

Release Notes

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Junos[®] OS Evolved Release 21.4R2

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Introduction

Use these release notes to find new and updated features, software limitations, and open issues for Junos OS Evolved Release 21.4R2.

These release notes are cumulative and are updated for later releases.

For more information on this release of Junos OS Evolved, see [Introducing Junos OS Evolved](#).

Junos OS Evolved Release Notes for ACX7100-32C, ACX7100-48L, and ACX7509 Devices

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These release notes accompany Junos OS Evolved Release 21.4R2 for ACX7100-32C, ACX7100-48L, and ACX7509 routers. They describe new and changed features, limitations, and known and resolved problems in the hardware and software.

What's New

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Learn about new features introduced in this release for ACX Series routers.

What's New in 21.4R2

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To view features supported on the ACX platforms, view the Feature Explorer using the following links. To see which features were added in Junos OS Evolved Release 21.4R2, click the Group by Release link. You can collapse and expand the list as needed.

- [ACX7100-32C](#)
- [ACX7100-48L](#)
- [ACX7509](#)

Class of Service

- **DSCP propagation and default CoS support for EVPN VXLAN (ACX7100-32C and ACX7100-48L)**— In Junos OS Evolved release 21.4R2, use our new command `set system packet-forwarding-options no-ip-tos-rewrite` to allow DSCP propagation for VXLAN traffic. When you configure or delete DSCP propagation, the `evo-pfem` process restarts.

[See [Configuring CoS on ACX Series Routers](#) and [Applying DSCP and DSCP IPv6 Classifiers on ACX Series Routers](#).]

What's New in 21.4R1

To view features supported on the ACX platforms, view the Feature Explorer using the following links. To see which features were added in Junos OS Evolved Release 21.4R1, click the Group by Release link. You can collapse and expand the list as needed.

- [ACX7100-32C](#)
- [ACX7100-48L](#)

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What's Changed

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- [What's Changed in Release 21.4R1 | 5](#)

Learn about what changed in these releases for ACX Series routers.

What's Changed in Release 21.4R2-S2

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Network Management and Monitoring

- sFlow configuration is allowed only on et, xe, and ge interfaces in Junos OS Evolved based platforms. All other interfaces are blocked for configuring sFlow on Junos OS Evolved platforms. A cli error is thrown if sFlow is configured on any other interface other than et, xe or ge interface.

What's Changed in Release 21.4R2

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Multicast

- Changes to `show mvpn c-multicast` and `show mvpn instance` outputs-- The `FwdNh` output field displays the multicast tunnel (mt) interface in the case of Protocol Independent Multicast (PIM) tunnels.

[See [show mvpn c-multicast](#).]

Network Management and Monitoring

- Change in behavior of SNMP MIB object `ifAlias`?SNMP MIB object `ifAlias` now shows the configured interface alias. In earlier releases, `ifAlias` used to show configured interface description.

User Interface and Configuration

- A new field `rollback pending` is added to the output of `show system commit` that identifies whether `commit confirmed` is issued. It is removed once `commit` or `commit check` is issued or `commit confirmed` is rolled back after rollback timeout.
- When you configure `max-cli-sessions` at the **edit system** hierarchy level, it restricts the maximum number of cli sessions that can coexist at any time. Once the `max-cli-sessions` number is reached, new CLI access is denied. The users who are configured to get the CLI upon login, are also denied new login.

What's Changed in Release 21.4R1-S2

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- User Interface and Configuration | 5

User Interface and Configuration

- A new field `rollback pending` is added to the output of `show system commit` that identifies whether `commit confirmed` is issued. It is removed once `commit` or `commit check` is issued or `commit confirmed` is rolled back after rollback timeout.

What's Changed in Release 21.4R1-S1

IN THIS SECTION

- [User Interface and Configuration | 5](#)

User Interface and Configuration

- When you configure `max-cli-sessions` at the **edit system** hierarchy level, it restricts the maximum number of CLI sessions that can coexist at any time. Once the `max-cli-sessions` number is reached, new CLI access is denied. The users who are configured to get the CLI upon login, are also denied new login.

The `max-cli-sessions` is configured so you can control the memory usage for the CLI. You may set the `max-cli-sessions` per your requirement. However, if `max-cli-sessions` is not configured, there is no control on the number of CLIs getting invoked.

What's Changed in Release 21.4R1

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Class of Service

- Junos OS Evolved now correctly displays the index for `show class-of-service` commands.

EVPN

- **Output for `show Ethernet switching flood extensive`**—The output for `show ethernet-switching flood extensive` now displays the correct next-hop type for Virtual Ethernet and WAN mesh group in an EVPN-VXLAN network as unilist. Previously, the output for `show ethernet-switching flood extensive` would misidentify the next-hop type as composite.
- **Support for displaying SVLBNH information**— You can now view shared VXLAN load balancing next hop (SVLBNH) information when you display the VXLAN tunnel endpoint information for a specified ESI and routing instance by using `show ethernet-switching vxlan-tunnel-end-point esi esi-identifier esi-identifier instance instance svlbnh` command.
- **Support for Maximum Response Time in EVPN Type 8 Routes** — Junos OS now supports the Maximum Response Time (MRT) attribute field in EVPN Type 8 Route messages. This attribute is defined in the IETF draft of IGMP and MLD Proxy for EVPN, version 13. MRT is used to synchronize the wait time before responding to IGMP messages. To maintain compatibility with devices running previous versions of Junos OS that do not support MRT, set `protocols evpn leave-sync-route-oldstyle`.

See [evpn](#).]

- **Output for `show Ethernet switching flood extensive`**— The output for `show ethernet-switching flood extensive` now displays the correct next-hop type for Virtual Ethernet and WAN mesh group in an EVPN-VXLAN network as unilist. Previously, the output for `show ethernet-switching flood extensive` would misidentify the next-hop type as composite.
- **Changes to the `show evpn instance` command**— The output for `show evpn instance extensive` has been modified. Information for bridge domains can now be view by using `show evpn instance bridge-domain` or the `show mac-vrf routing instance bridge-domains` commands.
- **Ethernet tag ID set to 0 for EVPN Type 6 and EVPN Type 7 routes**— For VLAN bundle and VLAN-based services, Junos OS now automatically sets the Ethernet tag ID (VLAN ID) to zero for EVPN Type 6 and EVPN Type 7 routes per RFC 7432. In earlier releases, Junos OS used the VXLAN Network Identifier (VNI) as the Ethernet tag ID.

To interoperate with devices that uses the VNI as the Ethernet tag ID, set `routing-instances routing-instance-name protocols evpn smet-etag-carry-vid`.

- **Minimum auto-recovery time reduced for duplicate MAC address detection**— Junos OS has changed the minimum value allowed for auto-recovery time for duplicate MAC address detection from 5 minutes to 1 minute. The auto-recovery time is the length of time that the device suppresses a duplicate MAC address. Reducing the auto-recovery time allows customers to quickly recover from a

MAC address duplication state. You configure the `auto-recovery-time` option under the `duplicate-mac-detection` statement at the **edit routing-instances routing-instance-name protocols evpn** or **edit protocols evpn** hierarchy.

See [Changing Duplicate MAC Address Detection Settings.](#)

General Routing

- In Junos OS Release 21.4R1 and later, ssh is enabled by default on all the routers with VM host support.

Interfaces and Chassis

- When configuring multiple flexible tunnel interface (FTI) tunnels, the source and destination address pair needs to be unique only among the FTI tunnels of the same tunnel encapsulation type. Previously, the source and destination address pair had to be unique across all encapsulation type.
- **Enhancement to the show chassis pic command (Junos OS Evolved)**— You can now view additional information about the optics when you run the `show chassis pic` command. The output now displays the following additional field: MSA Version: Multi-source Agreements (MSA) version that the specified optics is compliant to. Values supported are: SFP+/SFP28 — SFF-8472 (versions 9.3 - 12.3), QSFP+/QSFP28 — SFF 8363 (versions 1.3 - 2.10), and QSFP-DD — CMIS 3.0, 4.0, 5.0. Previously, the `show chassis pic` command did not display this additional field.

See [show chassis pic](#)

- **Enhancement to the show interfaces (Aggregated Ethernet) command (ACX Series, PTX Series, and QFX Series)**— When you run the `show interfaces extensive` command for Aggregated Ethernet interfaces. You can now view following additional fields for MAC statistics : Receive, Transmit, Broadcast and Multicast packets.

See [show chassis pic](#).

Junos OS API and Scripting

- **Limits increased for the max-datasize statement (ACX Series, PTX Series, and QFX Series)**—The `max-datasize` statement's minimum configurable value is increased from 23,068,672 bytes (22 MB) to 268,435,456 bytes (256 MB), and the maximum configurable value is increased from 1,073,741,824 (1 GB) to 2,147,483,648 (2 GB) for all script types. Furthermore, if you do not configure the `max-datasize` statement for a given script type, the default maximum memory allocated to the data segment portion of a script is increased to 1024 MB. Higher limits ensure that the device allocates a sufficient amount of memory to run the affected scripts.

[See [max-datasize](#).]

- **Changes to how command-line arguments are passed to Python op scripts (ACX Series, PTX Series, and QFX Series)**—When the device passes command-line arguments to a Python op script, it prefixes a hyphen (-) to single-character argument names, and it prefixes two hyphens (--) to multi-character argument names. The prefix enables you to use standard command-line parsing libraries to handle the arguments. In earlier releases, the device prefixes a single hyphen (-) to all argument names.

[See [Declaring and Using Command-Line Arguments in Op Scripts](#).]

Layer 2 Features

- **Link selection support for DHCP**— We have introduced the link-selection statement at the edit forwarding-options dhcp-relay relay-option-82 cli hierarchy level, which allows DHCP relay to add suboption 5 to option 82. Suboption 5 allows DHCP proxy clients and relay agents to request an IP address for a specific subnet from a specific IP address range and scope. Prior to this release, the DHCP relay dropped packets during the renewal DHCP process and the DHCP server used the leaf's address as a destination to acknowledge the DHCP renewal message.

[See [relay-option-82](#).]

Network Management and Monitoring

- **SNMP support for MIB**—Operational command show snmp mib walk system now shows the latest software version and does not show the build date.

[See [show snmp mib](#).]

- **Change in behavior of SNMP MIB object ifAlias**—SNMP MIB object ifAlias now shows the configured interface alias. In earlier releases, ifAlias used to show configured interface description.
- **Support for disconnecting unresponsive NETCONF-over-SSH clients (ACX Series, PTX Series, and QFX Series)**—You can enable devices to automatically disconnect unresponsive NETCONF-over-SSH clients by configuring the client-alive-interval and client-alive-count-max statements at the [edit system services netconf ssh] hierarchy level. The client-alive-interval statement specifies the timeout interval in seconds, after which, if no data has been received from the client, the device requests a response. The client-alive-count-max statement specifies the threshold of missed client-alive responses that triggers the device to disconnect the client, thereby terminating the NETCONF session.

[See [ssh \(NETCONF\)](#).]

