



Junos[®] OS 11.1 Software Release Notes for Dell PowerConnect J-EX Series Ethernet Switches

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Revision 2

These release notes accompany Release 11.1R2 of the Juniper Networks Junos operating system (Junos OS) for Dell PowerConnect J-EX Series Ethernet Switches. They describe device documentation and known problems with the software.

You can also find these release notes at <http://www.support.dell.com/manuals>.

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New Features in Junos OS Release 11.1 for J-EX Series Switches

New features in Release 11.1 of the Junos operating system (Junos OS) for J-EX Series switches are described in this section.



NOTE: Upgrading to Junos OS Release 11.1 from Release 10.3 or earlier is more involved than previous upgrades as a result of the introduction of resilient dual-root partitions. This new feature incorporates enhancements that add additional steps when you upgrade from a release that does not support resilient dual-root partitions to one that does. Once you are running a release that supports resilient dual-root partitions, such as Release 11.1R2, future upgrades will not require these additional steps.

See “Upgrade and Downgrade Instructions for Junos OS Release 11.1 for J-EX Series Switches” on page 37 for information about how to upgrade to Release 11.1R1.

Not all J-EX Series software features are supported on all J-EX Series switches in the current release. For a list of all J-EX Series software features and their platform support, see J-EX Series Switch Software Features Overview in the *Dell PowerConnect J-Series Ethernet Switch Complete Software Guide for Junos OS: Volume 1* at <http://www.support.dell.com/manuals>.

New features are described on the following pages:

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Resilient Dual-Root Partitions

Resilient Dual-Root Partitions—Resilient dual-root partitioning, introduced on J-EX Series switches with Junos OS Release 11.1R2, provides additional resiliency to switches in the following ways:

- Allows the switch to boot transparently from the second root partition if the system fails to boot from the primary root partition.
- Provides separation of the root Junos OS file system from the `/var` file system. If corruption occurs in the `/var` file system (a higher probability than in the root file system due to the greater frequency in `/var` of reads and writes), the root file system is insulated from the corruption.

Hardware

- **J-EX4500 Virtual Chassis**—You can form a Virtual Chassis by connecting J-EX4500 switches to J-EX4200 switches or to other J-EX4500 switches and manage the switches as a single Virtual Chassis.

Two J-EX4500 switches can be interconnected into a Virtual Chassis composed exclusively of J-EX4500 switches. J-EX4200 and J-EX4500 switches can be connected together into the same Virtual Chassis to form a mixed J-EX4200 and J-EX4500 Virtual Chassis. A mixed J-EX4200 and J-EX4500 Virtual Chassis supports up to two J-EX4500 switches and up to eight J-EX4200 switches.

In a mixed J-EX4200 and J-EX4500 Virtual Chassis, you must configure the J-EX4500 switch or switches in the routing-engine role to ensure that the J-EX4500 switches function in the master or backup roles. The J-EX4200 switches must be configured in the line-card role.

You must install a Virtual Chassis module in a J-EX4500 switch to use the switch in a Virtual Chassis. The Virtual Chassis module provides two dedicated Virtual Chassis ports (VCPs) that are used to connect the switch to other Virtual Chassis member switches. You can also configure any 10-Gigabit Ethernet port in an SFP+ module in a J-EX4500 switch as a VCP to cable the Virtual Chassis over longer distances.

EX4500-40F-VC1-FB and EX4500-VC1-BF switch models ship with a Virtual Chassis module preinstalled. You can also purchase the Virtual Chassis module as a field-replaceable unit (FRU).



NOTE: We recommend preprovisioning the Virtual Chassis configuration before cabling the J-EX4500 switch into the Virtual Chassis. You cannot cable a J-EX4500 switch into a Virtual Chassis without first configuring the J-EX4500 switch as a Virtual Chassis member.

The J-Web interface is not supported on a J-EX4500 Virtual Chassis.

- **New optical transceivers support on J-EX4500 switches**—SFP+ uplink modules in J-EX4500 switches now supports one new optical transceiver: EX-SFP-10GE-ER (10GBase-ER, 40 km).
- **New optical transceivers support on 40-port SFP+ line cards**—40-port SFP+ line cards in a J-EX8200 switch now support the following optical transceivers:
 - EX-SFP-1GE-T (1000Base-T, 100 m)
 - EX-SFP-1GE-SX (1000Base-SX, 220 m, 275 m, 500 m, 550 m)
 - EX-SFP-1GE-LX (1000Base-LX, 10 km)
 - EX-SFP-1FE-LH (100Base-ZX, 70 km)

- EX-SFP-10GE-LR (10GBase-LR, 10 km)
- EX-SFP-10GE-ER (10GBase-ER, 40 km)
- **New SFP+ direct attach cable support for 40-port SFP+ line cards**—40-port SFP+ line cards in a J-EX8200 switch now support one SFP+ direct attach cable, EX-SFP-10GE-DAC-5m.

Access Control and Port Security

- **802.1X authentication enhancement**—The new **no-mac-table-binding** option allows you to dissociate the MAC table from the authentication session table so that the authentication session does not end when the MAC address ages out of the MAC table.
- **LLDP transmit-delay option**—The new **transmit-delay** option allows you to specify the number of seconds the device delays before sending advertisements to neighbors after a change is made in a type, length, and value (TLV) element in the Link Layer Discovery Protocol (LLDP) or in the state of the local system, such as a change in hostname or management address. You can set this value to reduce delays in notifying neighbors of changes in the local system.
- **MAC table aging time enhancement**—An additional **unlimited** value allows you to set the MAC table aging time so that it never expires and MAC addresses are never removed from the table.
- **NetBIOS snooping**—You can enable NetBIOS snooping on the switch so that the switch can identify NetBIOS resources that are connected to it. The NetBIOS snooping-enabled switch extracts the host details from the NetBIOS name registration packet and stores the details in the LLDP neighbor database.

Bridging, VLANs, and Spanning Trees

- **Private VLAN support on J-EX4500 switches**—PVLANS and PVLANS across switches are now supported on J-EX4500 switches. PVLAN features allow an administrator to split a broadcast domain into multiple isolated broadcast subdomains, essentially creating a VLAN inside a VLAN.

Class of Service (CoS)

- **CoS enhancement on J-EX8200 switches**—J-EX8200 switches implement the on-demand allocation of memory space for ternary content addressable memory (TCAM) so that when additional TCAM space is required for CoS classifiers, it is allocated from the free TCAM space or from the unused TCAM space.
- **Increased number of scheduler maps per port group on J-EX8200 40-port SFP+ line cards**—On 40-port SFP+ line cards in J-EX8200 switches, you can configure a maximum of six scheduler maps for each port group. Previously, the maximum was six scheduler maps for all port groups on the line card.

High Availability

- **Nonstop active routing on J-EX4200 Virtual Chassis and J-EX8200 switches enhancement**—Nonstop active routing (NSR) is now supported for RIP, BGP, IS-IS, and IGMP with BFD on J-EX4200 Virtual Chassis and J-EX8200 switches. Nonstop active routing for OSPFv2 with BFD is now supported on J-EX4200 Virtual Chassis.

Infrastructure

- **Resilient dual-root partitioning**—Resilient dual-root partitioning, introduced on J-EX Series switches at Junos 11.1R2, provides additional resiliency to switches in the following ways:
 - Provides a preinstalled Junos image in the second root partition of the file system.
 - Allows the switch to boot transparently from the second root partition if the system fails to boot from the primary root partition.
 - Provides separation of the root Junos file system from the file system. If corruption to the `/var` file system occurs (which is more likely than corruption occurring in the root file system because of a greater frequency of read and write operations), the root file system is insulated from the corruption.

To upgrade to Junos OS Release 11.1 from Junos OS Release 10.3 or earlier requires that you first upgrade the `jloader` package. The software installation process reformats the disk from 3 partitions to 4 partitions. Detailed instructions are below. This software upgrade procedure takes longer than an ordinary upgrade.

- **Self-signed digital certificates for enabling SSL services**—J-EX Series switches are now shipped with system-generated self-signed digital certificates. You can use the self-signed digital certificates to enable SSL services, such as secure web access (HTTPS), on the switches. You can delete and regenerate the self-signed digital certificates using the CLI, and you can generate custom self-signed digital certificates if you do not want to use the system-generated self-signed digital certificates.

Interfaces

- **Reflective relay**—Reflective relay returns packets on J-EX4500 switches to a device using the same downstream port that delivered the packets to the switch. For example, you can use reflective relay to allow the switch to receive aggregated virtual machine packets from a technology such as virtual Ethernet packet aggregation (VEPA). You configure the new port mode called tagged access on the interface (port) to accept aggregated, tagged packets.

IPv6

- **IPv6 support on J-EX4500 switches**—J-EX4500 standalone switches now support OSPFv3 and RIPng.

Layer 2 and Layer 3 Protocols

- **Additional Layer 2 networking protocols support on J-EX8200 switches**—J-EX8200 switches now support Q-in-Q tunneling.

Management and RMON

- **Additional port mirroring analyzers on J-EX4500 switches**—You can now enable six additional analyzers on J-EX4500 switches, for a total of either seven analyzers on interfaces or a combination of six analyzers on interfaces and one analyzer on a VLAN.
- **Power Supply Unit MIB**—Enhancements have been made to the JUNIPER-POWER-MANAGEMENT module (jnxPsuMIB).
- **sFlow technology enhancements**—The sFlow datagram now includes details of the interface through which the packets entered the agent and the interface through which the packets exited the agent.
- **Uplink failure detection on J-EX Series switches**—Uplink failure detection allows a switch to detect link failure on uplink interfaces and to propagate the failure to the downlink interfaces so that servers connected to those downlinks can switch over to secondary interfaces.
- **Virtual Chassis MIB enhancements**—Enhancements have been made to the Virtual Chassis MIB that allow you to check for the Virtual Chassis MIB registration with the SNMP daemon and check whether SNMP traps are getting registered when a Virtual Chassis member switch goes up or down.

MPLS

- **MPLS enhancements on J-EX8200 switches**—On J-EX8200 switches, you can use MPLS-based Layer 2 and Layer 3 virtual private networks (VPNs) or MPLS Layer 2 circuits, allowing you to securely connect geographically diverse sites across an MPLS network. MPLS services can be used to connect various sites to a backbone network and to ensure better performance for low-latency applications such as voice over IP (VoIP) and other business-critical functions.

A Layer 2 circuit is a point-to-point Layer 2 connection that uses MPLS or another tunneling technology on the service provider's network. A Layer 2 circuit is similar to a circuit cross-connect (CCC), except that multiple Layer 2 circuits can be transported over a single label-switched path (LSP) tunnel between two provider edge (PE) switches, while each CCC requires a dedicated LSP. The Junos OS implementation of Layer 2 circuits supports only the remote form of a Layer 2 circuit; that is, a connection from a local customer edge (CE) switch to a remote CE switch. LDP is also supported; it is the signaling protocol used for advertising VPN labels.

Packet Filters

- **New firewall filter match condition on J-EX8200 switches**—You can use the new `ip-version` match condition to configure port and VLAN firewall filters for IPv4 and IPv6 traffic on J-EX8200 switches. In addition to specifying the type of supported traffic, this new match condition also allows you to define certain match conditions.
- **New firewall filter match condition for non-IP traffic with LLC non-SNAP Ethernet encapsulation**—You can use the new `l2-encap-type llc-non-snap` match condition to configure port and VLAN firewall filters for non-IP traffic with the LLC non-SNAP Ethernet encapsulation type on J-EX Series switches.

PoE

- **Enhanced PoE on J-EX4200 switches**—J-EX4200 switches now support enhanced Power over Ethernet (PoE), which is a Juniper Networks extension to the IEEE 802.3af standard. Enhanced PoE increases the maximum power that a PoE port can provide to 18.6 W. Enhanced PoE is available only when the PoE power management mode is static mode.



NOTE: To enable enhanced PoE on J-EX4200 switches, in addition to upgrading the switch from an earlier release to Junos OS Release 11.1, you must also upgrade the PoE controller software.

