

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 postsales 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/us/en/local/pdf/resource-guides/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: http://kb.juniper.net/InfoCenter/
- 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 located at https://tools.juniper.net/SerialNumberEntitlementSearch/.

Opening a Case with JTAC

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

- Use the Case 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, visit us at http://www.juniper.net/support/requesting-support.html.

If you are reporting a hardware or software problem, issue the following command from the CLI before contacting support:

`user@host>` **request support information** | **save** *filename*

To provide a core file to Juniper Networks for analysis, compress the file with the **gzip** utility, rename the file to include your company name, and copy it to **ftp.juniper.net/pub/incoming**. Then send the filename, along with software version information (the output of the **show version** command) and the configuration, to **support@juniper.net**. For documentation issues, fill out the bug report form located at https://www.juniper.net/cgi-bin/docbugreport/.

Revision History

8 November 2016—Revision 4, Junos OS for QFX5200 switches, Release 15.1X53-D30–update to New Features

5 August 2016—Revision 3, Junos OS for QFX5200 switches, Release 15.1X53-D30

21 December 2015—Revision 2, Junos OS for QFX5200 switches, Release 15.1X53-D30–Added item to Known Issues.

11 December 2015—Revision 1, Junos OS for QFX5200 switches, Release 15.1X53-D30