- **The configuration accepts only defined identity values for nodes of type identityref in YANG data models (ACX Series, PTX Series, and QFX Series)**—If you configure a statement that has type identityref in the corresponding YANG data model, the device accepts only defined identity values

(as defined by an identity statement) as valid input. In earlier releases, the device also accepts values that are not defined identity values.

- **Changes in contextEngineID for SNMPv3 INFORMS (ACX Series and PTX SeriesEX Series)**— Now the contextEngineID of SNMPv3 INFORMS is set to the local engine-id of Junos devices. In earlier releases, the contextEngineID of SNMPv3 INFORMS was set to remote engine-id.

[See [SNMP MIBs and Traps Supported by Junos OS..](#)]

- **SNMP support for MIB**—Operational command `show snmp mib walk system` now shows the latest software version and doesn't show the build date.

[See [show snmp mib..](#)]

Routing Protocols

- The RPD_OSPF_LDP_SYNC message not logged? On all Junos OS and Junos OS Evolved devices, when an LDP session goes down there is a loss of synchronization between LDP and OSPF. After the loss of synchronization, when an interface has been in the holddown state for more than three minutes, the system log message with a warning level is sent. This message appears in both the messages file and the trace file. However, the system log message does not get logged if you explicitly configure the hold-time for ldp-synchronization at the **edit protocols ospf area area id interface interface name** hierarchy level less than three minutes. The message is printed after three minutes.
- To achieve consistency among resource paths, the resource path `/mpls/signalling-protocols/segment-routing/aggregate-sid-counters/aggregate-sid-counter ip-addr='address'/state/countersname='name'/out-pkts/` is changed to `/mpls/signaling-protocols/segment-routing/aggregate-sid-counters/aggregate-sid-counterip-addr='address'/state/counters name='name'/`. The leaf "out-pkts" is removed from the end of the path, and "signalling" is changed to "signaling" (with one "l").

Known Limitations

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Learn about limitations in Junos OS Evolved 21.4R2 Release for ACX Series routers.

For the most complete and latest information about known Junos OS Evolved defects, use the Juniper Networks online [Junos Problem Report Search](#) application.

- In case of scaled scenario's with route table scale reaching upto their full limit(close to 1M), few triggers which reprograms the routing table might result in route entries getting missed in Hardware. This happens in a worst-case scenarios of prefix distribution, in real-time scenario this issue should not be seen. In real use-case scenario the internet route scale is around 800K which should be holding good. [PR1604034](#)

Open Issues

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Learn about open issues in this release for ACX Series routers.

For the most complete and latest information about known Junos OS Evolved defects, use the Juniper Networks online [Junos Problem Report Search](#) application.

- On the ACX7100-32C:ACX7100-48L platform running Junos OS Evolved, you cannot clear or reset the disk option specified in the scheduled request node reboot command. The node reboots with the disk option last specified. [PR1517596](#)
- 400G DAC could not come up between ACX7100-32C and ACX7100-48L. ACX7100-32C uses Vendor's phy, ACX7100-48L uses another vendor's ASIC. When connecting ACX7100-32C to ACX7100-48L with 400G DAC, auto-negotiation and link training between these 2 vendors have issue, which results in link failure. [PR1560431](#)
- A restart of DHCP takes more time because of internal issues with the SIGTERM event. [PR1610229](#)
- In ACX7509, after multiple FPC online/offline, FPCs are going to fault state. [PR1616227](#)

- After picd or rpdagent app restart multiple object-info anomalies for evo-pfemand. Here are the types of anomalies seen Type : net::juniper::rtnh::Route Type : net::juniper::rtnh::NHOpaqueTlv Type : net::juniper::rtnh::NextHop Type : net::juniper::rtnh::Unilist Type : net::juniper::rtnh::BfdSessionId. [PR1628843](#)
- Unexpected intermittent carrier transitions are seen on QSFP56-DD-400G-CR8-CU-2.5M cable after flapping the interface. Carrier transitions counter should increment by 2 after flapping the interface. [PR1645327](#)
- On Junos OS Evolved Release platforms running EVPN-VXLAN service, if there's a default route in master instance pointing to mgmt interface, a policy needs to be enabled to prevent it from being used for VXLAN resolution when there is any churn in the IP underlay. [PR1657222](#)

Resolved Issues

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Learn about the issues fixed in these releases for ACX Series routers.

For the most complete and latest information about known Junos OS Evolved defects, use the Juniper Networks online [Junos Problem Report Search](#) application.

Resolved Issues: 21.4R2

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- [vrrp] [vrrp_evo] ptx10004 : :: EVO:JDI_FT_REGRESSION: Bowmore :: Traffic loss is seen after VRRP Mastership switch on 21.4 [PR1633986](#)

- TCAM field group entry shuffle is not traffic safe [PR1650266](#)

Resolved Issues: 21.4R1

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General Routing

- Egress IP MTU exception and fragmentation are not supported. [PR1558327](#)
- High CPU seen mostly with systemd with 4000 mac-vrf instances activate or deactivate. [PR1581283](#)
- PICD restart or crash might result in junk statistics for carrier transition. [PR1594253](#)
- Default CoS profiles applied to Layer 2 VPN and Layer 2 circuit logical interfaces are not shown in the output of `run show class-of-service-interface IF`. [PR1596342](#)
- Few label switched interfaces (LSI) MACs do not get properly learnt in the software with 8000 VPLS instance scale. [PR1597125](#)
- In scaled scenarios (4k BDs, IRBs), with restart of l2ald and pfe daemons, arpd and ndp daemon crash is observed and it recovers by itself and no functionality impact is seen. [PR1598217](#)
- The egress access control list (ACL) actions are skipped for Broadcast, Unknown Unicast, and Multicast (BUM) traffic and does not hit. [PR1598489](#)
- The Address Resolution Protocols (ARPs) might not be resolved on the integrated routing and bridging (IRB) interface which is replaced by another IRB interface. [PR1600209](#)
- For ACX7100-32C and ACX7100-48L routers, the **Voltage Threshold Crossed** alarm might be observed sometimes. [PR1601493](#)
- Traffic loss might be observed when evo-pfemamd restarts. [PR1608004](#)
- Default dscp-ipv6-compatibility classification does not work when deactivating and then activating dscp-ipv6 classification scenario. [PR1614249](#)
- PCI device missing FPC[0] FPC supercon FPGA alarms are observed. [PR1615519](#)

- On performing request `system snapshot`, the snapshot message is not captured in the `/etc/motd` file. [PR1618946](#)
- On ACX7100-32C and ACX7100-48L, the `show system firmware` command some times might show current firmware version for FPC 0 as blank. [PR1618949](#)

Infrastructure

- Memory leak is observed in packet send path. [PR1620610](#)
- Lookups command might not work. [PR1608401](#)

User Interface and Configuration

- The `file copy` command does not accept HTTPS URLs. [PR1596881](#)
- The file copy failure is seen via netconf or operation script. [PR1597550](#)

Junos OS Evolved Release Notes for PTX10001-36MR, PTX10003, PTX10004, PTX10008, and PTX10016 Devices

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These release notes accompany Junos OS Evolved Release 21.4R2 for PTX10001-36MR, PTX10003, PTX10004, PTX10008, and PTX10016 Packet Transport Routers. They describe new and changed features, limitations, and known and resolved problems in the hardware and software.

What's New

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Learn about new features introduced in this release for PTX Series routers.

What's New in 21.4R2

There are no new features or enhancements to existing features in Junos OS Evolved Release 21.4R2 for PTX Series routers.

What's New in 21.4R1

To view features supported on the PTX platforms, view the Feature Explorer using the following links. To see which features were added in Junos OS Evolved Release 21.4R1, click the Group by Release link. You can collapse and expand the list as needed.

- [PTX10001-36MR](#)
- [PTX10003](#)
- [PTX10004](#)
- [PTX10008](#)
- [PTX10016](#)

What's Changed

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Learn about what changed in these releases for PTX Series routers.

What's Changed in Release 21.4R2-S2

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- [Network Management and Monitoring | 15](#)

Network Management and Monitoring

- sFlow configuration is allowed only on et, xe, and ge interfaces in Junos OS Evolved based platforms. All other interfaces are blocked for configuring sFlow on Junos OS Evolved platforms. A cli error is thrown if sFlow is configured on any other interface other than et, xe or ge interface.

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General Routing

- JNP10K-PWR-DC2 power supplies installed in PTX10008 and PTX10016 routers display as online when the power supplies are switched off— JNP10K-PWR-DC2 power supplies installed in PTX10008 and PTX10016 routers in which Junos OS Release 21.4R1 or Junos OS Evolved Release

21.4R1 is installed display as online in the output of the command `show chassis environment psm` when the input power feeds are connected, but the power switch on the power supplies are switched off.

- **JNP10K-PWR-DC2 power supply does not support 5500 W or 2750 W if the power supply temperature increases above 60 degrees Celsius (PTX10008 and PTX10016)**— If the power supply temperature increases above 60 degrees Celsius, the maximum power capacity of JNP10K-PWR-DC2 power supply installed in PTX10008 or PTX10016 routers reduces from 5500 W to 5000 W if four feeds are connected and from 2750 W to 2500 W if two feeds are connected. If there is no redundant power supply installed in the router, the router would shut down.

Multicast

- Changes to `show mvpn c-multicast` and `show mvpn instance` outputs-- The `FwdNh` output field displays the multicast tunnel (mt) interface in the case of Protocol Independent Multicast (PIM) tunnels.

[See [show mvpn c-multicast](#).]

Network Management and Monitoring

- Change in behavior of SNMP MIB object `ifAlias`?SNMP MIB object `ifAlias` now shows the configured interface alias. In earlier releases, `ifAlias` used to show configured interface description.

User Interface and Configuration

- A new field `rollback pending` is added to the output of `show system commit` that identifies whether `commit confirmed` is issued. It is removed once `commit` or `commit check` is issued or `commit confirmed` is rolled back after rollback timeout.
- When you configure `max-cli-sessions` at the **edit system** hierarchy level, it restricts the maximum number of cli sessions that can coexist at any time. Once the `max-cli-sessions` number is reached, new CLI access is denied. The users who are configured to get the CLI upon login, are also denied new login.

What's Changed in Release 21.4R1-S2

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User Interface and Configuration

- A new field `rollback pending` is added to the output of `show system commit` that identifies whether `commit confirmed` is issued. It is removed once `commit` or `commit check` is issued or `commit confirmed` is rolled back after rollback timeout.

What's Changed in Release 21.4R1-S1

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General Routing

- JNP10K-PWR-DC2 power supplies installed in PTX10008 and PTX10016 routers display as online when the power supplies are switched off - JNP10K-PWR-DC2 power supplies installed in PTX10008 and PTX10016 routers in which Junos OS Evolved Release 21.4R1.13-EVO is installed display as online in the output of the command `show chassis environment psm` when the input power feeds are connected, but the power switch on the power supplies are switched off.