Virtual Chassis

- **J-EX4500 Virtual Chassis**—Virtual Chassis are now supported on J-EX4500 switches, as are Virtual Chassis configurations composed of a mix of J-EX4200 switches and J-EX4500 switches.

Related Documentation

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Changes in Default Behavior and Syntax in Junos OS Release 11.1 for J-EX Series Switches

This section lists the changes in default behavior and syntax in Junos OS Release 11.1 for J-EX Series switches.

Access Control and Port Security

- The **show lldp local-information** command output has been updated to display the IPv6 address of the neighbor as part of **show lldp neighbors interface *interface-name* and ifIndex(2)** under Management Information.

Bridging, VLANs, and Spanning Trees

- GARP VLAN Registration Protocol (GVRP) is no longer supported on J-EX Series switches.
- On J-EX Series switches, the VLAN limit is 4094 and the recommended VLAN members limit is 32,752. The VLAN limit cannot be exceeded because each VLAN requires an ID number. However, if you configure a trunk interface with the option **all** for VLANs, you could exceed the VLAN member limit.

Prior to Junos OS Release 11.1, if the recommended VLAN member limit was exceeded in a configuration, no error was displayed. In Release 11.1, under the same circumstances, the commit succeeds and a warning message is displayed. When you commit a configuration with more than 32,752 VLAN members, this message is displayed: “warning: Exceeded vmember threshold limit, it is recommended to have not more than 32752 vmembers configuration check succeeds commit complete.”

Infrastructure

- On J-EX8200 switches, when you take a line card offline using the **request system reboot power-off** or **request system halt power-off** command, the link failover occurs quickly and the MAC table is flushed quickly. However, if a line card is taken offline as the result of an unexpected Routing Engine reboot or as the result of a software problem or hardware failure, the failover of the link and flushing of MAC table do not happen quickly.
- The parity error-detection mechanism has been enhanced so that if the switch receives three or more soft resets within 30 seconds, Junos OS shuts it down.

Management and RMON

Related Documentation

- On a J-EX4500 Virtual Chassis that are configured with analyzers (port-mirroring configurations), when the monitored port and the output port are on different Virtual Chassis members, the analyzers do not work and no traffic is mirrored. Port mirroring works if both the monitored port and the output port are on the same member.
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Limitations in Junos OS Release 11.1 for J-EX Series Switches

This section lists the limitations in Junos OS Release 11.1R2 for J-EX Series switches.

Access Control and Port Security

- When you have configured more than 1024 supplicants on a single interface, 802.1X authentication might not work as expected and the 802.1X process (`dot1xd`) might fail.
- The RADIUS request sent by a J-EX Series switch contains both Extensible Authentication Protocol (EAP) Identity Response and State attributes.
- On J-EX4200 switches, EAP-TTLS authentication with a `server-reject-vlan` configuration might not work.
- In 802.1X (`dot1x`) single-secure mode, when the supplicant switches from a server-fail authentication to RADIUS authentication on a VLAN, traffic might be dropped. As a workaround, issue the `clear dot1x firewall` command.
- If storm control is enabled, the Link Aggregation Control Protocol (LACP) might stop and then restart when Layer 2 packets are sent at a high rate of speed.
- When an external RADIUS server goes offline and comes back online after some time, subsequent captive portal authentication requests might fail until the `authd` daemon is restarted. As a workaround, configure the revert interval—the time after which to revert to the primary server—and restart the `authd` daemon.
- When a J-EX Series switch receives an LLDP PDU with a 0-byte TLV information string, it treats the PDU as an error and discards all information received on that interface. Per the IEEE standard, a TLV information string can be 0 bytes.

Bridging, VLANs, and Spanning Trees

- If you modify the MSTP configuration and VLAN membership for an interface, that modification could result in inconsistent MSTP membership for that interface. As a

workaround, restart the Ethernet switching process (**eswd**) after making the configuration changes.

- If you delete multiple spanning-tree protocol interfaces from a configuration by using a single **commit** command and then add the interfaces back to the configuration, the spanning-tree protocol packets might be dropped. As a workaround, use a separate **commit** command to delete each spanning-tree protocol interface.

Class of Service

- On J-EX8200 switches, classification of packets using ingress firewall filter rules with forwarding-class and loss-priority configurations does not rewrite the DSCP or 802.1p bits. Rewriting of packets is determined by the forwarding-class and loss-priority values set in the DSCP classifier applied on the interface.
- On J-EX4200 switches, the traffic is shaped at rates above 500 Kbps, even when the shaping rate configured is less than 500 Kbps.
- On J-EX8200 switches, it can take a long time to install code-point classifiers on interfaces (for example, approximately 25 minutes to install 64 code-point classifiers).

Firewall Filters

- On J-EX4200 switches, when interface ranges or VLAN ranges are used in configuring firewall filters, egress firewall filter rules take more than 5 minutes to install.
- On J-EX4200 switches, IGMP packets are not matched by user-configured firewall filters.
- In a firewall filter configuration, if the **log** or the **syslog** action modifier is configured along with a **vlan** action or an **interface** action modifier, the events might not be logged. However, the redirect interface functionality works as expected. [PR/540097]
- On J-EX8200 switches, if you configure an implicit or explicit discard action as the last term in an IPv6 firewall filter on a loopback (**lo0**) interface, all traffic bound for the CPU passes through this filter and is dropped unless you configure an explicit term to accept the required type of packets. This limitation is specific to IPv6 filter and is not applicable to IPv4 filters configured on a loopback interface.

Hardware

- On 40-port SFP+ line cards for J-EX8200 switches, the LEDs on the left of the network ports do not blink to indicate that there is link activity if you set the speed of the network ports to 10/100/1000 Mbps. However, if you set the speed to 10 Gbps, the LEDs blink.
- If you press the reset button on the Switch Fabric and Routing Engine (SRE) module in a J-EX8208 switch without taking the module offline first (by using the CLI), the fabric planes in the module might not come back online.
- On 40-port SFP+ line cards installed in J-EX8200 switches, it takes about 10 seconds for the network ports to come up after you reboot the switch or restart the line card.
- On J-EX4500 switches, the **show chassis environment power-supply-unit** command does not display values for the input voltage, the output voltage, and the output current.

Infrastructure

- On J-EX Series switches, an SNMP query fails when the SNMP index size of a table is greater than 128 bytes, because the Net SNMP tool does not support SNMP index sizes greater than 128 bytes.
- On J-EX Series switches, the **show snmp mib walk etherMIB** command does not display any output, even though the **etherMIB** is supported. This occurs because the values are not populated at the module level—they are populated at the table level only. You can issue **show snmp mib walk dot3StatsTable**, **show snmp mib walk dot3PauseTable**, and **show snmp mib walk dot3ControlTable** commands to display the output at the table level.
- When you issue the **request system power-off** command, the switch halts instead of turning off power.
- On J-EX8200 switches, if IS-IS is enabled on routed VLAN interfaces (RVIs), IS-IS adjacency states go down and come up after a graceful Routing Engine switchover (GRES).
- Momentary loss of an inter-Routing Engine IPC message might trigger the alarm that displays the message “Loss of communication with Backup RE”. There is no functionality affected.
- On J-EX4200 switches that are configured with the factory default configuration, if you use the **set date** command to change the date, the switches accept the date but display the message "date: connect: Can't assign requested address".
- If you perform graceful Routing Engine switchover (GRES) on a J-EX4200 or J-EX8200 switch, the Ethernet switching table might not refresh because the Packet Forwarding Engine retains the forwarding database (FDB) entries. The result is that traffic is flooded to the affected MAC addresses. As a workaround, refresh the Ethernet switching table by issuing the **clear ethernet-switching table** command.
- On J-EX8208 switches, when a line card that has no interface configurations and is not connected to any device is taken offline using the **request chassis fpc-slot slot-number offline** command, the Bidirectional Forwarding Detection process (**bfd**) starts and stops repeatedly. The same **bfd** process behavior occurs on a line card that is connected to a Layer 3 domain when another line card that is on the same switch and is connected to a Layer 2 domain is taken offline.
- On J-EX4500 switches, the LCD panel's maintenance menu is not disabled even if you include the **lcd maintenance-menu disable** statement in the configuration.
- When you enable the **filter-id** attribute on the RADIUS server for a particular client, one of the required 802.1X authentication rules is not inserted in the IPv6 database. IPv6 traffic on the authenticated interface is not filtered; only IPv4 traffic is filtered on that interface.
- Distributed periodic packet management (PPM) of Bidirectional Forwarding Detection (BFD) protocol traffic is not supported for virtual routing instances. As a workaround,

use the centralized PPM model by disabling distributed PPM with the command **set routing-options ppm no-delegate-processing**.

- For interfaces on which storm control is enabled, multicast traffic is rate-limited.

Interfaces

- J-EX Series switches do not support queued packet counters. Therefore, the queued packet counter in the output of the **show interfaces *interface-name* extensive** command always displays a count of 0 and is never updated.

- The following message might appear in the system log:

```
Resolve request came for an address matching on Wrong nh nh:355,  
type:Unicast...?
```

You can ignore this message.

- On J-EX4200 switches, when port mirroring is configured on any interface, the mirrored packets leaving a tagged interface might contain an incorrect VLAN ID.
- On J-EX8200 switches, port mirroring configuration is not supported on a Layer 3 interface with the output configured to a VLAN.
- The following interface counters are not supported on routed VLAN interfaces (RVIs): local statistics, traffic statistics, and transit statistics.
- J-EX Series switches do not support IPv6 interface statistics. Therefore, all values in the output of the **show snmp mib walk ipv6IfStatsTable** command always display a count of 0.
- The **show interfaces *interface-name* detail | extensive** command might display double counting of packets or bytes for the transit-statistics and traffic-statistics counters. You can use the counter information displayed under the **Physical interface** section of the output.
- On J-EX Series switches, if you clear LAG interface statistics while the LAG is down, then bring up the LAG and pass traffic without checking for statistics, and finally bring the LAG interface down and check interface statistics again, the statistics might be inaccurate. As a workaround, use the **show interfaces *interface-name*** command to check LAG interface statistics before bringing down the interface.
- On J-EX8200 switches, when you perform a graceful Routing Engine switchover (GRES) or when you restart Ethernet switching in any spanning-tree protocol domain, a loop might occur.
- On J-EX4200, and J-EX4500 switches, although an interface is not created if you do not install any transceiver in a fiber port, the **show chassis lcd** or **show chassis led** command might show that an interface exists and shows its LED status as Off. For 10-Gigabit Ethernet interfaces on J-EX4500 switches, the output of these commands might show the interface prefix as **ge-** instead of **xe-**. As a workaround, issue the **show interfaces terse** command to check whether a transceiver is actually installed and to display the **xe-** interface prefix to verify the interface's 10-Gigabit Ethernet capability.

J-Web Interface

- In the J-Web interface, the Ethernet Switching monitoring page might not display monitoring details if there are more than 13,000 MAC entries on the switch.
- When MVRP is configured on a trunk interface, you cannot configure connectivity fault management (CFM) on that interface.
- If four or more J-EX8200-40XS line cards are inserted in a J-EX8208 or J-EX8216 switch, the Support Information page (**Maintain Customer Support > Support Information**) in the J-Web interface might fail to load because the configuration might be larger than the maximum size of 5 MB. The error message "Configuration too large to handle" is displayed.

Layer 2 and Layer 3 Protocols

- On J-EX8200 switches that have both graceful Routing Engine switchover (GRES) and nonstop active routing (NSR) enabled, if you upgrade the software on the master Routing Engine, the routing processes might fail to restart on the backup Routing Engine. If the routing processes fail to restart automatically, manually restart them by issuing the **restart routing** command.

Management and RMON

- On J-EX8200 switches, when an egress VLAN that belongs to a routed VLAN interface (RVI) is configured as the input for a port mirroring analyzer, the analyzer appends an incorrect 802.1Q (**dot1q**) header to the mirrored packets on the routed traffic or does not mirror any packets on the routed traffic. As a workaround, configure a port mirroring analyzer with each port of the VLAN as egress input.
- When you configure sFlow monitoring technology, the switch allows you to configure separate ingress and egress sample rates on the same interface. Configuring more than one sample rate on an interface can lead to inaccurate results, so configure just one rate per interface.