User Interface and Configuration

- When you configure `max-cli-sessions` at the **edit system** hierarchy level, it restricts the maximum number of CLI sessions that can coexist at any time. Once the `max-cli-sessions` number is reached, new CLI access is denied. The users who are configured to get the CLI upon login, are also denied new login.

The `max-cli-sessions` is configured so you can control the memory usage for the CLI. You may set the `max-cli-sessions` per your requirement. However, if `max-cli-sessions` is not configured, there is no control on the number of CLIs getting invoked.

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Class of Service

- Junos OS Evolved now correctly displays the index for `show class-of-service` commands.

EVPN

- **Output for the `show Ethernet switching flood extensive` command**—The output for the `show ethernet-switching flood extensive` command now displays the correct next-hop type for Virtual Ethernet and WAN mesh group in an EVPN-VXLAN network as `unilist`. Previously, the output for the `show ethernet-switching flood extensive` command would misidentify the next-hop type as `composite`.
- **Support for displaying SVLBNH information**— You can now view shared VXLAN load balancing next hop (SVLBNH) information when you display the VXLAN tunnel endpoint information for a specified ESI and routing instance by using `show ethernet-switching vxlan-tunnel-end-point esi esi-identifier esi-identifier instance instance svlbnh` command.
- **Support for Maximum Response Time in EVPN Type 8 Routes** — Junos OS now supports the Maximum Response Time (MRT) attribute field in EVPN Type 8 Route messages. This attribute is defined in the IETF draft of IGMP and MLD Proxy for EVPN, version 13. MRT is used to synchronize the wait time before responding to IGMP messages. To maintain compatibility with devices running previous versions of Junos OS that do not support MRT, set `protocols evpn leave-sync-route-oldstyle`.

See [evpn](#).]

- **Output for `show Ethernet switching flood extensive`**— The output for `show ethernet-switching flood extensive` now displays the correct next-hop type for Virtual Ethernet and WAN mesh group in an EVPN-VXLAN network as `unilist`. Previously, the output for `show ethernet-switching flood extensive` would misidentify the next-hop type as `composite`.

- **Changes to the show evpn instance command**—The output for show evpn instance extensive has been modified. Information for bridge domains can now be view by using show evpn instance bridge-domain or the show mac-vrf routing instance bridge-domains commands.
- **Ethernet tag ID set to 0 for EVPN Type 6 and EVPN Type 7 routes**— For VLAN bundle and VLAN-based services, Junos OS now automatically sets the Ethernet tag ID (VLAN ID) to zero for EVPN Type 6 and EVPN Type 7 routes per RFC 7432. In earlier releases, Junos OS used the VXLAN Network Identifier (VNI) as the Ethernet tag ID.

To interoperate with devices that uses the VNI as the Ethernet tag ID, set routing-instances *routing-instance-name* protocols evpn smet-etag-carry-vid.

- **Minimum auto-recovery time reduced for duplicate MAC address detection**— Junos OS has changed the minimum value allowed for auto-recovery time for duplicate MAC address detection from 5 minutes to 1 minute. The auto-recovery time is the length of time that the device suppresses a duplicate MAC address. Reducing the auto-recovery time allows customers to quickly recover from a MAC address duplication state. You configure the auto-recovery-time option under the duplicate-mac-detection statement at the **edit routing-instances routing-instance-name protocols evpn** or **edit protocols evpn** hierarchy.

See [Changing Duplicate MAC Address Detection Settings.](#)

General Routing

- In Junos OS Release 21.4R1 and later, ssh is enabled by default on all the routers with VM host support.
- **Validation of TCA threshold values (PTX10008)**—We've implemented immediate validation of threshold values configured in the tca-identifier (enable-tca | no-enable-tca) (threshold number | threshold-24hrs number) statement under the [edit interface <interface name> optics-optics tca] hierarchy level to ensure the threshold value entered is valid.

[See [optics-options..](#)]

- **Enhancement to the request system license add terminal command (PTX10001-36MR)**—When you run the request system license add terminal command, you can now view following additional fields for information: JUNOS564022985: Ignoring unknown feature.

[See [Managing vMX Licenses.](#)]

- **A major alarm is raised (PTX10008)**—A major alarm is raised when a fan tray controller is removed from the chassis.
- **SNMP MIB support for field-replaceable unit (FRU) LEDs (PTX10008)**—SNMP MIB object jnxLEDEntry now indicates multiple LED indexes and color values for FRUs.

Interfaces and Chassis

- When configuring multiple flexible tunnel interface (FTI) tunnels, the source and destination address pair needs to be unique only among the FTI tunnels of the same tunnel encapsulation type. Previously, the source and destination address pair had to be unique across all encapsulation type.
- **Enhancement to snmp mib command behavior (PTX10008)**—Starting in Junos OS Evolved, when you execute `show snmp mib walk decimal` command, the output parameter `jnxRedundancySwitchoverReason` is not working as expected, which always show the value 0 instead of expected values. Now, `jnxRedundancySwitchoverReason` output parameter is corrected to expected behavior with the following expected values. `jnxRedundancySwitchoverReason OBJECT-TYPE SYNTAX INTEGER href=' other(1), - others neverSwitched(2), - never switched userSwitched(3), - user-initiated switchover autoSwitched(4) - automatic switchover ' format="html" scope="external">`

[See [show snmp mib](#).]

- **Enhancement to the show chassis pic command (Junos OS Evolved)**— You can now view additional information about the optics when you run the `show chassis pic` command. The output now displays the following additional field: MSA Version: Multi-source Agreements (MSA) version that the specified optics is compliant to. Values supported are: SFP+/SFP28 — SFF-8472 (versions 9.3 - 12.3), QSFP+/QSFP28 — SFF 8363 (versions 1.3 - 2.10), and QSFP-DD — CMIS 3.0, 4.0, 5.0. Previously, the `show chassis pic` command did not display this additional field.

See [show chassis pic](#)

- **Enhancement to the show interfaces (Aggregated Ethernet) command (ACX Series, PTX Series, and QFX Series)**— When you run the `show interfaces extensive` command for Aggregated Ethernet interfaces. You can now view following additional fields for MAC statistics : Receive, Transmit, Broadcast and Multicast packets.

See [show chassis pic](#).

Junos OS API and Scripting

- **Limits increased for the max-datasize statement (ACX Series, PTX Series, and QFX Series)**—The `max-datasize` statement's minimum configurable value is increased from 23,068,672 bytes (22 MB) to 268,435,456 bytes (256 MB), and the maximum configurable value is increased from 1,073,741,824 (1 GB) to 2,147,483,648 (2 GB) for all script types. Furthermore, if you do not configure the `max-datasize` statement for a given script type, the default maximum memory allocated to the data segment portion of a script is increased to 1024 MB. Higher limits ensure that the device allocates a sufficient amount of memory to run the affected scripts.

[See [max-datasize](#).]

- **Changes to how command-line arguments are passed to Python op scripts (ACX Series, PTX Series, and QFX Series)**—When the device passes command-line arguments to a Python op script, it prefixes a hyphen (-) to single-character argument names, and it prefixes two hyphens (--) to multi-character argument names. The prefix enables you to use standard command-line parsing libraries to handle the arguments. In earlier releases, the device prefixes a single hyphen (-) to all argument names.

[See [Declaring and Using Command-Line Arguments in Op Scripts..](#)]

Layer 2 Features

- **New Commit check for Layer 2 Interfaces (PTX10003)**—We've introduced a commit check to prevent you from misconfiguring ethernet encapsulation on Layer 2 interfaces. Ethernet encapsulation is not supported on Layer 2 interfaces.

[See [encapsulation \(Logical Interface\)](#) and [Layer 2 Address Learning and Forwarding Overview.](#)]

Network Management and Monitoring

- **Change in behavior of SNMP MIB object ifAlias**—SNMP MIB object ifAlias now shows the configured interface alias. In earlier releases, ifAlias used to show configured interface description.
- **SNMP support for MIB**—Operational command `show snmp mib walk system` now shows the latest software version and does not show the build date.

[See [show snmp mib.](#)]

- **Support for disconnecting unresponsive NETCONF-over-SSH clients (ACX Series, PTX Series, and QFX Series)**—You can enable devices to automatically disconnect unresponsive NETCONF-over-SSH clients by configuring the `client-alive-interval` and `client-alive-count-max` statements at the `[edit system services netconf ssh]` hierarchy level. The `client-alive-interval` statement specifies the timeout interval in seconds, after which, if no data has been received from the client, the device requests a response. The `client-alive-count-max` statement specifies the threshold of missed client-alive responses that triggers the device to disconnect the client, thereby terminating the NETCONF session.

[See [ssh \(NETCONF\).](#)]

- **The configuration accepts only defined identity values for nodes of type identityref in YANG data models (ACX Series, PTX Series, and QFX Series)**—If you configure a statement that has type `identityref` in the corresponding YANG data model, the device accepts only defined identity values (as defined by an identity statement) as valid input. In earlier releases, the device also accepts values that are not defined identity values.
- **Changes in contextEngineID for SNMPv3 INFORMS (ACX Series and PTX SeriesEX Series)**— Now the contextEngineID of SNMPv3 INFORMS is set to the local engine-id of Junos devices. In earlier releases, the contextEngineID of SNMPv3 INFORMS was set to remote engine-id.

[See [SNMP MIBs and Traps Supported by Junos OS..](#)]

Routing Protocols

- The RPD_OSPF_LDP_SYNC message not logged? On all Junos OS and Junos OS Evolved devices, when an LDP session goes down there is a loss of synchronization between LDP and OSPF. After the loss of synchronization, when an interface has been in the holddown state for more than three minutes, the system log message with a warning level is sent. This message appears in both the messages file and the trace file. However, the system log message does not get logged if you explicitly configure the hold-time for ldp-synchronization at the **edit protocols ospf area area id interface interface name** hierarchy level less than three minutes. The message is printed after three minutes.
- To achieve consistency among resource paths, the resource path `/mpls/signalling-protocols/segment-routing/aggregate-sid-counters/aggregate-sid-counter ip-addr='address'/state/countersname='name'/out-pkts/` is changed to `/mpls/signaling-protocols/segment-routing/aggregate-sid-counters/aggregate-sid-counterip-addr='address'/state/counters name='name'/`. The leaf "out-pkts" is removed from the end of the path, and "signalling" is changed to "signaling" (with one "l").

Security

Renamed veriexec-check option—We have changed the veriexec-check option of the request system malware-scan command to integrity-check. This update does not include any functional changes. You can use the integrity-check option to check whether integrity mechanisms are enabled for the Juniper Malware Removal Tool.

Software Licensing

- **Juniper Agile Licensing (PTX10003, PTX10016, QFX5130-32CD, and QFX5220)**—Starting from this release onwards, the Juniper Agile License Manager is deprecated. You can use the Juniper Agile Licensing Portal to activate, install, manage, and monitor licenses on Juniper Networks devices.

[See [Juniper Agile Licensing Guide.](#)]

Known Limitations

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Learn about known limitations in Junos OS Evolved Release 21.4R2 for PTX Series routers.

For the most complete and latest information about known Junos OS Evolved defects, use the Juniper Networks online [Junos Problem Report Search](#) application.

General Routing

- During boot up PTP FPGA link resets which toggles the link, therefore the message **Chassis : NG-RE : PCIe Bus Error: severity=Uncorrected (Fatal), type=Transaction Layer**, is observed in the console. [PR1572061](#)
- If multiple SIBs are in the offline state and halt the primary Routing Engine, the SIBs can be stuck in the offline state for 15 minutes, before it goes to offline state. [PR1584712](#)
- Whenever interface deactivates, HW counters for SR-TE path related get deleted. Re-adding these paths on enabling the interface might cause loss of counter. Same behavior is observed while deleting one of SR-TE paths in a given SR-TE policy.
[. PR1630517](#)
- CLI command `request system node reboot` restarts the FRU ungracefully. On an ungraceful FRU restart, it is expected to see transient link errors on peer FRU. [PR1630787](#)
- Due to limitation in CBC FPGA, no interrupt is generated if Routing Engine mastership daemon stalls and a HW timer-expiry mastership switchover is initiated. Post switchover, a reboot is required on the backup Routing Engine before another switchover. [PR1633552](#)
- The spike in rpd usage is expected because of the very large scale and OCST in general. However, it should not affect any RPD functionality as telemetry streaming is the least priority task in rpd. [PR1642756](#)

Network Management and Monitoring

- Junos OS Evolved has a feature to block/deny all hidden commands. You can get this feature by configuring `set system no-hidden-commands`. However when this is configured and committed, Junos OS Evolved blocks or denies new netcon or junoscript XML sessions. As a workaround, you can delete `system no-hidden-commands` configuration statement and start the new netconf or junoscript sessions. [PR1590350](#)

User Interface and Configuration

- Passwordless file copy does not happen through file copy RPC for non-root users when public or private key authentication is setup. [PR1627782](#)

Open Issues

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Learn about open issues in Junos OS Evolved Release 21.4R2 for PTX Series routers.

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General Routing

- In Junos OS Evolved 20.3, fabsopke-fchip core file can be seen if fabsopke-fchip restarts and SIB offline happens one after the other with in the same minute. Any previous alarm does not get cleared. [PR1525577](#)
- On Junos OS Evolved PTX10008 platforms, if multiple SIBs are in offline state and GRES is performed immediately, SIBs might be stuck in offline state for sometime. [PR1554423](#)
- When an aggregated Ethernet link is brought down, a transient error message **[Error] Nextthop: EalNhHandler: failed to add Nh: xxxx, type: composite, as pil add failed** might be seen. There is no functional impact due to these errors. [PR1570710](#)
- During boot up the PTP FPGA link resets which toggles the link, therefore the message **Chassis : NG-RE : PCIe Bus Error: severity=Uncorrected (Fatal), type=Transaction Layer** observed in the console. [PR1572061](#)
- A vulnerability in handling of exceptional conditions in Juniper Networks Junos OS Evolved allows an attacker to send specially crafted packets to the device, causing the Advanced Forwarding Toolkit manager (evo-aftmand-bt or evo-aftmand-zx) process to crash and restart, impacting all traffic going through the FPC, resulting in a Denial of Service (DoS). [PR1572969](#)
- On all PTX Series platforms running Junos OS Evolved, addition or deletion or modification of the firewall filter configuration applied on the loopback interface in some scenarios (for example, change of one-pass to two-pass filters) might result in error messages with some packet drop for very short duration, which is self-recovered. [PR1589296](#)
- 10,000 Term ISF filter (with or without fast-lookup filter configuration) with a set of add or delete ISF events leads to an evo-aftmand core file generation. This is not an FFT crash as the filter is programmed in FLT (hence a baseline issue). [PR1610506](#)
- Several warning messages show up while the RPD process restarts during performing GRES on a system running Junos OS Evolved. [PR1612487](#)
- When an aggregated Ethernet link is brought down, a transient error message **[Error] Nextthop: EalNhHandler: failed to add Nh: xxxx, type: composite, as pil add failed** might be seen. There is no functional impact due to these errors. [PR1617388](#)
- Traceroute in MPLS OAM on SR over IPv6 might fail in ECMP case if Junos OS Evolved device is in the topology. This is because linux kernel in Junos OS Evolved puts an autoflowlabel on every IPv6 packet. This flow label is transparent to daemon process, which uses a null value for it and calculates the NH details. Packet Forwarding Engine however takes the flow label into account and calculates the NH details. This difference in calculation of NH details leads to a mismatch in the path the packet takes to the destination and can cause traceroute to fail. [PR1618406](#)

- Traffic loss observed on BGP-LU paths after restoring primary paths in setup with IGP or LDP RLFA enabled. [PR1619229](#)
- Some of the frequencies shall fail in performance for PTP-PTP and PTP-1PPS. [PR1624478](#)
- In working and non-working logs, l2d index is different for vrrp group number 187. This is the same group for which packet is getting dropped out of 400 groups, other groups are working as expected. Probably, a fix between working and NKWR related to l2dld exposed VRRP issue. Both VRRP MAC and interface MAC get stored in SLU my_mac_hash table. For finding hash index for vrrp mac we use l2dld, protocol type and vrrp group number as a key. In a non-working scenario there is a collision between interface mac and vrrp mac on the same hash index. [PR1633986](#)
- MTS-MCAST: [PTX10003] Auto RP base verification failed with multiple RPs with same group range. [PR1634982](#)
- System reboot or boot up with traffic could result in init time fabric link crc errors and cause traffic drop. [PR1635178](#)
- The system ID that is exported should be different for UDP and GRPC/GNMI. In the case of UDP, the system name should be appended with the local IP address. [PR1640442](#)
- On Junos OS Evolved PTX Series platforms, next-header match in IPv6 firewall filter does not work as expected. Next-header matches the payload-protocol (last-header) on Junos OS Evolved PTX Series platform. [PR1645401](#)
- Filter is not hit, after trying to program unsupported combination of match types in filter configuration. [PR1648923](#)
- Junos OS Evolved: PTX10003 : Unsupported bit-op-type message seen for tcp flag match - (**syn and ack**) and **!(syn and ack and rst)**. [PR1649253](#)
- After configuring the warm-standby option, please wait for 3 minutes before performing a Routing Engine switchover. [PR1623601](#)
- The show task replication returns **not started** for all protocols. When disabling or removing warm standby configuration and enabling or adding NSR, split these into two separate configuration commits. [PR1655249](#)

Class of Service (CoS)

- The issue is seen only with the show command inconsistently while the physical interface scheduler map bindings are not updated correctly or in a transition state during booting time and initiating the show command show interface ifd-name *name*. Cosd is recovered after the crash and does not affect any other programming. Potential workaround : Wait until all the interfaces are up and interface binding

configs are commit completed before triggering the show command `show interface if-name extensive`.
[PR1604169](#)

Fault Management

- On FPC log, when the system is up, the Packet Forwarding Engine error msg **Jexpr: JexprHandleDdos fail to update plct pfe:1f proto:0x8400** is seen. This error msg is just a debugging error message, there is no functional impact with this log error messages. [PR1610764](#)

Juniper Extension Toolkit (JET)

- In Junos OS Evolved, there are two different gRPC Python files for each JAPI file. The names of the files are `*pb2_grpc.py` and `*pb2.py`. The stub creation functions are present in `*pb2_grpc.py`.
[PR1580789](#)
- Until Junos OS Evolved 21.3 release mgd is 32-bit binary. libsi can only be linked with 64-bit binaries. To access data or WAN ports in Junos OS Evolved we need libsi to be linked with the binary. By default the shell on the Junos OS Evolved device includes libsi, but it is not available to CLI commands as CLI makes mgd invoke cscript to run a Python script through CLI. [PR1603437](#)

MPLS

- In Junos OS Evolved platforms, LDP session authentication key-chain configuration done based on session remote-id on initiator stops from session establishment even though the responder's authentication key-chain is configured for its remote-id. [PR1592431](#)

Network Management and Monitoring

- mgd can crash when an invalid value is configured for identityref type leafs/leaf-lists while configuring Openconfig or any other third-party YANG, problem happens with json and xml loads.
[PR1615773](#)

Routing Policy and Firewall Filters

- On Junos OS Evolved 20.4R3 Release for the platforms, the unsupported configuration of BGP flow spec interface-group exclude might lead to some errors and Packet Forwarding Engine corruption which did not permit filter bind. [PR1639391](#)

Routing Protocols

- This scenario happens when we enable IS-S authentication key-chain having multiple keys between routers. The IS-IS adjacency is up because both routers have the same key active. When we manually change the system time in such a way that routers have different keys active in the key chain, the IS-IS adjacency must go down. But that does not happen. [PR1572441](#)

User Interface and Configuration

- Passwordless authentication successful for configured user even after deleting ssh public key details from user login hierarchy [PR1625032](#)
- Configd might not clean up shared pointers in DDS as seen in the output of: show platform object-info anomalies app configd. There is no functional impact of these anomalies and these can be cleared by restarting configd from CLI using: restart configd. [PR1641960](#)
- If after any configuration commit an anomaly is seen for configd in the output of the following CLI show platform object-info anomalies app configd, it would mean that the APP configd has not released the shared pointer after deleting the published object. This has no functional impact and the anomaly can be cleared by restarting app configd. [PR1643192](#)

Resolved Issues

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Learn about the issues fixed in this release for PTX Series routers.

For the most complete and latest information about known Junos OS Evolved defects, use the Juniper Networks online [Junos Problem Report Search](#) application.