Multicast

- The following limitations apply to multicast traffic and virtual routing and forwarding (VRF):
 - Routed multicast traffic is supported only on the default virtual routing instance. On nondefault virtual routing instances, routed multicast traffic is flooded on Layer 3 interfaces, but aggregated Ethernet interfaces and routed VLAN interfaces (RVIs) are not supported.

- MLD snooping of IPv6 multicast traffic is not supported. Layer 2 multicast traffic is always flooded on the VLAN.

Virtual Chassis

- On a J-EX4500 Virtual Chassis, if you issue the **ping** command to the IPv6 address of the virtual management Ethernet (VME) interface, the ping fails.
- When a J-EX4500 switch becomes a member of a Virtual Chassis, it is assigned a member ID. If that member ID is a non-zero value, then if that member switch is downgraded to a software image that does not support Virtual Chassis, you cannot change the member ID to 0. A standalone EX4500 switch must have a member ID of 0. The workaround is to convert the J-EX4500 Virtual Chassis member switch to a standalone J-EX4500 switch before downgrading the software to an earlier release, as follows:
 1. Disconnect all Virtual Chassis cables from the member to be downgraded.
 2. Convert the member switch to a standalone J-EX4500 switch by issuing the **request virtual-chassis reactivate** command.
 3. Renumber the member ID of the standalone switch to 0 by issuing the **request virtual-chassis renumber** command.
 4. Downgrade the software to the earlier release.
- When the backup Virtual Chassis is rebooted, a redundant trunk group (RTG) failover might occur incorrectly, with the RTG from the Virtual Chassis master primary link erroneously switching to the secondary link of the Virtual Chassis backup.
- In a mixed J-EX4200 and J-EX4500 Virtual Chassis (that is, a Virtual Chassis that has both J-EX4500 and J-EX4200 member switches), an egress analyzer does not work when the input and output ports are on J-EX4200 switches separated by a J-EX4500 switch.

Related Documentation

- New Features in Junos OS Release 11.1 for J-EX Series Switches on page 3
- Changes in Default Behavior and Syntax in Junos OS Release 11.1 for J-EX Series Switches on page 10
- Outstanding Issues in Junos OS Release 11.1 for J-EX Series Switches on page 16
- Resolved Issues Since Junos OS Release 10.3
- Errata in Documentation for Junos OS Release 11.1 for J-EX Series Switches on page 36
- Upgrade and Downgrade Instructions for Junos OS Release 11.1 for J-EX Series Switches on page 37

Outstanding Issues in Junos OS Release 11.1 for J-EX Series Switches

The following are outstanding issues in Junos OS Release 11.1R2 for J-EX Series switches. The identifier following the description is the tracking number in our bug database.

Access Control and Port Security

- When the username for 802.1X (**dot1x**) authentication is too long, Junos OS truncates the username field. [PR/588063]
- J-EX Series switches send EAP packets on interfaces on which 802.1X (**dot1x**) is not enabled. [PR/594644]
- In LLDP-MED packets, the LCI Length for Civic Addresses is not present. [PR/600233]
- When a J-EX4500 switch becomes a member of a Virtual Chassis, it is assigned a member ID. If that member ID is a non-zero value, then if that member switch is downgraded to a software image that does not support Virtual Chassis, you cannot change the member ID to 0. A standalone EX4500 switch must have a member ID of 0. The workaround is to convert the J-EX4500 Virtual Chassis member switch to a standalone J-EX4500 switch before downgrading the software to an earlier release, as follows:
 - Disconnect all Virtual Chassis cables from the member to be downgraded.
 - Convert the member switch to a standalone J-EX4500 switch by issuing the **request virtual-chassis reactivate** command.
 - Renumber the member ID of a standalone switch to 0 by issuing the **request virtual-chassis renumber** command.
 - Downgrade the software to earlier release.

Firewall Filters

- On J-EX4500 switches, you cannot commit an inbound firewall filter if a counter is also configured. [PR/597899]

Hardware

- On J-EX8200 switches, if you change the power line input for a 2000 W AC power supply from high voltage to low voltage, or vice versa, power management might not correctly reflect the changed power supply capacity in its power budget. To avoid this problem, follow this procedure when you change the power supply input voltage:
 1. Disconnect the power supply from the existing power source.
 2. Wait until the output of the **show chassis environment psu** command shows the power supply to be offline.
 3. Connect the power supply to the new power source.

[PR/596409]

Infrastructure

- If you set a custom chassis display message with the **set chassis display message** command, the message might remain on the LCD panel indefinitely even though you did not include the **permanent** option in your command. [PR/579234]

- On J-EX4500 switches, BFD sessions might not start if you configure any of the interfaces **ge-0/0/20** through **ge-0/0/39**. [PR/590735]
- If SNMP is running on the switch, the Ethernet switching process (**eswd**) might stop operating and you might see a core file on the switch. [PR/596305]

Interfaces

- On J-EX8216 switches, a link might go down momentarily when an interface is added to a LAG. [PR/510176]
- On aggregated Ethernet interfaces, the values for the actual and calculated packet load-balancing performance differ. [PR/587223]
- On J-EX Series switches, a LAG interface might not come up when the primary interface is disabled and link protection is enabled. [PR/603914]

J-Web Interface

- In the J-Web interface, you cannot commit some configuration changes in the Port Configuration page and the VLAN Configuration page because of the following limitations for port mirroring ports and port mirroring VLANs:
 - A port configured as the output port for an analyzer cannot be a member of any VLAN other than the default VLAN.
 - A VLAN configured to receive analyzer output can be associated with only one port.[PR/400814]
- In the J-Web interface, in the OSPF Global Settings table in the OSPF Configuration page, the Global Information table in the BGP Configuration page, or the Add Interface window in the LACP Configuration page, if you try to change the position of columns using the drag-and-drop method, only the column header moves to the new position instead of the entire column. [PR/465030]
- When a large number of static routes have been configured and you have navigated to pages other than page 1 in the Route Information table in the J-Web interface (**Monitor > Routing > Route Information**), changing the **Route Table** to query other routes refreshes the page but does not return to page 1. For example, if you run a query from page 3, and the new query returns very few results, the Results table continues to display page 3 and shows no results. To view the results, navigate to page 1 manually. [PR/476338]
- In the J-Web interface, the dashboard does not display the uplink ports or uplink module ports unless transceivers are plugged into the ports. [PR/477549]
- In the J-Web interface, if you open configuration pages for class-of-service (CoS) classifiers and drop profiles (**Configure > Class of Service > Classifiers and Configure > Class of Service > Drop Profile**) and then exit the pages without editing the configuration, no validation messages are displayed and the configuration of the switch proceeds. [PR/495603]
- In the J-Web interface, the Static Routing page (**Configure > Routing > Static Routing**) might not display details on entries registered in the routing table. [PR/483885]

- In the J-Web interface, when you click the software Upload and Install option and the software Fetch and Install option (**Maintain > Software > Upload Package** and **Maintain > Software > Install Package**), they might not display a warning message when there are pending changes to be committed. [PR/514853]
- On J-EX4500 switches, the J-Web interface might display the following as valid options although these options are not supported on J-EX4500 switches:
 - DHCP snooping in the Edit Port Role window in the Port Configuration page
 - Input filter association in the VLAN Configuration page

[PR/525671]

- When you open a J-Web session using HTTPS, then enter a username and password and click the **Log In** button, the J-Web interface takes 20 seconds longer to launch and load the Dashboard page than it does if you use HTTP. [PR/549934]
- When you use an HTTPS connection in the Microsoft Internet Explorer browser to save a report from the following pages in the J-Web interface, the error message "Internet Explorer was not able to open the Internet site" is displayed on the pages:
 - Files page (**Maintain > Files**)
 - History page (**Maintain > Config Management > History**)
 - Port Troubleshooting page (**Troubleshoot > Troubleshoot > Troubleshoot Port**)
 - Static Routing page (**Monitor > Routing > Route Information**)
 - Support Information page (**Maintain > Customer Support > Support Information**)
 - View Events page (**Monitor > Events and Alarms > View Events**)

[PR/542887]

- In the J-Web interface, the link status might not be displayed correctly on the Port Configuration or the LACP (Link Aggregation Control Protocol) Configuration pages if the Commit Options preference is set to "single commit" (the **Validate configuration changes** option). [PR/566462]
- If you have accessed the J-Web interface using an HTTPS connection through the Microsoft Internet Explorer Web browser, you might not be able to download and save reports from some pages on the Monitor, Maintain, and Troubleshoot tabs. Some affected pages are at these locations:
 - Maintain > Files > Log Files > Download
 - Maintain > Config Management > History
 - Maintain > Customer Support > Support Information > Generate Report
 - Troubleshoot > Troubleshoot Port > Generate Report
 - Monitor > Events and Alarms > View Events > Generate Report
 - Monitor > Routing > Route Information > Generate Report

As a workaround, you can use the Mozilla Firefox Web browser to download and save reports using an HTTPS connection. [PR/566581]

- In the J-Web interface, aggregated Ethernet interfaces are not populated in the Port associations table in the Filters Configuration page (**Configure > Security > Filters**). [PR/579555]
- In the J-Web interface, the Configure Schedulers page (**Configure -> Class of Service -> Schedulers**) shows the **exact**, **exact-percent**, and **exact-remainder** options in the Add/Edit window in the Transmit Rate list, even though these options are not supported on J-EX Series switches. [PR/590490]
- If you have accessed the J-Web interface through the Microsoft Internet web browser version 7, then on the BGP Configuration page (**Configure > Routing > BGP**), all flags might be shown in the Configured Flags list (in the Edit Global Settings window, on the Trace Options tab) even though the flags are not configured. As a workaround, use the Mozilla Firefox Web browser. [PR/603669]
- On the Link Layer Discovery Protocol (LLDP) Configuration page (**Configure > Switching > LLDP**), the Details of Port field does not show the proper values for the Neighbor list and Neighbor count. [PR/600232]

Management and RMON

- With sFlow monitoring, if you enable both an ingress and egress sFlow collector on an interface, the traffic bandwidth usage shown on the Traffic Sentinel sFlow collector might be incorrect. [PR/590040]

Related Documentation

- New Features in Junos OS Release 11.1 for J-EX Series Switches on page 3
- Changes in Default Behavior and Syntax in Junos OS Release 11.1 for J-EX Series Switches on page 10
- Limitations in Junos OS Release 11.1 for J-EX Series Switches on page 11
- Resolved Issues Since Junos OS Release 10.3
- Errata in Documentation for Junos OS Release 11.1 for J-EX Series Switches on page 36
- Upgrade and Downgrade Instructions for Junos OS Release 11.1 for J-EX Series Switches on page 37

Resolved Issues Since Junos OS Release 10.3

The following issues were resolved since Junos OS Release 10.3R1. The identifier following the descriptions is the tracking number in our bug database.

- Issues Resolved in Release 10.3 on page 21
- Issues Resolved in Release 10.4R1 on page 25
- Issues Resolved in Release 10.4R2 on page 28
- Issues Resolved in Release 10.4R3 on page 28
- Issues Resolved in Release 10.4R4 on page 30

- Issues Resolved in Release 11.1R1 on page 32
- Issues Resolved in Release 11.1R2 on page 34

Issues Resolved in Release 10.3

Access Control and Port Security

- The 802.1X process (**dot1xd**) might crash, making it impossible to connect a switch to the network. [PR/587531: This issue has been resolved.]

Bridging, VLANs, and Spanning Trees

- On J-EX Series switches, when the VLAN with the lowest-numbered VLAN ID is down, the **show ntp associations** command output displays the following message:

```
/usr/bin/ntpq: write to localhost failed: No route to host
```

[PR/466595: This issue has been resolved.]