Resolved Issues: 21.4R2

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General Routing

- Junos OS Evolved PTX10008, CB 1 becomes **Fault Standby** after request node power-off re1 [PR1581476](#)
- Filter with forwarding-class and destination-class combined might not work. [PR1595788](#)
- Layer 2 host injected packets might not go out of IRB interface. [PR1602131](#)
- Fix for show system errors fru detail does not displaying reset-pfe as the cmerror configured action. [PR1602726](#)
- Master RE0 reloaded unexpectedly and new-master RE1 does not bring up IS-IS or LDP adjacencies. [PR1616114](#)
- The Strict-Priority-Scheduler (SPS) might not work accurately across port queues. [PR1616772](#)
- Match on IPv6-prefix for prefix lengths 64 bits does not work. Prefix-lengths of [128-65] works fine. [PR1618211](#)
- Junos OS Evolved PTX: **Output bytes** and **Output packets** counter values under transit statistics on show interfaces extensive CLI decreases along with sending protocol control packets. [PR1618587](#)
- Wrong TX rate for queues configured mix of high-low tx rates without excess bandwidth on 10G interface might not work. [PR1620284](#)

- [FFT + ISF] Filter: Firewall Counter does not hit with a specific configuration sequence [Commit the FFT + ISF flag before FW spec]. [PR1620410](#)
- Incorrect sensor modeling or mapping in the telemetry streaming scenario. [PR1621037](#)
- Broadcast, Unknown Unicast, and Multicast (BUM) traffic might be dropped on ESI peer in a VLAN aware service. [PR1624677](#)
- JNP10008-SF3, SIB-JNP10004 and JNP10016-SF3 memory errors handling improvement. [PR1625305](#)
- The primary transfer might not be triggered on each rpd crashes if switchover-on-routing-crash is configured. [PR1625834](#)
- The primary kernel might get crash if NSR is enabled.[PR1626040](#)
- Add CLI Packet Forwarding Engine show cda pipestats to more releases for serviceability. [PR1626687](#)
- IP not-ECN-capable traffic is not RED-dropped in an ECN-enabled congested queue. [PR1627496](#)
- Transient JSR replication errors 113 / 115 seen on disabling or enabling OSPF. [PR1627625](#)
- PTX10008 Junos OS Evolved : license installation fails with **validation hook evaluation failed** commit error. [PR1628733](#)
- PTX Junos OS Evolved : DDoS filter does not classify OSPF packets as OSPF-Hello and OSPF-Data packet. [PR1628889](#)
- PTX Junos OS Evolved ddos-protection protocols group arp counters do not show correct values.[PR1629097](#)
- Configuration sync failure alarm. [PR1629952](#)
- Indirect next-hop (INH) Version ID higher than 255 might cause INH NH FRR session move to down state and drop transit traffic. [PR1630215](#)
- BFD session might flap continuously on Junos OS Evolved PTX Series with multicast enabled. [PR1630797](#)
- Junos OS Evolved:PTX10008:PCIe Bus Error associate to PTP FPGA device during PTX10016 chassis reboot. [PR1631300](#)
- PTX10008 Junos OS Evolved CFM: Transit Loopback(LB) ping or LinkTrace(LT) PDUs not forwarded transparently. [PR1632255](#)
- P2MP LSP ping and trace from bud-node might fail when the branch is on another Packet Forwarding Engine. [PR1632385](#)

- [fabric] [generic_evo] : [[Junos OS Evolved-PTX10008] : PDT: ERB : VXLAN: aggregated Ethernet lacp member link stuck in detached state on PTX10008.[PR1633849](#)
- On Junos OS Evolved PTX10001-36MR, PTX10004, PTX10008, or PTX10016, using CLI Packet Forwarding Engine `show cda qpoll` or `get-state` while a Packet Forwarding Engine is offline or off sets up `evo-cda-bt` to crash later, if those commands or `get-state` is used again when that Packet Forwarding Engine restarts. [PR1633850](#)
- Traffic impact might be seen when a firewall filter based policer for MPLS address family is configured on the device. [PR1634644](#)
- Label stack might be corrupted after Packet Forwarding Engine restart. [PR1635130](#)
- PTX10008 Junos OS Evolved : Frequent syslog `zephyr_clock_get_tod_ext_sync_sample(xxx): READ BT-X tod_sec: xxxxxxxxxxxx, tod_ns: xxxxxxxxxxxx`[PR1635771](#)
- `request node halt` might cause cm-errors. [PR1636271](#)
- PTX10008 EVPN E-LAN: Ingress PE does not insert Sh label for BUM traffic received on local EP ESI interface, causing packet duplication on egress PE.[PR1637703](#)
- JTI UDP export support for `/junos/system/cmerror/configuration` and `/junos/system/cmerror/counters` does not work on chassis based systems like PTX10008/PTX10016. [PR1638262](#)
- NPU util sensor to include FLT consumption for ZX and BT based PTX Series devices. [PR1638487](#)
- There is a mismatch between user-configured wavelength and actually transmitted wavelength on 400G-ZR wavelength setting with 75GHz spacing. [PR1638603](#)
- PTX10008 Junos OS Evolved : `snmp mib get on jnxLEDxxx` generates general error with core file. [PR1638768](#)
- FPC start time is incorrect under `show chassis fpc details` CLI command. [PR1641515](#)
- [Telemetry] Filtering option for components name (CHASSIS, SIB) fails with `/components/component` sensor subscription. [PR1641949](#)
- The addition of new member to LAG might result in FPC crash. [PR1643308](#)
- [fabric] [Junos OS Evolved: PTX10008] : PDT: ERB : VXLAN : Type5 traffic drop for BGP prefix on PTX10008 as remote leaf. [PR1644458](#)
- On all Junos OS Evolved platforms, if `switchover-on-routing-crash` configuration statement is configured, the primary role transfer might not be triggered on each rpd crash (by issuing the CLI command `request system core-dump routing fatal` or rpd crashes occur automatically on primary Routing Engine), this might result in traffic loss. [PR1645611](#)

- High inter-packet delay and throughput performance degrade for Packet Forwarding Engine sensors. [PR1648133](#)
- Junos OS Evolved adding configuration hash-key family inet layer-4 disables inet Hash-key Protocol. [PR1648156](#)
- Jexpr: getDdosTableEntry unsupported proto errors are observed while collecting debug collector logs. [PR1649034](#)
- [firewall] [filter_installation] Junos OS Evolved-PTX10004 :: Firewall counters do not increment for almost 4 minutes on adding new term to the existing filter using multiple commits. [PR1649324](#)
- PTX10008: Junos OS EVolved : SyncE clock hold-off-time configuration does not work due to incorrectly computed timer value. [PR1649358](#)
- An error might be seen when the member link on an aggregated Ethernet bundle is deleted. [PR1651932](#)
- P2MP traffic loss might be seen when link protected LSP reverts to the primary path. [PR1652651](#)
- DCF8: PTX10008: EVPN VXLAN intra-VLAN known unicast traffic flooded due to Mac installation failure on Packet Forwarding Engine. [PR1652876](#)
- PTX10008 Junos OS Evolved : show snmp mib get CLI returns incorrect value on jnxLED MIB OIDs. [PR1654455](#)
- Multicast traffic drop might be observed after performing Routing Engine switchover or rpd restart. [PR1593810](#)
- The inet6.0 routing table lookup might result in NULL. [PR1630235](#)

Infrastructure

- Junos OS Evolved: Specific packets reaching the Routing Engine lead to a counter overflow and eventually a crash (CVE-2022-22195). [PR1607769](#)
- Egress TCP RST might not have correctly populated DSCP field. [PR1612208](#)
- [bgp] [BGP_attributes] PTX10008 ::Backup Path is not found in ASBR6 FIB Table. [PR1618916](#)
- Device can panic with vmcore file in high memory pressure situations where kernel memory allocation fails. [PR1646610](#)
- PTX10003 is unable to forward traffic after the Layer 2 topology change. [PR1647560](#)

Interfaces and Chassis

- PTX10003 Evo-aftmand process sees memory increasing linearly over days. [PR1615000](#)
- snmp walk on jnxLEDTTable is fails on PTX10003. [PR1620398](#)
- [PTX10003] SSD DGM28-B56D81BCBQ || RE 0 SSD Primary minimum supported firmware version mismatch. [PR1654762](#)

Network Management and Monitoring

- False traffic spikes seen SNMP graphs when ifHCOctets or ifHCInOctets are used. [PR1635958](#)
- Junos OS Evolved: A remote attacker might cause a CPU denial of service by sending genuine traffic to a device on a specific IPv4 port. (CVE-2022-22183) [PR1636338](#)

Routing Policy and Firewall Filters

- Services might not work after committing firewall filter counter configuration with similar name of two terms. [PR1625168](#)

User Interface and Configuration

- [interface] PTX10001-36MR :: configd publish deleted anomalies seen while running p2mp rsvp eoam test. [PR1617667](#)
- Junos OS Evolved: Addition or deletion of gRPC configuration can cause memory leak in EDO app. [PR1619974](#)
- CCL:NGPR: configd generates core file during configd app restart test. [PR1658688](#)

Resolved Issues: 21.4R1

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Authentication and Access Control

- The ssh process crashes on Junos OS Evolved platforms. [PR1601150](#)
- The root password might not be accepted under su on the Junos OS Evolved platforms. [PR1607861](#)

Class of Service (CoS)

- The MPLS fixed classifiers might not work on the Junos OS Evolved platforms. [PR1616492](#)

Flow-based and Packet-based Processing

- The msvcsd process might get crashed when you enable the nexthop-learning command with the jFlow service. [PR1620569](#)

General Routing

- New alarm is reported for three consecutive failures on a particular fan tray (this can be power or fan failure). [PR1500920](#)
- The device might run out of service post GRES or unified ISSU. [PR1558958](#)
- request system zeroize command does not delete snapshot images from the backup hard disk drive. [PR1569294](#)
- The static MACs configured over the aggregated Ethernet interface might not get programmed while forwarding after the FPC restarts. [PR1581325](#)
- Certain fields in the GNMI extension header and show network-agent statistics command display incorrect values if the input subscription path contains the : character. [PR1581659](#)
- Packet might be lost during global repair of FRR. [PR1586122](#)

- The RPD_KRT_KERNEL_BAD_ROUTE error message might be generated in certain scenarios when the rpd restarts or GRES when you enable NSR, which has no functional impact. [PR1586466](#)
- Removing SIB without switching it to the Offline mode might impact traffic. [PR1586820](#)
- Telemetry leaves used-power and allocated-power under the **/components** file do not display correct value. [PR1587184](#)
- On PTX10008 routers, the error message that gets generated when you issue the request chassis cb slot 1 offline command needs to be corrected before the node goes offline. [PR1589433](#)
- Duplicate Junos Telemetry Interface leaf oper-status tag for IFD index 16386 displays mismatched value. [PR1592468](#)
- The l2cpd-agent process might become unresponsive after starting the telemetry service. [PR1592473](#)
- After the Routing Engine switchover, the error message JexprSlowCntrRead - Unable to get the plct Inst for pfeIdx: 255, User-type: OVFM_OFFCHIP_NEXTHOP_CNTR gets generated. [PR1593079](#)
- The TCP connections to the telemetry server might become unresponsive in the CLOSE_WAIT state. [PR1593113](#)
- The BFD session for MPLS LSP goes down after enabling ultimate-hop-popping. [PR1594621](#)
- PTX10008 routers:: Inconsistent component name for FPC CPU. [PR1595109](#)
- On PTX10008 routers, the application error alarms gets generated and the trace-writer process generates core file due to defunct rcp zombie. [PR1595409](#)
- Layer 2 VPN stops forwarding when you change the interface encapsulation to VLAN circuit cross-connect (VLAN CCC) from ethernet- circuit cross-connect (Ethernet CCC) and back. [PR1595455](#)
- Some TCP sessions might not be established after you issue the request system snapshot command. [PR1595470](#)
- [Error]Jexpr: cannot find ifToken for counterType:12. [PR1597355](#)
- The aftmand process might generate core file on Junos OS Evolved platforms. [PR1597649](#)
- On PTX10016 routers, the Major Host # Ethernet Interface Link Down false alarm gets generated. [PR1597763](#)
- On PTX10001-36MR routers, there is inconsistency in the platform name that gets used in multiple places, version, and snmp mibs. [PR1597999](#)
- Master-only IP address in the old primary Routing Engine (new backup) and the device become inaccessible after the Routing Engine switchover. [PR1598173](#)