- On J-EX Series switches, in a scaled environment with more than 4000 VLANs, MVRP advertisements might not be sent intermittently when the VLAN membership is modified. [PR/475701: This issue has been resolved.]
- On J-EX Series switches, having a large number of VSTP instances and RSTP instances might cause continuous changes in the topology. As a workaround, reduce the number of VSTP instances to fewer than 190. [PR/504719: This issue has been resolved.]
- On J-EX Series switches, DHCP relay does not add the proper prefixes for priority-tagged packets, so these packets are dropped on interfaces on which LLDP-MED is not enabled. [PR/572454: This issue has been resolved.]

Class of Service

- When the scheduler map bound to an interface is changed, packet drops might occur temporarily on all the interfaces bound to the scheduler map while the configuration change is being implemented. [PR/481401: This issue has been resolved.]

Hardware

- On J-EX8200 switches, if you change the power line input for a 2000 W, AC power supply from high voltage to low voltage, or vice versa, power management might not correctly reflect the changed power supply capacity in the power budget. To avoid this problem, follow this procedure when you change the power supply input voltage:
 1. Disconnect the power supply from the existing power source.
 2. Wait until the output of the **show chassis environment psu** command shows the power supply to be offline.
 3. Connect the power supply to the new power source.

[PR/596409: This issue has been resolved.]

Infrastructure

- On J-EX Series switches, MAC addresses not present in the forwarding database (FDB) because of hash collision are not removed from the Ethernet switching process (**eswd**). These MAC addresses do not age out of the Ethernet switching table even if traffic is stopped completely and are never relearned when traffic is sent to these MAC addresses, even when there is no hash collision. As a workaround, clear those MAC addresses from the Ethernet switching table. [PR/451431: This issue has been resolved.]
- On J-EX8200 switches, the system log messages from the line cards display the timestamp in UTC, instead of the time zone specified in the CLI configuration. [PR/494892: This issue has been resolved.]
- On J-EX Series switches, the **/var** directory appears to be full even after some files in the **/var/log** directory have been deleted manually. To avoid this problem, use the **clear log filename** command to delete the contents of the log files, instead of manually deleting the files themselves. [PR/496298: This issue has been resolved.]
- On J-EX8200 switches, the **show pfe statistics traffic multicast fpc fpc-slot dev-number** command takes a long time to display output, and the output shows incorrect values. [PR/506031: This issue has been resolved.]
- When multicast packets are transmitted from interfaces on which PIM is not enabled, VRRP might flap. [PR/520194: This issue has been resolved.]
- On J-EX Series switches, the Ethernet switching process (**eswd**) might restart, placing the following message in the system log file "%AUTH-3: ethernet-switching (PID 7550) terminated by signal number 11. Core dumped!" [PR/538052: This issue has been resolved.]
- On J-EX4200 switches, if you have configured the **log-out-on-disconnect** statement, the switch does not log out when the console is disconnected. [PR/538263: This issue has been resolved.]
- If you commit a configuration that contains 4000 VLANs and multiple LAG interfaces, the Packet Forwarding Engine usage might reach 80 percent over a period of 60 minutes. [PR/544433: This issue has been resolved.]
- A Packet Forwarding Engine (**pfem**) core file might be created if unicast next hops are not present on the network. [PR/546674: This issue has been resolved.]
- After you reboot a J-EX Series switch, a kernel panic might occur on the backup Routing Engine. [PR/550880: This issue has been resolved.]
- On an interface that is receiving storm traffic, if you use the **set ethernet-switching-options storm-control action-shutdown** command to disable the interface, it can take up to 30 seconds for the interface to shut down. [PR/556107: This issue has been resolved.]
- On J-EX8200 switches, after routing and traffic recover from a graceful Routing Engine switchover (GRES) operation, a core file might be created after the Ethernet switching process (**eswd**) is restarted or after a line card is taken offline. [PR/570645: This issue has been resolved.]

- The Ethernet switching process (**eswd**) might crash and then recover when the following change is made in CLI (either in a single commit or in separate commits):
 - First, you remove an interface from interface range on which VoIP is configured.
 - Then, you either delete the removed interface or change its address family to a family other than **ethernet-switching**.

[PR/571863: This issue has been resolved.]

- On a J-EX4200 Virtual Chassis, a **pfem** core file might be created if all the 802.1x (dot1x) interfaces are in the held state or the connecting state. [PR/571865: This issue has been resolved.]
- On J-EX4200 switches, when the mode on an SFP+ uplink module is changed from 10 gigabit to 1 gigabit, or from 1 gigabit to 10 gigabit, the switch does not learn MAC addresses until it is rebooted. [PR/573857: This issue has been resolved.]
- On J-EX Series switches, you might see some stale processes if netconf configuration sessions are terminated abruptly. [PR/577939: This issue has been resolved.]
- If a series of parity errors occurs on the switch, the Packet Forwarding Engine resets the switch after each error, and there is no way for a user to manually shut down the switch. This problem has been resolved so that if the switch receives three or more soft resets within 30 seconds, Junos OS shuts it down. [PR/590977: This issue has been resolved.]

Interfaces

- In a Q-in-Q tunneling configuration that includes aggregated Ethernet interfaces (LAGs), after a **pfem** process restart, the member interfaces in the VLAN might be incorrectly set. [PR/527117: This issue has been resolved.]

J-Web Interface

- In the J-Web interface, the procedure of uploading a software package to the switch might not work properly if you are using the Microsoft Internet Explorer Web browser version 7. [PR/424859: This issue has been resolved.]
- In the J-Web interface, interfaces configured with **no-flow-control** might be displayed in the Link Aggregation Configuration page. [PR/437410: This issue has been resolved.]
- In the J-Web interface, in the OSPF Configuration page (**Configuration > Routing > OSPF**), the Traceoptions tab in the Edit Global Settings window does not display the available flags (tracing parameters). As a workaround, use the CLI to view the available flags. [PR/475313: This issue has been resolved.]
- In the J-Web interface, the OSPF Monitoring page might display an error message if there are multiple interfaces or neighbors detected in an autonomous system. [PR/502132: This issue has been resolved.]
- If you have a candidate configuration in the CLI and you try to commit configuration changes using the Point and Click CLI in the J-Web interface, the configuration page displays an error. [PR/514771: This issue has been resolved.]

- In the J-Web interface, the PoE configuration page and Monitoring PoE page might not display in the Microsoft Internet Explorer Web browser version 7. [PR/516048: This issue has been resolved.]
- In the J-Web interface, when you are assigning interfaces to a VLAN using the in-band management option, EZSetup might display only interfaces in which transceivers have been inserted. [PR/521632: This issue has been resolved.]
- If RIP, BGP, OSPF, and DHCP are not configured on a switch, the “feature not configured” validation message masks the **Commit**, **Help**, and **Logout** menu options if you are using the Mozilla Firefox Web browser. As a workaround, refresh the J-Web interface. [PR/528346: This issue has been resolved.]
- In the J-Web interface when you select **Monitor > Switching > Ethernet Switching**, the MAC learning log might not display any information. [PR/535200: This issue has been resolved.]
- On J-EX4200-24F switches, the number of ports displayed in the dashboard (**Dashboard > Capacity Utilization > Total number of ports**) in the J-Web interface increases every 2 seconds, each time an automatic refresh occurs. [PR/543913: This issue has been resolved.]
- When you configure port mirroring in the J-Web interface, the aggregated Ethernet interface (**ae**) is not included in the selection list. [PR/546740: This issue has been resolved.]
- In the J-Web interface, when you use an HTTPS connection in the Microsoft Internet Explorer browser, you cannot upload (**Maintain > Config Management > Upload**) or download (**Maintain > Config Management > History > Configuration History**) a configuration file. As a workaround, use an HTTP connection. [PR/551200; This issue has been resolved.]
- In the J-Web interface, if you use an HTTPS connection, uploading or downloading a configuration file using the Config Management Upload page (**Maintain > Config Management > Upload**) might not succeed. As a workaround, use an HTTP connection to access the J-Web interface and to upload/download a configuration file. [PR/551200: This issue has been resolved.]
- If you have accessed the J-Web interface using the Microsoft Internet Explorer browser, you might not be able to commit a configuration when an SSL certificate has been added to the switch using the CLI editor (**Configure > CLI tools > CLI Editor**). As a workaround, you can use the Mozilla Firefox browser to commit configurations. [PR/552629: This issue has been resolved.]
- The dashboard in the J-Web interface might not refresh automatically if you navigate back and forth between the Dashboard page and other pages. [PR/566359: This issue has been resolved.]

Layer 2 and Layer 3 Protocols

- If a J-EX8200 switch receives an IGMP packet of unknown type, the switch might flood the packet on all interfaces, including the ingress interface from which the packet was received. [PR/502248: This issue has been resolved.]
- If you reboot a J-EX Series switch on which Layer 2, Layer 3, and multicast protocols are configured, Bidirectional Forwarding Detection (BFD) might start and stop when multiple duplicate PPM entries are created on the routing engine. [PR/551267: This issue has been resolved.]
- PIM join messages sent from a J-EX8208 switch to a Cisco RP using Auto-RP show the upstream neighbor as being the J-EX8208 switch itself and not the Cisco RP. [PR/557130: This issue has been resolved.]
- Some multicast groups stop forwarding packets after an unused 8-port 10-Gigabit Ethernet line card is taken offline and removed from a J-EX8208 switch. [PR/560463: This issue has been resolved.]
- On a switch on which nonstop routing (NSR) is enabled and on which transit unicast and multicast traffic is flowing, after multiple graceful Routing Engine switchover (GRES) operations, the routing protocol process (rpd) can continue to utilize large amounts of memory. [PR/574442: This issue has been resolved.]

Virtual Chassis

- On a J-EX4200 Virtual Chassis, traffic loss might be high on XFP or SFP Virtual Chassis ports (VCPs). [PR/507079: This issue has been resolved.]
- On a J-EX4200 Virtual Chassis, a large number of awk processes and defunct processes might be running. [PR/576621: This issue has been resolved.]
- A large number of MAC pause frames might stall a the connection between Virtual Chassis members, causing the member to lose its connection to the Virtual Chassis. [PR/581804: This issue has been resolved.]
- J-EX4200 Virtual Chassis members might not reboot and might create a Virtual Chassis control process (**vccpd**) core file. [PR/588466: This issue has been resolved.]

Issues Resolved in Release 10.4R1

The following issues have been resolved since Junos OS Release 10.3. The identifier following the description is the tracking number in our bug database.

Ethernet Switching

- A LAG between a J-EX4200 Virtual Chassis and a Cisco 6500 switch might not recover when the Virtual Chassis master switch is power-cycled. [PR/505069: This issue has been resolved.]

Hardware

- J-EX8200 switches might not detect the front-panel LCD display. [PR/553144: This issue has been resolved.]

Infrastructure

- If an SRE module, RE module, SF module, line card, or Virtual Chassis member is in offline mode, the J-Web interface might not update the dashboard image accordingly. [PR/431441: This issue has been resolved.]
- On J-EX Series switches, MAC addresses not present in the forwarding database (FDB) because of hash collision are not removed from the Ethernet switching process (**eswd**). These MAC addresses do not age out of the Ethernet switching table even if traffic is stopped completely and are never relearned when traffic is sent to these MAC addresses, even when there is no hash collision. As a workaround, clear those MAC addresses from the Ethernet switching table. [PR/451431: This issue has been resolved.]
- When multicast packets are transmitted from interfaces on which PIM is not enabled, VRRP might flap. [PR/520194: This issue has been resolved.]
- On J-EX8200 switches, packets with unregistered Layer 2 multicast MAC addresses are not dropped on interfaces in the STP blocked state, resulting in some traffic loops that might impact network performance. [PR/541123: This issue has been resolved.]
- On J-EX4200 switches, if you configure a large number of VLANs and aggregated Ethernet interfaces and commit the configuration, the forwarding process (**pfem**) utilization stays at 80 percent for more than 60 minutes. As a result, the aggregated Ethernet interfaces cannot be used until the **pfem** usage reduces to normal limits. [PR/544433: This issue has been resolved.]
- On J-EX4200 switches, spurious packets (packets with unsupported fields) arriving at the backup Routing Engine while a GRES operation is in progress can cause a kernel crash (**vmcore**). [PR/546314: This issue has been resolved]
- When the configured DNS server is not reachable, name resolution for **localhost** takes a long time and the output of the **show ntp association** command takes a long time to appear. [PR/551739: This issue has been resolved.]
- If a Routing Engine fails over to the backup Routing Engine, not all multicast groups that were active on the switch recover. [PR/563030: This issue has been resolved.]
- During the TFTP transfer portion of an automatic software download procedure, the software package might be truncated or corrupted. [PR/570901: This issue has been resolved.]
- The Ethernet switching process (**eswd**) might crash and then recover when the following change is made in the CLI (either in a single commit or in separate commits):
 - First, you remove an interface from the interface range on which VoIP is configured.