- On PTX10008 routers, the BFD sessions do not go down after adding the input or output filter to block the BFD IPv4 or IPv6 packets. [PR1599257](#)
- On PTX10008 routers, the FTC status LED and SIB power LED are unlit or off. [PR1600178](#)
- The config interface ip remove command does not work correctly. [PR1600932](#)
- On PTX10008 routers, the set chassis redundancy routing-engine 1 master command does not change the default Routing Engine election priority. [PR1601430](#)
- After you delete the old VLAN and then add new VLAN, the lag interface is not learnt by the static VLAN. [PR1601915](#)
- On PTX10008 routers, the aftman process generates core files at jexpr_if_logical_l2d_alloc while you power off or on all the Packet Forwarding Engines across all FPCs. [PR1602035](#)
- On PTX10003 routers, the IRB ping fails after you power off or on the underlying Packet Forwarding Engine for the aggregated Ethernet child member. [PR1602181](#)
- On PTX10003 routers, the GRE keepalive packet with recursion control bit set get dropped. [PR1602353](#)
- On PTX10008 routers, powering off the Packet Forwarding Engine generates the Jexpr: deleteFdbEntry: Null error messages. [PR1602670](#)
- The show system errors fru detail command does not display reset-pfe as the cmerror configured action. [PR1602726](#)
- The evo-aftmand-bt process generates the [Error] IfStats:map entry not present for if1:1039 error message. [PR1604334](#)
- The channel 0 IFDs does not come up after adding the correct speed configuration. [PR1604810](#)
- Remote aggregated Ethernet interface member failure (trough disable or laser-off) might cause high tail drop that results in a high traffic loss. [PR1604823](#)
- The host loopback wedge might be detected in the Packet Forwarding Engine when you delete the aggregated Ethernet interface bundle configuration. [PR1605599](#)
- On PTX10008 routers, the Fan Tray Controller removal/absence alarm gets generated. [PR1605987](#)
- Segment Routing License issue might occur when you use the default chained-composite-next-hop configuration. [PR1606377](#)
- On PTX10008 routers, around 500ms to 800ms of traffic might be lost with one of the aggregated Ethernet interface member links of p2mp LSP branches down. [PR1606839](#)
- Memory might leak on the l2cpd process when you perform certain LLDP operations. [PR1608699](#)

- On PTX10000 routers, defunct rcv processes increase that might cause the primary Routing Engine to reboot. [PR1608776](#)
- On PTX10008 routers, the evo-aftmand-bt.fpc_x86_64 process generates core file at jexpr_pile_malloc with LSR core profile configuration. [PR1608999](#)
- High priority queue might not get the expected bandwidth on Junos OS Evolved platforms. [PR1609823](#)
- The show pfe statistics traffic command does not display the host bound traffic. [PR1611115](#)
- After PICD restarts, the interface goes into the Down state in the channelized 100G link. [PR1611379](#)
- The IS-IS session might not come up when the network type is p2p for IRB interface. [PR1612606](#)
- Some of the fabric links might go into the Faulty state after swapping the FPC LC1201 with LC1202. [PR1612624](#)
- Mitigate false wrap gets drops statistics when IFDs move into or out-of an aggregated Ethernet interface while IFD drops excess traffic. [PR1613889](#)
- On PTX10016 routers, SIBs and FPCs go into the Active or Online state twenty-two minutes after loading the Junos OS Evolved Release image 21.2R1-S1-202108130158.0-EVO. [PR1614489](#)
- Line cards might become unstable due to the continuous memory usage of the evo-cda-bt application. [PR1614952](#)
- Twenty-seven percent traffic loss appears at the 221B packet size in Junos OS Evolved Release 21.4 as compared to Junos OS Evolved Release 21.2R1. [PR1615524](#)
- On PTX10008 routers, after FPC becomes offline, minor cm-errors might occur for ZFI block on other FPCs. [PR1616179](#)
- Inconsistent error counts appears in the show interfaces brief and show interfaces extensive command. [PR1616765](#)
- The aftmand process generates core files at
RtIfaHandler::notifyCommand,EalIfaHandler::registryClientCommand ,EalIfaHandler::OnAdd (this=0x7f2ffe40e9a0
EalIfaHandler::instance()::handler, ifah=...) at ../../src/EalIfaHandler.cpp:222. [PR1616909](#)
- While migration from Junos OS to Junos OS Evolved, you must delete the chassis redundancy failover or disable the chassis redundancy failover. [PR1617720](#)
- Multicast traffic to a mixed high-priority and low-priority OQs of a busy port might suffer drops of higher-priority multicast. [PR1618026](#)
- On PTX10001-36MR routers, issuing request system snapshot command does not capture the snapshot message in the /etc/motd file. [PR1618946](#)

- InputIntf is reported incorrectly for the MPLS-IPv4 and MPLS-IPv6 ingress sampling in case of Layer 3 VPN. [PR1619052](#)
- The hwdre process might crash when an FPC gets pulled out or some FPC power failure occurs. [PR1619102](#)
- The `/interfaces/interface/subinterfaces/subinterface/state/counters` are not exported during the initial synchronization for an on-change. [PR1620160](#)
- PIC becomes unresponsive in the Offline state when you issue the Offline command right after the transceiver plugin. [PR1621694](#)
- ZTP does not work properly on all the PTX Series routers if you use an EX Series switch as a DHCP server. [PR1621987](#)
- On PTX10008 routers, interface goes into the Down state while performing Custom Optics Profile validation for low power mode in the non-channelized mode. [PR1624228](#)
- On PTX10008 routers, the continuous information level `evo-aftmand-bt:Pfe:controller add for fru :controller modify for fru:fru power-on (block mode) for fryu:initiating online (block mode) for fru` syslog message might be generated. [PR1624375](#)
- The `show pfe route ip` command times out when the route table size is large. [PR1624629](#)
- Need to add the `show cda pipestats` command to more Junos OS Evolved Releases for serviceability. [PR1626687](#)
- Junos OS Evolved-based PTX platforms observes incomplete objects anomalies with scale beyond 16,000 logical interfaces in the system. [PR1573994](#)
- On PTX10008 routers, CB 1 goes in to the Fault Standby state after issuing the `request node power-off re1` command. [PR1581476](#)
- On PTX10008 routers, the EVPN-VXLAN shared tunnel commands must be removed. [PR1598142](#)
- GNMI Set RPC does not work with multiple operations. [PR1609436](#)
- The CDA-BT process generates a core file when turn FPC offline. [PR1615343](#)
- Device does not respond to traceroute while checking traceroute over VPN. [PR1615677](#)
- The Strict-Priority-Scheduler (SPS) might not work accurately across the port queues. [PR1616772](#)
- Limitation with fast-lookup-filter (FFT) usage in the ISF mode exist. [PR1616804](#)
- SNMP get for MIB value for `jnxRedundancyConfig` does not work as expected. [PR1621101](#)
- SNMP get for MID ID for `jnxRedundancySwitchoverReason` does not work as expected. [PR1621103](#)

- Telnet service might be enabled when you disable the service. [PR1596411](#)
- The evo-aftmand process might crash in a scaled configuration scenario. [PR1597988](#)
- Telemetry data collection does not work on the FPC:PIC:PORT component if you configure telemetry on Junos OS Evolved platforms. [PR1599665](#)
- The following error message gets generated after the FPC restarts:

```
Nexthop: Comp_nh: 181429 Child nh count zero, do not create state181429
```

[PR1600642](#)

- Software validation or upgrade might fail on the Junos OS Evolved platforms. [PR1603479](#)
- The telnet or ssh session might not be established on the PTX Series platforms running Junos OS Evolved. [PR1605753](#)
- The aggregated Ethernet interfaces with 32 or more member-links might observe larger load-balance deviation between the member-links. [PR1607708](#)
- Power consumption report does not display correct values. [PR1608607](#)
- IPv6 reachability fails in management-instance. [PR1608619](#)
- Session connections might reset if the backup Routing Engine with NSR configured on Junos OS Evolved platforms. [PR1611520](#)
- The hwdfpc process might crash on all Junos OS Evolved platforms. [PR1624841](#)
- The IP not-ECN-capable traffic does not get RED-dropped in an ECN-enabled congested queue. [PR1627496](#)
- Indirect next-hop (INH) version ID higher than 255 might cause INH NH FRR session in to the Down state and drop the transit traffic. [PR1630215](#)

Infrastructure

- Egress TCP RST might not correctly populate the DSCP field. [PR1612208](#)
- The Host 0 Active Disk Usage Exceeded alarm might be generated due to a large number of files under the `/var/log/journal` file, which were held by the eventd daemon. [PR1601251](#)
- ICMP tunneling might not work. [PR1605465](#)
- The default-address-selection command might not work on all Junos OS Evolved platforms. [PR1608877](#)

Interfaces and Chassis

- The sensor of the Junos Telemetry Interface optics alarm data type changes from bool_val to str_val. [PR1580113](#)
- SIB might become unresponsive at the Offlining state after performing offline and online operations. [PR1591076](#)
- The 25G interfaces with FEC91 goes in the Down state on a few configurations. [PR1594740](#)
- On PTX10003 routers, the show platform object-info anomalies summary command times out. [PR1598337](#)
- The LACP system priority might take a value of 0 and cause an LACP interoperability issue. [PR1602724](#)
- A few links on the channelized interface goes in the Down state after oir_enable and oir_disable in 4X25G. [PR1606644](#)
- IRB VGA MAC IP is missed if you configure the IRB logical interface first with a mac-address. [PR1611559](#)

MPLS

- The rpd process generates core file in the backup Routing Engine at mirror_process_recvd_data_queue with the MLDP NSR configuration. [PR1594405](#)
- Static LDP P2MP might fail after NSR switchover. [PR1598344](#)
- SNMP traps does not get generated for the second trap group. [PR1623201](#)
- Traffic loss might occur in some SR-TE scenario. [PR1602127](#)

Network Management and Monitoring

- The syslog archival transfer fails if you configure the archive site URL with an IPv6 address. [PR1603342](#)
- Incorrect IF-MIB::ifHCInUcastPkts and ifHCInBroadcastPkts statistics gets displayed. [PR1621606](#)
- Syslog messages might be lost partially in case of excess messages generated to the eventd process. [PR1612535](#)

Routing Policy and Firewall Filters

- The dfwd-junos-relay process might generate core file during the Routing Engine switchover. [PR1597853](#)
- The configuration check fails if you configure more than eight FCs and enable CBF. [PR1600544](#)
- The dfwd process crashes when the no-decrement-ttl filter match condition and action is sent from the control plane to the Packet Forwarding Engine. [PR1602645](#)
- The firewall process might crash if you configure the fragment-offset out of the range (fragment-offset 1-9000000000000). [PR1605805](#)
- Filters in openconfig acl execute terms in the order of their definition and not based on sequence-ids. [PR1621620](#)
- Services might not work after committing the firewall filter counter configuration with similar name of two terms. [PR1625168](#)

Routing Protocols

- The IPv4 static route might still forward traffic unexpectedly even when the static route configuration has already been deleted. [PR1599084](#)

User Interface and Configuration

- Updates to the system login configuration might not reflect after a commit. [PR1589858](#)
- The file copy command does not accept the HTTPS URIs. [PR1596881](#)
- Configuration transfer-on-commit does not work if you commit through netconf. [PR1602331](#)
- Authentication fails while logging on Junos OS Evolved platform through SSH. [PR1594327](#)
- The file copy failure occurs through the Netconf or operation script. [PR1597550](#)

Junos OS Evolved Release Notes for QFX5130-32CD, QFX5220, and QFX5700 Devices

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These release notes accompany Junos OS Evolved Release 21.4R2 for QFX5130-32CD, QFX5220-32CD, QFX5220-128C, and QFX5700 switches. They describe new and changed features, limitations, and known and resolved problems in the hardware and software.

What's New

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Learn about new features introduced in this release for QFX Series switches.

What's New in 21.4R2

There are no new features or enhancements to existing features in Junos OS Evolved Release 21.4R2 for QFX Series switches.

What's New in 21.4R1

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Device Security

- **Juniper Malware Removal Tool (PTX10001-36MR, PTX10003, PTX10004, PTX10008, PTX10016, QFX5130-32CD, QFX5220)**—Starting in Junos OS Evolved Release 21.4R1, you can use the Juniper Malware Removal Tool (JMRT) to scan for and remove malware running on Junos OS Evolved devices. You can run two types of scans:
 - Quick scan—To scan each running program file
 - Integrity check—To check whether integrity mechanisms are enabled

[See [Juniper Malware Removal Tool](#) and [request system malware-scan](#).]

EVPN

- **EVPN Type 2 and Type 5 route coexistence (QFX5130-32CD, QFX5130-48C, and QFX5700)**—Starting in Junos OS Evolved Release 21.4R1, we support the coexistence of EVPN Type 2 and Type 5 routes in EVPN-VXLAN edge-routed bridging (ERB) overlay fabrics. This feature enables more efficient traffic flow and better usage of Packet Forwarding Engine resources. The switch applies a preference algorithm when you enable Type 5 routes. For any destinations for which the switch has no Type 5 route, the switch uses Type 2 routes by default. Otherwise, the switch gives preference to:
 - Type 2 routes for local ESI interfaces (locally learned routes)
 - Type 5 routes for all other destinations within the data center or across data centers

You can refine these preferences by configuring routing policies in the EVPN routing instance to control the Type 5 routes that the switch imports and exports.

[See [EVPN Type 2 and Type 5 Route Coexistence with EVPN-VXLAN](#).]

- **DHCP relay in EVPN-VXLAN (QFX5130-32CD)**—Starting in Junos OS Evolved Release 21.4R1, we support DHCP relay in an EVPN-VXLAN fabric. You can configure DHCP relay in centrally-routed and edge-routed bridging overlays. Support for DHCP relay includes DHCPv4 and DHCPv6. We introduced this feature in Junos OS Evolved Release 21.2R2..

[See [DHCP Relay Agent over EVPN-VXLAN](#).]

Juniper Extension Toolkit (JET)

- **Support for programming FTIs using JET APIs (PTX10008, and PTX10016)**—Starting in Junos OS Evolved Release 21.4R1, you can use the Interfaces Service API to configure flexible tunnel interfaces (FTIs) in Junos OS. You can change the attributes of the tunnel configurations for the unit under an existing FTI but cannot change the existing tunnel encapsulation type using the APIs. For the following families, you can configure only the listed attributes when you use Juniper Extension Toolkit (JET) APIs:

- INET and INET6: address and destination-udp-port
- MPLS and ISO: destination-udp-port

[See [Overview of JET APIs](#) and [Configure Flexible Tunnel Interfaces](#).]

Network Management and Monitoring

- **DHCP stateless relay MIB support (PTX10001-36MR, PTX10004, PTX10008, PTX10016, QFX5130, and QFX5220)**—Starting in Junos OS Evolved Release 21.4R1, you can use the Juniper Networks enterprise-specific DHCPv6 and DHCPv6 MIBs to retrieve statistics for DHCP stateless relay. We provide support only for the following MIB objects:

- jnxJdhcpRelayStatistics
- jnxJdhcpRelayIfcStats
- jnxJdhcpv6RelayStatistics
- jnxJdhcpv6RelayIfcStats

[See [Enterprise-Specific MIBs for Junos OS Evolved](#).]

- **SNMP MIB support for ICMP (ACX7100-32C, ACX7100-48L, ACX7509, PTX10001-36MR, PTX10003, PTX10004, PTX10008, PTX10016, QFX5130-32CD, QFX5220, and QFX5700)**—Starting in Junos OS Evolved Release 21.4R1, we've added support for the following RFC4293 tables:

- icmpStatsTable—Generic system-wide ICMP counters
- icmpMsgStatsTable—System-wide per-version and per-message type ICMP counters

[See [Standard MIBs for Junos OS Evolved](#).]

Routing Policy and Firewall Filters

- **Support for profiles to improve the firewall filter scale (QFX5130-32CD, QFX5700, and QFX5220)**—Starting in Junos OS Evolved Release 21.4R1, you can apply firewall filters for inet and Ethernet-based switching using firewall filter profiles. You can use the profiles configuration statement at the [edit system packet-forwarding-options firewall] hierarchy level to configure firewall filter profiles. The firewall filter profiles are mapped to a subset of match conditions. This helps you to plan and apply firewall filter profiles to achieve maximum scale.

You can use the following CLI commands to display the profile information and the pipe that each physical interface is mapped to:

- show pfe filter hw profile-info
- show pfe filter hw port-pipe-info

[See [How to Increase the Scale of Firewall Filters Using Profiles](#).]

Routing Protocols

- **Support for ICMP extension (QFX5100)**—Starting in Junos OS Evolved Release 21.4R1, for both numbered and unnumbered aggregated Ethernet interfaces, we've implemented RFC5837 to enable us to append additional fields to the following ICMP (IPv4 and IPv6) messages:
 - ICMPv4 Time Exceeded
 - ICMPv4 Destination Unreachable
 - ICMPv6 Time Exceeded
 - ICMPv6 Destination Unreachable

Use the set system allow-icmp4-extension command to enable ICMP extension.

[See [Configure ICMP Features](#).]

Software Installation and Upgrade

- **Support for DHCPv6 on ZTP (QFX5130-32CD, QFX5220, and QFX5700)**—Starting in Junos OS Evolved Release 21.4R1, zero-touch provisioning (ZTP) supports the DHCPv6 client on the management interface. During the bootstrap process, the device first uses the DHCPv4 client to

request for information regarding image and configuration file from the DHCP server. The device checks the DHCPv4 bindings sequentially. If there is a failure with one of the DHCPv4 bindings, the device continues to check for bindings until provisioning is successful. If there are no DHCPv4 bindings, however, the device checks for DHCPv6 bindings and follows the same process as for DHCPv4 until the device can be provisioned successfully. The DHCP server uses DHCPv6 options 59 and 17 and applicable sub-options to exchange ZTP-related information between itself and the DHCP client.

[See [Zero Touch Provisioning](#).]

- **Support for outbound SSH service (PTX10001-36MR, PTX10003, PTX10004, PTX10008, QFX5130-32CD, QFX5220-32CD, and QFX5220-128C)**—Starting in Junos OS Evolved Release 21.4R1, we support outbound SSH service.

You can use the `restart service-deployment` command to restart the Service Deployment System (SDX) process.

[See [outbound-ssh](#).]

Additional Features

We've extended support for the following features to these platforms.

- **ICMPv6 and ARP statistics support for Junos OS Evolved platforms (PTX10001-36MR, PTX10003, PTX10004, PTX10008, PTX10016, QFX5700)**—The existing ARP and ICMPv6 statistics reports are enhanced to support the following statistics.
 - ARP
 - Proxy requests
 - Requests dropped on entry
 - Number of arp packets dropped as nexthop allocation failed
 - ICMPv6
 - Output histogram—unreach, echo request, echo reply, neighbor solicitation, neighbor advertisement, router solicitation, and router advertisement details
 - Input histogram—unreach, echo request, echo reply, neighbor solicitation, neighbor advertisement, router solicitation, and router advertisement details
 - messages with bad code fields, messages < minimum length, bad checksums, messages with bad length
 - message responses generated, messages with too many ND options, current public ND nexthops present

- [See [show system statistics arp](#) and [show system statistics icmp6](#)]
- IPsec support for OSPFv2 and OSPFv3 (ACX7100-32C, ACX7100-48L, PTX10001-36MR, PTX10003, PTX10008, PTX10016, QFX5130-48C, and QFX5220)
[See [Overview of IPsec](#), [Configuring OSPF Authentication](#), and [Configuring IPsec Security Associations](#).]
- Support for MIB accounting profiles (PTX10001-36MR, PTX10004, PTX10008, PTX10016, and QFX5220)
[See [Accounting Profiles: An Alternative to SNMP Statistics](#).]
- Support for resilient hashing on LAG groups (QFX5130-32CD and QFX5700)
[See [Resilient Hashing on LAGs and ECMP groups](#).]
- Support for 400GbE QSFP-DD DAC cables (QFX5700)—Starting in Junos OS Evolved Release 21.4R1, QFX5700 switches support 400Gbps speed using QDD-400G-DAC-1M and QDD-400G-DAC-2P5M DAC cables.
[See [Hardware Compatibility Tool](#).]
- Supported transceivers, optical interfaces, and DAC cables (ACX Series, PTX Series, and QFX Series)
—Select your product in the [Hardware Compatibility Tool](#) to view supported transceivers, optical interfaces, and DAC cables for your platform or interface module. We update the HCT and provide the first supported release information when the optic becomes available.

What's Changed

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Learn about what changed in these releases for QFX Series switches.

What's Changed in Release 21.4R2

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EVPN

DSCP rewrite on EVPN VXLAN NNI ports (QFX5130 and QFX5700)-- QFX5130 and QFX5700 platforms support DSCP rewrite on EVPN VXLAN NNI ports with limitations.

[See [Implementing CoS on VXLAN Interfaces \(Junos OS Evolved\)](#).]

Multicast

- Changes to show `mvpn c-multicast` and `show mvpn instance` outputs]-- The `FwdNh` output field displays the multicast tunnel (mt) interface in the case of Protocol Independent Multicast (PIM) tunnels.

[See [show mvpn c-multicast](#).]

Network Management and Monitoring

- Change in behavior of SNMP MIB object `ifAlias`?SNMP MIB object `ifAlias` now shows the configured interface alias. In earlier releases, `ifAlias` used to show configured interface description.

User Interface and Configuration

- A new field `rollback pending` is added to the output of `show system commit` that identifies whether `commit confirmed` is issued. It is removed once `commit` or `commit check` is issued or `commit confirmed` is rolled back after rollback timeout.
- When you configure `max-cli-sessions` at the **edit system** hierarchy level, it restricts the maximum number of cli sessions that can coexist at any time. Once the `max-cli-sessions` number is reached, new CLI access is denied. The users who are configured to get the CLI upon login, are also denied new login.