- Then, you either delete the removed interface or change its address family to a family other than **ethernet-switching**.

[PR/571863: This issue has been resolved.]

- On a J-EX4200 Virtual Chassis, a forwarding process **pfem** core file might be created if all the 802.1X (**dot1x**) interfaces are in the held state or the connecting state. [PR/571865: This issue has been resolved.]
- On a J-EX4200 Virtual Chassis, a large number of **awk** processes and defunct processes might be running. [PR/576621: This issue has been resolved.]

Interfaces

- When the forwarding process (**pfem**) restarts, J-EX Series switches cannot receive any Q-in-Q tunneling frames and drop them all. [PR/527117: This issue has been resolved.]
- On J-EX Series switches, the configured interface hold time does not work. [PR/537477: This issue has been resolved.]
- On J-EX4200 switches, autonegotiation bypass, which allows a link in a Gigabit Ethernet SFP uplink port to begin operation even if autonegotiation on the link partner is disabled, fails to bring up the link. [PR/571198: This issue has been resolved.]

J-Web Interface

- In the J-Web interface, the automatic command-completion feature might not be disabled in the password field. As a workaround, you can disable the automatic command-completion feature in the browser. [PR/508425: This issue has been resolved.]
- If you have a candidate configuration in the CLI and you try to commit configuration changes using the Point and Click CLI in the J-Web interface, the Configuration page displays an error. [PR/514771: This issue has been resolved.]
- In the J-Web interface, when you select the Ethernet Switching Monitor page (**Monitor > Switching > Ethernet Switching**), the MAC learning log might not display information. [PR/535200: This issue has been resolved.]
- In the LACP (Link Aggregation Control Protocol) Configuration page in the J-Web interface (**Configure > Interfaces > Link Aggregation**), the **Delete** button is disabled even when you select an aggregated Ethernet interface configured with a physical interface, VLAN, and IP option. As a workaround, delete the physical interface, VLAN, and IP option from the aggregated Ethernet interface using the CLI. [PR/546411: This issue has been resolved.]
- In the J-Web interface, when you use an HTTPS connection in the Microsoft Internet Explorer browser, you cannot upload (**Maintain > Config Management > Upload**) or download (**Maintain > Config Management > History > Configuration History**) a configuration file. As a workaround, use an HTTP connection. [PR/551200: This issue has been resolved.]
- When no line card is installed in a J-EX8208 switch:

- If you navigate to the Port Monitoring page (**Monitor > Interfaces**) in the J-Web interface, a pop-up window with the error message "'gridData.0' is null or not an object" is displayed.
- If you select the displayed interface and click the **Show Graph** button, a pop-up window with the error message "'selected FpcName' is undefined" is displayed.

[PR/562454: This issue has been resolved.]

- The dashboard in the J-Web interface might not refresh automatically if you navigate back and forth between the Dashboard page and other pages. [PR/566359: This issue has been resolved.]

Layer 2 and Layer 3 Protocols

- If many PIM joins are associated with a neighbor and that neighbor goes down, when it comes back up, those joins might be stranded in an unresolved state until you issue the **clear pim join** command. [PR/539962: This issue has been resolved.]
- PIM join messages sent from a J-EX8208 switch to a Cisco RP using Auto-RP show the upstream neighbor as being the J-EX8208 switch itself and not the Cisco RP. [PR/557130: This issue has been resolved.]

Management and RMON

- On J-EX4200 switches, the LACP process (**lacpd**) creates core files when an SNMP MIB lookup is performed. [PR/533226: This issue has been resolved.]

Virtual Chassis

- On a J-EX4200 Virtual Chassis, if you run the **request system reboot member member-id** command with the master's member ID, the master Virtual Chassis member fails to reboot. That is, you cannot reboot only the master switch on the Virtual Chassis. [PR/572936: This issue has been resolved.]

Issues Resolved in Release 10.4R2

The following issues have been resolved since Junos OS Release 10.4R1. The identifier following the description is the tracking number in our bug database.

Interfaces

- In a Q-in-Q tunneling configuration that includes aggregated Ethernet interfaces (LAGs), after a **pfem** process restart, the member interfaces in the VLAN might be incorrectly set. [PR/527117: This issue has been resolved.]

Issues Resolved in Release 10.4R3

The following issues have been resolved since Junos OS Release 10.4R2. The identifier following the description is the tracking number in our bug database.

Access Control and Port Security

- An 802.1X supplicant that is in the connecting or held state might obtain a DHCP address before the authentication process completes. [PR/526884: This issue has been resolved.]
- When you configure 802.1X bypass, the client becomes unreachable each time the MAC age time interval increments. [PR/536316: This issue has been resolved.]
- On J-EX Series switches, configuring 802.1X (**dot1x**) might generate a core file when VLANs are being configured. [PR/553166: This issue has been resolved.]
- When the primary redundant trunk group (RTG) interface is disabled, causing an RTG switchover, MAC entries on the upstream switches are refreshed. However, when the primary RTG link is enabled, the MAC entries are not refreshed on the upstream switches. [PR/555158: This issue has been resolved.]

Ethernet Switching

- If you change the VLAN ID on the switch using VSTP, the **show spanning tree bridge** command lists an incorrect root bridge. [PR/512715: This issue has been resolved.]
- When an interface is entering the spanning-tree protocol BLK DIS state, an Ethernet switching process (**eswd**) core file might be created. [PR/538161: This issue has been resolved.]
- When you change the VSTP configuration so that VLANs are numbered rather than named, or vice versa, the Ethernet switching process (**eswd**) might stop. [PR/541272: This issue has been resolved.]
- On an interface that is receiving storm traffic, if you use the **set ethernet-switching-options storm-control action-shutdown** command to disable the interface, it can take up to 30 seconds for the interface to shut down. [PR/556107: This issue has been resolved.]

Infrastructure

- On J-EX8200 switches, when IGMP snooping is enabled on an interface, the IPv6 multicast Layer 2 control frame is not forwarded to other interfaces in the same VLAN. The result is that IPv6 and VRRP for IPv6 neighbor solicitation fails. [PR/456700: This issue has been resolved.]
- On J-EX4200 switches, the uplink port status LED on the 4-port Gigabit Ethernet SFP uplink module does not properly indicate the status of the uplink port. [PR/528070: This issue has been resolved.]
- On J-EX8200 switches, the LACP process (**lacpd**) might start and stop repeatedly when traffic to the Routing Engine is heavy. [PR/542897: This issue has been resolved.]
- On J-EX8200 switches, after routing and traffic recover from a graceful Routing Engine switchover (GRES) operation, a core file might be created after the Ethernet switching process (**eswd**) is restarted or after a line card is taken offline. [PR/570645: This issue has been resolved.]

- On J-EX Series switches, DHCP relay does not add the proper prefixes for priority-tagged frames, so these packets are dropped on interfaces on which LLDP-MED is not enabled. [PR/572454: This issue has been resolved.]
- On J-EX4200 switches, when the mode on an SFP+ uplink module is changed from 10g to 1g, or from 1g to 10g, the switch does not learn MAC addresses until it is rebooted. [PR/573857: This issue has been resolved.]

J-Web Interface

- If you configure 802.1X authentication on a J-EX Series switch, the J-Web interface performance slows. [PR/543298: This issue has been resolved.]

Layer 2 and Layer 3 Protocols

- The routing protocol process (rpd) might dump a core when you include the **traceoptions** statement at the **[edit routing-options]** hierarchy level. As a workaround, disable the traceoptions, for example, by configuring **flag normal**. [PR/596007: This issue has been resolved.]

Virtual Chassis

- On a J-EX4200 Virtual Chassis, an automatic software update fails if you have configured preprovisioning or mastership priority. [PR/557981: This issue has been resolved.]

Issues Resolved in Release 10.4R4

The following issues have been resolved since Junos OS Release 10.4R3. The identifier following the description is the tracking number in our bug database.

Access Control and Port Security

- When DHCP snooping is enabled, after an IP address is dynamically assigned to a device, when the device sends DHCPINFORM packets to obtain other DHCP parameters, the switch blocks these packets. [PR/580068: This issue has been resolved.]
- The 802.1X process (**dot1xd**) might crash, making it impossible for switch users to connect to the network. [PR/587531: This issue has been resolved.]

Bridging, VLANs, and Spanning Trees

- If you enable all VRRP sessions simultaneously on a switch with a large number (on the order of 200 or more) of VRRP configurations, RSTP convergence might not occur. As a workaround, do not enable all VRRP sessions simultaneously if the switch's VRRP configuration is large. [PR/556114: This issue has been resolved.]

Infrastructure

- The boot sequencing environment (`boot.btsq.disable`) variable enables transparent rebooting for resilient dual-root partitions. It is disabled by default in the newer loader software packages. In Release 10.4R3, this environment variable must be reset manually. In Release 10.4R4, JUNOS OS automatically sets this variable depending upon whether the JUNOS OS version supports resilient dual-root partitions. [PR/592913: This issue has been resolved]
- The **show chassis routing-engine** command erroneously shows an uptime of 14,700 days. [PR/537224: This issue has been resolved.]
- When you include wildcards in a routing policy filter that also includes Classless Interdomain Routing (CIDR) addresses or that maps IPv4 addresses to IPv6 addresses, the forwarding process (`pfem`) might stop operating. [PR/544518: This issue has been resolved.]
- When an interface status changes, the message "KERN-1-GENCFG: op 8 (CoS) failed; err 5 (Invalid)" might appear in the system log (`syslog`) file. [PR/576027: This issue has been resolved.]
- When the switch is running under a high load, it might stop operating and you might see a Packet Forwarding Engine (**pfem**) core file. [PR/576409: This issue has been resolved.]
- On J-EX4200 switches, VRRPv3 advertisements are not forwarded on a Layer 2 VLAN on which IGMP snooping is enabled. [PR/588712: This issue has been resolved.]
- If the switch receives three or more soft resets within 30 seconds, the Junos OS software shuts down the switch. [PR/590977: This issue has been resolved.]
- When you upgrade a J-EX Series switch whose configuration contains a firewall filter that includes only non-contiguous masks in the term's match condition, the switch might fail to start and you might see a Packet Forwarding Engine (**pfem**) core file. As a workaround, do not configure only non-contiguous masks. [PR/598333: This issue has been resolved.]

Layer 2 and Layer 3 Protocols

- If you reboot a J-EX Series switch on which Layer 2, Layer 3, and multicast protocols are configured, Bidirectional Forwarding Detection (BFD) might start and stop when multiple duplicate PPM entries are created on the routing engine. [PR/551267: This issue has been resolved.]

Virtual Chassis

- J-EX4200 Virtual Chassis members might not reboot and might create a Virtual Chassis control process (**vccpd**) core file. [PR/588466: This issue has been resolved.]

Issues Resolved in Release 11.1R1

The following issues have been resolved since Junos OS Release 10.4. The identifier following the description is the tracking number in our bug database.

Firewall Filters

- On J-EX4200 switches, if you configure a firewall filter with the match condition **tcp-established**, the following error message is displayed:

```
not supported
```

[PR/543316: This issue has been resolved.]

- On J-EX Series switches, when the last term in a loopback firewall filter is either an implicit deny-all or explicit deny-all, received packets whose TTL is exceeded are dropped instead of being processed by the CPU. Thus, for example, traceroute packets received with a TTL of 0 are dropped, and ICMP unreachable packets are not sent back. [PR/573170: This issue has been resolved.]

Infrastructure

- The **request system zeroize** command does not erase the log files and delete the existing configuration. [PR/511216: This issue has been resolved.]
- When you issue a **traceroute** command for a nonexistent IP address, a J-EX Series switch that is the first hop from the source address might not respond. [PR/532921: This issue has been resolved.]
- On J-EX8200 switches, when you take an FPC offline using the **request system reboot power-off** command or the **request system halt power-off** command, the link failover occurs quickly and the MAC table is flushed quickly. However, if an FPC is taken offline as the result of an unexpected Routing Engine reboot or as the result of a software problem or hardware failure, the link failover and flushing of the MAC table do not happen quickly. [PR/551375: This issue has been resolved.]
- When the DNS server configured is not reachable, the name resolution for **localhost** takes a long time and the output of the **show ntp association** command takes a long time to appear. [PR/551739: This issue has been resolved.]
- If a Routing Engine fails over to the backup Routing Engine, not all multicast groups that were active on the switch recover. [PR/563030: This issue has been resolved.]

- When you are configuring the switch in private mode and delete an interface from an interface-range configuration and then reconfigure the interface, the configuration commit fails. [PR/565620: This issue has been resolved.]
- On J-EX8200 switches, after routing and traffic recover from a graceful Routing Engine switchover (GRES) operation, a core file might be created after the Ethernet switching process (**eswd**) is restarted or after a line card is taken offline. [PR/570645: This issue has been resolved.]
- During the TFTP transfer portion of an automatic software download procedure, the software package might be truncated or corrupted. [PR/570901: This issue has been resolved.]

Interfaces

- In a Q-in-Q tunneling configuration that includes aggregated Ethernet interfaces (LAGs), after a forwarding process (**pfem**) process restart, the member interfaces in the VLAN might be incorrectly set. [PR/527117: This issue has been resolved.]

J-Web Interface

- In the J-Web interface, the autocompletion feature might not be disabled in the password field. As a workaround, disable the autocompletion feature in the browser. [PR/508425: This issue has been resolved.]
- In the J-Web interface, when you select the Ethernet Switching Monitor page (**Monitor > Switching > Ethernet Switching**), the MAC learning log might not display information. [PR/535200: This issue has been resolved.]
- If an SRE module, RE module, SF module, line card, or Virtual Chassis member is in offline mode, the J-Web interface might not update the dashboard image accordingly. [PR/431441]
- In the J-Web interface, after you revert the scheduler map configured on an interface to the default scheduler map in the Edit interface window on the Configure Interface Association page (**Configure > Class of Service > Assign To Interface > Configure Interface Association > Edit**), the window does not close automatically. [PR/541188: This issue has been resolved.]
- In the J-Web interface, when you use an HTTPS connection in the Microsoft Internet Explorer browser, you cannot upload (**Maintain > Config Management > Upload**) or download (**Maintain > Config Management > History > Configuration History**) a configuration file. As a workaround, use an HTTP connection. [PR/551200: This issue has been resolved.]

Management and RMON

- On J-EX4200 switches, the LACP process (**lacpd**) creates core files when an SNMP MIB lookup is performed. [PR/533226: This issue has been resolved.]

Virtual Chassis

- When you halt a member of a J-EX4200 Virtual Chassis, the link on an uplink module port configured as a VCP might not be brought down. [PR/582996: This issue has been resolved.]

Issues Resolved in Release 11.1R2

The following issues have been resolved since Junos OS Release 11.1R1. The identifier following the description is the tracking number in our bug database.

Access Control and Port Security

- When DHCP snooping is enabled, after an IP address is dynamically assigned to a device, when the device sends DHCPINFORM packets to obtain other DHCP parameters, the switch blocks these packets. [PR/580068: This issue has been resolved.]
- The 802.1X process (**dot1xd**) might crash, making it impossible for switch users to connect to the network. [PR/587531: This issue has been resolved.]

Bridging, VLANs, and Spanning Trees

- When the primary redundant trunk group (RTG) interface is disabled, causing an RTG switchover, MAC entries on the upstream switches are refreshed. However, when the primary RTG link is enabled, the MAC entries are not refreshed on the upstream switches. [PR/555158: This issue has been resolved.]

Hardware

- On J-EX4200 switches, SFP-T (1-gigabit copper) transceivers installed on port 0 or port 2 of an SFP+ uplink module might not work correctly even though the interface link status is up. [PR/569307: This issue has been resolved.]
- On J-EX8200 switches, the output of the **show chassis power-budget-statistics** command now shows the power supply capacity in watts. If the power supply is offline, the capacity is shown as 0 W. [PR/588745: This issue has been resolved.]

Infrastructure

- If you perform graceful Routing Engine switchover (GRES) on a J-EX4200 or J-EX8200 switch, the Ethernet switching table might not refresh because the Packet Forwarding Engine retains the forwarding database (FDB) entries. The result is that traffic is flooded to the affected MAC addresses. As a workaround, refresh the Ethernet switching table by issuing the **clear ethernet-switching table** command. [PR/541311: This issue has been resolved.]
- When you include wildcards in a routing policy filter that also includes Classless Interdomain Routing (CIDR) addresses or that maps IPv4 addresses to IPv6 addresses, the forwarding process (**pfem**) might stop operating. [PR/544518: This issue has been resolved.]

- On J-EX4200 switches, SFP-T (1-gigabit copper) transceivers installed on port 0 or port 2 of an SFP+ uplink module might not work correctly even though the interface link status is up. [PR/569307: This issue has been resolved.]
- On J-EX Series switches, DHCP relay does not add the proper prefixes for priority-tagged frames, so these packets are dropped on interfaces on which LLDP-MED is not enabled. [PR/572454: This issue has been resolved.]
- When an interface's status changes, the message "KERN-1-GENCFG: op 8 (CoS) failed; err 5 (Invalid)" might appear in the system log (**syslog**) file. [PR/576027: This issue has been resolved.]
- When the switch is running under a high load, it might stop operating and you might see a Packet Forwarding Engine (**pfem**) core file. [PR/576409: This issue has been resolved.]
- If a series of parity errors occurs on the switch, the Packet Forwarding Engine resets the switch after each error, and there is no way for a user to manually shut down the switch. This problem has been resolved by the enhancement of the parity error-detection mechanism so that if the switch receives three or more soft resets within 30 seconds, Junos OS shuts it down. [PR/590977: This issue has been resolved.]
- When you upgrade a J-EX Series switch whose configuration contains a firewall filter that includes only noncontiguous masks in the term's match condition, the switch might fail to start and you might see a Packet Forwarding Engine (**pfem**) core file. As a workaround, do not configure only noncontiguous masks. [PR/598333: This issue has been resolved.]

J-Web Interface

- In the J-Web interface, if the switch is configured as a Virtual Chassis and has more than one uplink module connection, the total number of ports that the dashboard lists as being underutilized is incorrect. [PR/591080: This issue has been resolved.]
- In the J-Web interface on J-EX8216 switches, the FPC number of an inserted line card might not be listed under Ports for FPC on the Ports Monitoring page (**Monitor > Interface**). As a workaround, select the **all** option under Ports for FPC to display all the interfaces, including those for line cards. [PR/593623: This issue has been resolved.]

Layer 2 and Layer 3 Protocols

- On J-EX8200 switches, when IGMP snooping is enabled on an interface, the IPv6 multicast Layer 2 control frame is not forwarded to other interfaces in the same VLAN. [PR/456700: This issue has been resolved.]
- VRRPv3 advertisements are not forwarded on a Layer 2 VLAN with IGMP snooping enabled. [PR/588712: This issue has been resolved.]
- The routing protocol process (**rpd**) might create a core file when you include the **traceoptions** statement at the [**edit routing-options**] hierarchy level. As a workaround, disable the traceoptions—for example, by configuring the **flag normal** option. [PR/596007: This issue has been resolved.]

Management and RMON

- sFlow technology might not work when you apply a firewall filter to the loopback (**lo0**) interface. [PR/546432: This issue has been resolved.]
- When the polling interval on an interface is changed from the default value of 0 to another value by the inclusion of the **polling-interval** configuration statement in the **sflow** configuration, an sFlow core file might be created. [PR/561414: This issue has been resolved.]

Virtual Chassis

- J-EX4200 Virtual Chassis members might not reboot and might create a Virtual Chassis control process (**vccpd**) core file. [PR/588455: This issue has been resolved.]

Errata in Documentation for Junos OS Release 11.1 for J-EX Series Switches

This section lists outstanding issues with the documentation for Junos OS Release 11.1 for J-EX Series switches.

Access Control and Port Security

- Depending on the particular feature, you can configure a port security feature either on:
 - A specific VLAN or all VLANs
 - A specific interface or all interfaces

If you configure one of the port security features on all VLANs or all interfaces, the switch software enables that port security feature on all VLANs and all interfaces that are not explicitly configured with other port security features.

The documentation does not explain that, if you do explicitly configure one of the port security features on a specific VLAN or on a specific interface, you must explicitly configure any additional port security features that you want to apply to that VLAN or interface. Otherwise, the switch software automatically applies the default values for the feature.

For example, if you enable DHCP snooping on all VLANs and decide to explicitly enable IP source guard only on a specific VLAN, you must also explicitly enable DHCP snooping on that specific VLAN. Otherwise, the default value of no DHCP snooping applies to that VLAN.

- The section "Understanding Server Fail Fallback and Authentication on J-EX Series Switches" in the *Dell PowerConnect J-Series Ethernet Switch Complete Software Guide for Junos OS Volume: 2* at <http://www.support.dell.com/manuals> incorrectly states that the RADIUS authentication server sends an EAPoL access-reject message. It should say that the RADIUS authentication server sends a RADIUS access-reject message. This mistake also appears in the example and CLI procedure documents about configuring server fail fallback.

Infrastructure

- The **request system zeroize** command is now supported on J-EX Series switches. This command erases all data, including configuration and log files, from the switch and then reboots the system.

Interfaces

- The Protocol Families and Supported Interface Types table in the topic "family (for J-EX Series switches)" incorrectly shows the circuit cross-connect (**ccc**) protocol family as being supported on aggregated Ethernet interfaces on all switches. This protocol family is supported on aggregated Ethernet interfaces only on J-EX8200 switches.

Related Documentation

- New Features in Junos OS Release 11.1 for J-EX Series Switches on page 3
- Changes in Default Behavior and Syntax in Junos OS Release 11.1 for J-EX Series Switches on page 10
- Limitations in Junos OS Release 11.1 for J-EX Series Switches on page 11
- Outstanding Issues in Junos OS Release 11.1 for J-EX Series Switches on page 16
- Resolved Issues Since Junos OS Release 10.3
- Upgrade and Downgrade Instructions for Junos OS Release 11.1 for J-EX Series Switches on page 37

Upgrade and Downgrade Instructions for Junos OS Release 11.1 for J-EX Series Switches

This section discusses the following topics:

- Upgrading from Junos OS Release 11.1R2 or Later on page 37
- Upgrading from Junos OS Release 10.3 or Earlier on page 39
- Downgrading to Junos OS Release 10.3 or Earlier on page 49

Upgrading from Junos OS Release 11.1R2 or Later

You can use this procedure to upgrade Junos OS on a standalone J-EX Series switch with a single Routing Engine. You can also use it to upgrade all members of a Virtual Chassis or a single member of a Virtual Chassis. To upgrade software on an standalone J-EX8200 switch with dual Routing Engines, see one of the following sections in the *Dell PowerConnect J-Series Ethernet Switch Complete Software Guide for Junos OS: Volume 1* at <http://www.support.dell.com/manuals>:

- Installing Software on a J-EX8200 Switch with Redundant Routing Engines
- Upgrading Software on a J-EX8200 Standalone Switch Using Nonstop Software Upgrade

To install software upgrades on a switch with a single Routing Engine or on a Virtual Chassis:

1. Download the software package as described in “Downloading Software Packages” in the *Dell PowerConnect J-Series Ethernet Switch Complete Software Guide for Junos OS: Volume 1* at <http://www.support.dell.com/manuals>.
2. (Optional) Back up the current software configuration to a second storage option. See the *Junos OS Installation and Upgrade Guide* at <http://www.juniper.net/techpubs/software/junos/index.html> for instructions.
3. (Optional) Copy the software package to the switch. We recommend that you use FTP to copy the file to the `/var/tmp` directory.

This step is optional because Junos OS can also be upgraded when the software image is stored at a remote location.

4. Install the new package on the switch:

```
user@switch> request system software add package
```

Replace `package` with one of the following paths:

- For a software package in a local directory on the switch—`/var/tmp/package.tgz`.
- For a software package on a remote server:
 - `ftp://hostname/pathname/package.tgz`
 - `http://hostname/pathname/package.tgz`

where `package.tgz` is, for example, `jinstall-ex-4200-11.1R2.8-domestic-signed.tgz`.

To install software packages on all the switches in a mixed J-EX4200 and J-EX4500 Virtual Chassis, use the `set` option to specify both the J-EX4200 package and the J-EX4500 package:

```
user@switch> request system software add set [package package]
```

Include the optional `member` option to install the software package on only one member of a Virtual Chassis:

```
user@switch> request system software add package member member-id
```

Other members of the Virtual Chassis are not affected. To install the software on all members of the Virtual Chassis, do not include the `member` option.



NOTE: To abort the installation, do not reboot your device; instead, finish the installation and then issue the `request system software delete package.tgz` command, where `package.tgz` is, for example, `jinstall-ex-8200-10.2R1.8-domestic-signed.tgz`. This is your last chance to stop the installation.

5. Reboot to start the new software (to reboot a single member, use the `member` option):

```
user@switch> request system reboot
```

6. After the reboot has completed, log in and verify that the new version of the software is properly installed:

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

Upgrading from Junos OS Release 10.3 or Earlier

Upgrading to Junos OS Release 11.1 from Release 10.3 or earlier is more involved than previous upgrades as a result of the introduction of resilient dual-root partitions. This new feature incorporates some enhancements that add additional steps when you upgrade from a release that does not support resilient dual-root partitions to one that does. Once you are running a release that supports resilient dual-root partitions, such as Release 11.1, future upgrades will not require these additional steps.

The following points summarize the differences between this upgrade and previous upgrades:

- The disk partitions are automatically reformatted to four partitions during the reboot of the switch that completes the Junos OS upgrade. The reformat increases the reboot time for J-EX8200 switches by 10 to 25 minutes per Routing Engine. For other switches, the increase in boot time is 5 to 10 minutes.
- The configuration files in `/config` are saved in volatile memory before the reformat and then restored after the reformat—however, the files in `/var` are not saved and are lost after the upgrade.



NOTE: We recommend that you copy your data files to external media using the `request system snapshot` command before you perform the upgrade. Files in the `/var` directory, such as log files and user `/home` directories, are not saved. In addition, a power failure during the reboot could cause the configuration files to be lost.

- You must upgrade the loader software. You upgrade the loader software by installing the loader software package from the CLI.



NOTE: To obtain the loader software package: see the Download Software page at <http://www.juniper.net/support/partners/dell/>. Click on the version, then the Software tab, then the name of the software install package. In the pop-up Alert box, click on the link to the PSN document.

On switches other than the J-EX8200 switches, upgrading the loader software does not significantly increase the upgrade time because you can complete the upgrade of both Junos OS and the loader software with a single reboot.

On J-EX8200 switches, upgrading the loader software requires two additional reboots per Routing Engine because of the way the loader software is stored in the flash memory. On J-EX8200 switches only, you can verify that the loader software requires

upgrading before you perform the upgrade—if the loader software does not need upgrading, the additional reboots per Routing Engine are not required.



NOTE: If you upgrade to Release 11.1 and do not upgrade the loader software, the switch will come up and will function normally. However, if the switch cannot boot from the active root partition, it will not be able to transparently boot from the alternate root partition.

Table 1 on page 40 lists the installation packages required to upgrade the loader software.

Table 1: Required Installation Packages for Upgrading the Loader Software

Platform	Installation Package
J-EX4200 switch	<code>jloader-ex-3242-11.3date-signed.tgz</code>
J-EX4500 switch	<code>jloader-ex-4500-11.3date-signed.tgz</code>
J-EX8200 switch	<code>jloader-ex-8200-11.3date-signed.tgz</code>

To obtain the loader software package, see the Download Software page at <http://www.juniper.net/support/partners/dell/>. Click on the version, then the Software tab, then the name of the software install package. In the pop-up Alert box, click on the link to the PSN document.

- For the upgrade to Release 11.1, the upgrade process automatically copies the contents of the primary root partition to the alternate root partition at the end of the upgrade process. Because the resilient dual-root partitions feature enables the switch to boot transparently from the alternate root partition, we recommend that you use the **request system snapshot** command to copy the contents of the primary root partition to the alternate root partition after all future Junos OS upgrades.



NOTE: If you upgrade the loader software in a separate step after you upgrade Junos OS, users might see the following message when they log in to the switch:

At least one package installed on this device has limited support

This message can be safely ignored.

You can permanently remove this message by deleting the loader software package and rebooting the system. For example, on a J-EX4200 switch:

```
user@switch> request system software delete jloader-ex-3242
Unmounted /packages/mnt/jloader-ex-3242-11.3 ...
```

```
user@switch> request system reboot
Reboot the system ? [yes,no] (no) yes
```


The following pages include more detailed instructions for performing a software upgrade from Release 10.3 or earlier:

- Determining Whether the Loader Software Needs Upgrading on J-EX8200 Switches on page 41
- Installing the Loader Software and Junos OS on Standalone J-EX4200 and Standalone J-EX4500 Switches on page 42
- Upgrading the Loader Software and Junos OS on J-EX4200 Virtual Chassis on page 43
- Upgrading the Loader Software on J-EX4500 Virtual Chassis and Mixed J-EX4200 and J-EX4500 Virtual Chassis on page 45
- Upgrading Junos OS and the Loader Software on Standalone J-EX8200 Switches on page 46

Determining Whether the Loader Software Needs Upgrading on J-EX8200 Switches

Before you begin the software upgrade on a J-EX8200 switch, determine whether the loader software needs upgrading. It is possible that a switch running a Junos OS release earlier than Release 11.1R2 has a version of the loader software installed that supports resilient dual-root partitions. For example, the switch might have been shipped from the factory with a Junos OS release earlier than Release 11.1R2 but with a version of the loader software that supports resilient dual-root partitions. Or the switch might have been downgraded from a Junos OS release that supports resilient dual-root partitions but still retain a version of the loader software that supports resilient dual-root partitions.



NOTE: This procedure is available only on J-EX8200 switches. On all other switches, you must upgrade your loader software.

To determine whether the loader software needs upgrading:

1. Determine the version of the loader software:

```
user@switch> show chassis firmware
Part          Type      Version
FPC 6         U-Boot   U-Boot 1.1.6 (Jan 13 2009 - 06:55:22) 2.3.0
              loader   FreeBSD/PowerPC U-Boot bootstrap loader 2.2
FPC 7         U-Boot   U-Boot 1.1.6 (Jan 13 2009 - 06:55:22) 2.3.0
              loader   FreeBSD/PowerPC U-Boot bootstrap loader 2.2
Routing Engine 0 U-Boot   U-Boot 1.1.6 (Mar 11 2011 - 04:29:01) 3.5.0
              loader   FreeBSD/PowerPC U-Boot bootstrap loader 2.3
Routing Engine 1 U-Boot   U-Boot 1.1.6 (Mar 11 2011 - 04:29:01) 3.5.0
              loader   FreeBSD/PowerPC U-Boot bootstrap loader 2.3
```

The loader software version appears after the timestamp for **U-Boot 1.1.6**. In the preceding example, the version is **3.5.0**. (Ignore the **1.1.6** version information in **U-Boot 1.1.6**—it does not indicate whether or not the version of the loader software supports resilient dual-root partitioning.)

2. If the loader software version is **3.5.0** or later on J-EX8200 switches, your loader software does not need upgrading to support resilient dual-root partitioning. To upgrade to Release 11.1, install Junos OS, following the standard installation procedures. See “Upgrading from Junos OS Release 11.1R2 or Later” on page 37.

3. If the loader software version is earlier than **3.5.0**, you must upgrade your loader software. Follow the instructions in “Upgrading Junos OS and the Loader Software on Standalone J-EX8200 Switches” on page 46.

Installing the Loader Software and Junos OS on Standalone J-EX4200 and Standalone J-EX4500 Switches

To upgrade the loader software and Junos OS on standalone J-EX4200 and standalone J-EX4500 switches:

1. Download the loader software package and the Junos OS package from <http://www.juniper.net/support/partners/dell/>. The process is described in “Downloading Software Packages” in the *Dell PowerConnect J-Series Ethernet Switch Complete Software Guide for Junos OS: Volume 1*, available at <http://www.support.dell.com/manuals>.



NOTE: To obtain the loader software package, see the Download Software page at <http://www.juniper.net/support/partners/dell/>. Click on the version, then the Software tab, then the name of the software install package. In the pop-up Alert box, click on the link to the PSN document.

Place the software packages on an internal software distribution site or in a local directory on the switch. We recommend using `/var/tmp` as the local directory on the switch.

2. Install the loader package:

```
user@switch> request system software add package
```

Replace *package* with one of the following paths:

- For a software package in the `/var/tmp` directory on the switch—`/var/tmp/package.tgz`
- For a software package on a remote server:
 - `ftp://hostname/pathname/package.tgz`
 - `http://hostname/pathname/package.tgz`

where *package.tgz* is, for example, `jloader-ex-3242-11.3date-signed.tgz`.

3. Install the Junos OS package, following the same procedure you used to install the loader software package.
4. Reboot the switch:

```
user@switch> request system reboot
Reboot the system ? [yes,no] (no) yes
```

If you are monitoring the reboot from the console, you see messages similar to the following during the partition reformat:

```
Disk needs to be formatted in order to proceed
Saving the configuration in memory before formatting the disk
FILE SYSTEM CLEAN; SKIPPING CHECKS
```

```

clean, 31543 free (10 frags, 3953 blocks, 0.0% fragmentation)
32+0 records in
32+0 records out
16384 bytes transferred in 0.033161 secs (494075 bytes/sec)
***** Working on device /dev/da0 *****
.
.
.
Restoring configuration

```

5. Verify that the loader software has been upgraded:

```

user@switch> show chassis firmware
Part      Type      Version
FPC 0    uboot     U-Boot 1.1.6 (Mar 11 2011 - 04:41:52)  1.0.0
          loader   FreeBSD/arm U-Boot loader 1.1

```

The U-Boot version number that follows the date information should be 1.0.0 or later.

6. Verify that Junos OS has been upgraded:

```

user@switch> show version

```

Upgrading the Loader Software and Junos OS on J-EX4200 Virtual Chassis

You perform the upgrade of the loader software and Junos OS of a J-EX4200 Virtual Chassis from the Virtual Chassis master switch. The master switch pushes the installation packages to all the Virtual Chassis members. You can also upgrade the loader software and Junos OS on a single member switch from the master switch.

To upgrade the loader software and Junos OS:

1. Download the loader software package and the Junos OS package from <http://www.juniper.net/support/partners/dell/>. The process is described in “Downloading Software Packages” in the *Dell PowerConnect J-Series Ethernet Switch Complete Software Guide for Junos OS: Volume 1*, available at <http://www.support.dell.com/manuals>.



NOTE: To obtain the loader software package, see the Download Software page at <http://www.juniper.net/support/partners/dell/>. Click on the version, then the Software tab, then the name of the software install package. In the pop-up Alert box, click on the link to the PSN document.

Place the software package on an internal software distribution site or in a local directory on the master switch. We recommend using `/var/tmp` as the local directory on the master switch.

2. Log in to the master of the Virtual Chassis.
3. Install the loader software package:
 - To install the package on all members of the Virtual Chassis:

```

user@switch> request system software add package

```
 - To install the package on a single member of the Virtual Chassis:

```
user@switch> request system software add package member member-id
```

Replace ***package*** with one of the following paths:

- For a software package in the `/var/tmp` directory on the switch—`/var/tmp/package.tgz`
- For a software package on a remote server:
 - `ftp://hostname/pathname/package.tgz`
 - `http://hostname/pathname/package.tgz`

where ***package.tgz*** is, for example, `jloader-ex-3242-11.3date-signed.tgz`.

4. Install the Junos OS package, following the same procedure you used to install the loader software package.
5. Reboot the Virtual Chassis (to reboot a single member, use the ***member*** option):

```
user@switch> request system reboot
Reboot the system ? [yes,no] (no) yes
```

If you are monitoring the reboot from the console, you see messages similar to the following during the disk reformat:

```
Disk needs to be formatted in order to proceed
Saving the configuration in memory before formatting the disk
FILE SYSTEM CLEAN; SKIPPING CHECKS
clean, 31543 free (10 frags, 3953 blocks, 0.0% fragmentation)
32+0 records in
32+0 records out
16384 bytes transferred in 0.033161 secs (494075 bytes/sec)
***** Working on device /dev/da0 *****
.
.
.
Restoring configuration
```

6. Verify that the new version of the loader software is on all members of the Virtual Chassis:

```
user@switch> show chassis firmware
fpc0:
-----
Part          Type          Version
FPC 0         uboot         U-Boot 1.1.6 (Mar 11 2011 - 04:41:52) 1.0.0
              loader        FreeBSD/PowerPC U-Boot bootstrap loader 2.1
FPC 1         uboot         U-Boot 1.1.6 (Mar 11 2011 - 04:41:52) 1.0.0
              loader        FreeBSD/PowerPC U-Boot bootstrap loader 2.1
```

The U-Boot version number that follows the date information should be 1.0.0 or later.

7. Verify that the new Junos OS release is on all members of the Virtual Chassis:

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

Upgrading the Loader Software on J-EX4500 Virtual Chassis and Mixed J-EX4200 and J-EX4500 Virtual Chassis

To create a J-EX4500 Virtual Chassis or a mixed J-EX4200 and J-EX4500 Virtual Chassis, you must upgrade Junos OS on the member switches to Release 11.1 before you form the Virtual Chassis. For instructions on how to upgrade Junos OS on the member switches, see “Installing the Loader Software and Junos OS on Standalone J-EX4200 and Standalone J-EX4500 Switches” on page 42.

If you did not upgrade the loader software on one or more of the member switches before you formed the Virtual Chassis, you can use the following procedure to upgrade the loader software on member switches after the Virtual Chassis is formed.

To upgrade the loader software:

1. Download the loader software package from <http://www.juniper.net/support/partners/dell>. The process is described in “Downloading Software Packages” in the *Dell PowerConnect J-Series Ethernet Switch Complete Software Guide for Junos OS: Volume 1*, available at <http://www.support.dell.com/manuals>. Place the software package on an internal software distribution site or in a local directory on the master switch. We recommend using `/var/tmp` as the local directory on the master switch.



NOTE: To obtain the loader software package, see the Download Software page at <http://www.juniper.net/support/partners/dell/>. Click on the version, then the Software tab, then the name of the software install package. In the pop-up Alert box, click on the link to the PSN document.

For a mixed J-EX4200 and J-EX4500 Virtual Chassis, you must download the loader packages for both switches.

2. Log in to the master of the Virtual Chassis.
3. Install the loader software package:
 - To install the package on all members of a J-EX4500 Virtual Chassis:


```
user@swi tch> request system software add package
```
 - To install the package on all members of a mixed J-EX4200 and J-EX4500 Virtual Chassis:


```
user@swi tch> request system software add set j-ex4200-package j-ex4500-package
```
 - To install the package on a single member of the Virtual Chassis:


```
user@swi tch> request system software add package member member-id
```
4. Reboot the Virtual Chassis (to reboot a single member, use the `member` option):

```
user@switch> request system reboot
Reboot the system ? [yes,no] (no) yes
```

- Verify that the correct version of the loader software is on all members of the Virtual Chassis:

```
user@switch> show chassis firmware
fpc0:
-----
Part          Type          Version
FPC 0         uboot         U-Boot 1.1.6 (Mar 11 2011 - 11:27:42) 1.0.0
              loader       FreeBSD/PowerPC U-Boot bootstrap loader 2.1
FPC 1         uboot         U-Boot 1.1.6 (Mar 11 2011 - 11:27:42) 1.0.0
              loader       FreeBSD/PowerPC U-Boot bootstrap loader 2.1
```

The U-Boot version number that follows the date information should be 1.0.0 or later.

Upgrading Junos OS and the Loader Software on Standalone J-EX8200 Switches



NOTE: On J-EX8200 switches, you must upgrade Junos OS before you can upgrade the loader software.

The loader software for a J-EX8200 Routing Engine resides in two flash memory banks. At any time, one bank acts as the primary bank and the Routing Engine boots from it. The other bank is the backup bank—if the Routing Engine cannot boot from the primary bank, it boots from the backup bank. When you upgrade the loader software, the upgraded software is installed in the backup bank, which then becomes the new primary bank. Thus the primary and backup banks alternate each time you upgrade the loader software, with the primary bank containing the most recently installed version of the software and the backup bank containing the previous version.

To upgrade the loader software on a J-EX8200 Routing Engine, you must perform the upgrade twice: once for each bank. Each upgrade requires a reboot of the Routing Engine.



NOTE: If you do not upgrade the loader software in both banks and the Routing Engine boots from the previous version of the loader software in the backup bank, the Routing Engine can no longer boot transparently from the alternate root partition if it cannot boot from the primary root partition.

For a J-EX8200 switch with redundant Routing Engines, you must upgrade the loader software on both Routing Engines. You can upgrade the loader software on a Routing Engine only when it is master. Make sure that graceful Routing Engine switchover (GRES) and nonstop active routing (NSR) are disabled before you begin the upgrade.

To upgrade the master Routing Engine on a switch with redundant Routing Engines or to upgrade the Routing Engine on a switch with a single Routing Engine:

1. Download and install the Junos OS package on each Routing Engine. The process is described in "Installing Software on a J-EX8200 Switch with Redundant Routing Engines" in the *Dell PowerConnect J-Series Ethernet Switch Complete Software Guide for Junos OS: Volume 1* at <http://www.support.dell.com/manuals>.
2. Download the loader software package from <http://www.juniper.net/support/partners/dell/>.



NOTE: To obtain the loader software package, see the Download Software page at <http://www.juniper.net/support/partners/dell/>. Click on the version, then the Software tab, then the name of the software install package. In the pop-up Alert box, click on the link to the PSN document.

Place the software package on an internal software distribution site or in a local directory on the switch. We recommend using `/var/tmp` as the local directory on the switch.

3. Log in to the switch and enter the shell. We recommend using a console connection.
4. Determine the primary bank and the version of the loader software in the bank:

```
% kenv | grep boot.primary.bank
boot.primary.bank="0"
% kenv | grep boot.ver
boot.ver="2.4.0"
```

5. Enter the CLI and install the loader package:

```
user@switch> request system software add package
```

Replace *package* with one of the following paths:

- For a software package in the `/var/tmp` directory on the switch—`/var/tmp/package.tgz`
- For a software package on a remote server:
 - `ftp://hostname/pathname/package.tgz`
 - `http://hostname/pathname/package.tgz`

where *package.tgz* is, for example, `jloader-ex-8200-11.3date-signed.tgz`.

6. Upgrade the firmware:

```
user@switch> request system firmware upgrade scb
Firmware upgrade initiated...
Please wait for ~2mins for upgrade to complete...
```

7. After waiting for a couple of minutes, reboot the Routing Engine:

```
user@switch> request system reboot
Reboot the system ? [yes,no] (no) yes
```

8. Enter the shell and verify that the previous backup bank is now the primary bank and that it contains the upgraded loader software:

```
% kenv | grep boot.primary.bank
boot.primary.bank="1"
% kenv | grep boot.ver
boot.ver="3.5.0"
```

9. To install the loader software in the current backup bank, repeat step 4 through step 8.



NOTE: If you installed the loader software package from `/var/tmp`, you will need to copy the loader software package to `/var/tmp` again before you can repeat step 4 through step 8 because it is removed after each installation.

10. (Optional) The following message might be displayed when a user logs in to the system:

```
--- JUNOS 11.1R1.9 built 2011-03-19 22:06:32 UTC
At least one package installed on this device has limited support.
Run 'file show /etc/notices/unsupported.txt' for details..
```

This message can be safely ignored. It appears as a result of upgrading the loader software after you upgrade Junos OS.

You can permanently remove this message by removing the loader software package and rebooting the system:

```
user@switch> request system software delete jloader-J-EX8200
Unmounted /packages/mnt/jloader-J-EX8200-11.3-20110310.0 ...

user@switch> request system reboot
Reboot the system ? [yes,no] (no) yes
```

To upgrade the backup Routing Engine on a switch with redundant Routing Engines:

1. Log in to the backup Routing Engine. We recommend using a console connection.
2. Perform a master switchover so that the backup Routing Engine becomes the master:

```
user@switch> request chassis routing-engine master switch
warning: Traffic will be interrupted while the PFE is re-initialized
Toggle mastership between routing engines ? [yes,no] (no) yes

Resolving mastership...
Complete. The local routing engine becomes the master.
```

3. Follow the same procedure for upgrading the loader software and Junos OS that you used for the original master Routing Engine (step 3 through step 10). When you reboot the Routing Engine after upgrading the loader software in the first bank, mastership returns to the original master Routing Engine. You will need to perform another master switchover before you can upgrade the loader software in the second bank.

Downgrading to Junos OS Release 10.3 or Earlier

When you downgrade to a Junos OS release that does not support resilient dual-root partitions (Release 10.3 or earlier), the downgrade process automatically:

- Reformats the disk from four partitions to three partitions during the reboot of the switch that completes the Junos OS downgrade. The reformat causes a one-time increase in boot time—10 to 25 additional minutes per Routing Engine for J-EX8200 switches; 5 to 10 additional minutes for other switches.
- Disables the boot-sequencing function of the loader software. With the boot-sequencing function disabled, the loader software behaves as it did before resilient dual-root partitions were introduced. The loader software itself is not downgraded—there is no need to downgrade the loader software.

To downgrade to Release 10.3 or earlier:

1. Use the **request system snapshot** command to save your data files to external media before you perform the downgrade.



NOTE: Files in the `/config` directory are saved and restored during the downgrade process. However, files in the `/var` directory, such as log files and user `/home` directories, are not saved. In addition, a power failure during the reboot could cause the configuration files to be lost.

2. Install Junos OS.

Related Documentation

- New Features in Junos OS Release 11.1 for J-EX Series Switches on page 3
- Changes in Default Behavior and Syntax in Junos OS Release 11.1 for J-EX Series Switches on page 10
- Limitations in Junos OS Release 11.1 for J-EX Series Switches on page 11
- Outstanding Issues in Junos OS Release 11.1 for J-EX Series Switches on page 16
- Resolved Issues Since Junos OS Release 10.3
- Errata in Documentation for Junos OS Release 11.1 for J-EX Series Switches on page 36

Dell Documentation and Release Notes

To download the hardware documentation for your product and the JUNOS Software documentation for PowerConnect J-Series J-EX Series products , see the following Dell support website:

<http://www.support.dell.com/manuals>

To download JUNOS Software documentation for all other PowerConnect J-Series products, see the following Juniper Networks support website:

<http://www.juniper.net/techpubs/>

If the information in the latest release notes differs from the information in the documentation, follow the release notes.

Requesting Technical Support

For technical support, see <http://www.support.dell.com>.

Revision History

10 May 2011—Revision 2, Junos OS 11.1R2

30 March 2011—Revision 1, Junos OS 11.1 R1

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