What's Changed in Release 21.4R2-S2

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Network Management and Monitoring

- sFlow configuration is allowed only on et, xe, and ge interfaces in Junos OS Evolved based platforms. All other interfaces are blocked for configuring sFlow on Junos OS Evolved platforms. A cli error is thrown if sFlow is configured on any other interface other than et, xe or ge interface.

What's Changed in Release 21.4R1-S2

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- [User Interface and Configuration](#) | 49

User Interface and Configuration

- A new field `rollback pending` is added to the output of `show system commit` that identifies whether `commit confirmed` is issued. It is removed once `commit` or `commit check` is issued or `commit confirmed` is rolled back after rollback timeout.

What's Changed in Release 21.4R1-S1

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User Interface and Configuration

- When you configure `max-cli-sessions` at the **edit system** hierarchy level, it restricts the maximum number of CLI sessions that can coexist at any time. Once the `max-cli-sessions` number is reached, new CLI access is denied. The users who are configured to get the CLI upon login, are also denied new login.

What's Changed in Release 21.4R1

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Class of Service

- Junos OS Evolved now correctly displays the index for `show class-of-service` commands.

EVPN

- **Community information no longer included in VRF routing table**—The QFX series switches will no longer include the inherited advertised route target communities, EVPN extended communities, or vxlan encapsulation communities for EVPN Type 2 and EVPN Type 5 routes when an IP host is added in the VRF routing table.
- **Output for show Ethernet switching flood extensive**—The output for `show ethernet-switching flood extensive` now displays the correct next-hop type for Virtual Ethernet and WAN mesh group in an EVPN-VXLAN network as `unilist`. Previously, the output for `show ethernet-switching flood extensive` would misidentify the next-hop type as `composite`.

- **Support for displaying SVLBNH information**— You can now view shared VXLAN load balancing next hop (SVLBNH) information when you display the VXLAN tunnel endpoint information for a specified ESI and routing instance by using `show ethernet-switching vxlan-tunnel-end-point esi esi-identifier esi-identifier instance instance svlbnh`.
- **Support for Maximum Response Time in EVPN Type 8 Routes**—Junos OS now supports the Maximum Response Time (MRT) attribute field in EVPN Type 8 Route messages. This attribute is defined in the IETF draft of IGMP and MLD Proxy for EVPN, version 13. MRT is used to synchronize the wait time before responding to IGMP messages. To maintain compatibility with devices running previous versions of Junos OS that do not support MRT, set `protocols evpn leave-sync-route-oldstyle`.

[See [evpn](#).]

- **Changes to the show evpn instance command** — The output for `show evpn instance extensive` has been modified. Information for bridge domains can now be view by using `show evpn instance bridge-domain` or the `show mac-vrf routing instance bridge-domains` commands.
- **Ethernet tag ID set to 0 for EVPN Type 6 and EVPN Type 7 routes**— For VLAN bundle and VLAN-based services, Junos OS now automatically sets the Ethernet tag ID (VLAN ID) to zero for EVPN Type 6 and EVPN Type 7 routes per RFC 7432. In earlier releases, Junos OS used the VXLAN Network Identifier (VNI) as the Ethernet tag ID.

To interoperate with devices that uses the VNI as the Ethernet tag ID, set `routing-instances routing-instance-name protocols evpn smet-etag-carry-vid`.

- **Minimum auto-recovery time reduced for duplicate MAC address detection**— Junos OS has changed the minimum value allowed for auto-recovery time for duplicate MAC address detection from 5 minutes to 1 minute. The auto-recovery time is the length of time that the device suppresses a duplicate MAC address. Reducing the auto-recovery time allows customers to quickly recover from a MAC address duplication state. You configure the `auto-recovery-time` option under the `duplicate-mac-detection` statement at the `edit routing-instances routing-instance-name protocols evpn` or `edit protocols evpn` hierarchy.

[See [Changing Duplicate MAC Address Detection Settings](#) .]

General Routing

- In Junos OS Release 21.4R1 and later, ssh is enabled by default on all the routers with VM host support.
- **Default FEC Settings (QFX5130-32CD, QFX5220-32CD, and QFX5220-128C)**— The default FEC mode for 4x25 optics is changed to FEC91 instead of FEC74. For 4x25G Direct Attach Copper Breakout Cables (DACBO), the default FEC mode remains as FEC74.

[See [show interfaces extensive](#)..]

- **Enhancement to the show chassis pic command (Junos OS Evolved)**— You can now view additional information about the optics when you run the `show chassis pic` command. The output now displays the following additional field: MSA Version: Multi-source Agreements (MSA) version that the specified optics is compliant to. Values supported are: SFP+/SFP28 — SFF-8472 (versions 9.3 - 12.3), QSFP+/QSFP28 — SFF 8363 (versions 1.3 - 2.10), and QSFP-DD — CMIS 3.0, 4.0, 5.0. Previously, the `show chassis pic` command did not display this additional field.

See [show chassis pic](#)

- **Enhancement to the show interfaces (Aggregated Ethernet) command (ACX Series, PTX Series, and QFX Series)**— When you run the `show interfaces extensive` command for Aggregated Ethernet interfaces. You can now view following additional fields for MAC statistics : Receive, Transmit, Broadcast and Multicast packets.

See [show chassis pic](#).

Interfaces and Chassis

- When configuring multiple flexible tunnel interface (FTI) tunnels, the source and destination address pair needs to be unique only among the FTI tunnels of the same tunnel encapsulation type. Previously, the source and destination address pair had to be unique across all encapsulation type.

Junos OS API and Scripting

- **Limits increased for the max-datasize statement (ACX Series, PTX Series, and QFX Series)**—The `max-datasize` statement's minimum configurable value is increased from 23,068,672 bytes (22 MB) to 268,435,456 bytes (256 MB), and the maximum configurable value is increased from 1,073,741,824 (1 GB) to 2,147,483,648 (2 GB) for all script types. Furthermore, if you do not configure the `max-datasize` statement for a given script type, the default maximum memory allocated to the data segment portion of a script is increased to 1024 MB. Higher limits ensure that the device allocates a sufficient amount of memory to run the affected scripts.

[See [max-datasize](#).]

- **Changes to how command-line arguments are passed to Python op scripts (ACX Series, PTX Series, and QFX Series)**—When the device passes command-line arguments to a Python op script, it prefixes a hyphen (-) to single-character argument names, and it prefixes two hyphens (--) to multi-character argument names. The prefix enables you to use standard command-line parsing libraries to handle the arguments. In earlier releases, the device prefixes a single hyphen (-) to all argument names.

[See [Declaring and Using Command-Line Arguments in Op Scripts](#).]

Layer 2 Features

- **Link selection support for DHCP**— We have introduced the `link-selection` statement at the `edit forwarding-options dhcp-relay relay-option-82 cli` hierarchy level, which allows DHCP relay to add suboption 5 to option 82. Suboption 5 allows DHCP proxy clients and relay agents to request an IP address for a specific subnet from a specific IP address range and scope. Prior to this release, the DHCP relay dropped packets during the renewal DHCP process and the DHCP server used the leaf's address as a destination to acknowledge the DHCP renewal message.

[See [relay-option-82](#).]

Network Management and Monitoring

- **SNMP support for MIB**—Operational command `show snmp mib walk system` now shows the latest software version and doesn't show the build date.

[See [show snmp mib](#).]

- **Change in behavior of SNMP MIB object ifAlias**—SNMP MIB object `ifAlias` now shows the configured interface alias. In earlier releases, `ifAlias` used to show configured interface description.
- **Support for disconnecting unresponsive NETCONF-over-SSH clients (ACX Series, PTX Series, and QFX Series)**—You can enable devices to automatically disconnect unresponsive NETCONF-over-SSH clients by configuring the `client-alive-interval` and `client-alive-count-max` statements at the `[edit system services netconf ssh]` hierarchy level. The `client-alive-interval` statement specifies the timeout interval in seconds, after which, if no data has been received from the client, the device requests a response. The `client-alive-count-max` statement specifies the threshold of missed client-alive responses that triggers the device to disconnect the client, thereby terminating the NETCONF session.

[See [ssh \(NETCONF\)](#).]

- **The configuration accepts only defined identity values for nodes of type `identityref` in YANG data models (ACX Series, PTX Series, and QFX Series)**—If you configure a statement that has type `identityref` in the corresponding YANG data model, the device accepts only defined identity values (as defined by an identity statement) as valid input. In earlier releases, the device also accepts values that are not defined identity values.
- **Changes in `contextEngineID` for SNMPv3 INFORMS** —Now the `contextEngineID` of SNMPv3 INFORMS is set to the local engine-id of Junos devices. In earlier releases, the `contextEngineID` of SNMPv3 INFORMS was set to remote engine-id.

[See [SNMP MIBs and Traps Supported by Junos OS](#).]

Routing Protocols

- The RPD_OSPF_LDP_SYNC message not logged? On all Junos OS and Junos OS Evolved devices, when an LDP session goes down there is a loss of synchronization between LDP and OSPF. After the loss of synchronization, when an interface has been in the holddown state for more than three minutes, the system log message with a warning level is sent. This message appears in both the messages file and the trace file. However, the system log message does not get logged if you explicitly configure the hold-time for ldp-synchronization at the **edit protocols ospf area area id interface interface name** hierarchy level less than three minutes. The message is printed after three minutes.
- To achieve consistency among resource paths, the resource path `/mpls/signalling-protocols/segment-routing/aggregate-sid-counters/aggregate-sid-counter ip-addr='address'/state/countersname='name'/out-pkts/` is changed to `/mpls/signaling-protocols/segment-routing/aggregate-sid-counters/aggregate-sid-counterip-addr='address'/state/counters name='name'/. The leaf "out-pkts" is removed from the end of the path, and "signalling" is changed to "signaling" (with one "l").`

Software Installation and Upgrade

- **Series profile1 image deprecation**—Starting in Junos OS Evolved 21.4R1, we've deprecated the Series Profile1 software image (also referred to as the lean rpd profile image) for QFX5130 and QFX5220 series devices. All other software image packages continue to be available for those devices.
[See [Junos OS Evolved Installation Packages](#).]

Software Licensing

- **Juniper Agile Licensing (PTX10003, PTX10016, QFX5130-32CD, and QFX5220)**—Starting from this release onwards, the Juniper Agile License Manager is deprecated. You can use the Juniper Agile Licensing Portal to activate, install, manage, and monitor licenses on Juniper Networks devices.
[See [Juniper Agile Licensing Guide](#).]

Known Limitations

IN THIS SECTION

- [General Routing | 55](#)

Learn about known limitations in Junos OS Evolved Release 21.4R2 for QFX Series switches.

For the most complete and latest information about known Junos OS Evolved defects, use the Juniper Networks online [Junos Problem Report Search](#) application.

General Routing

- On QFX5220-32CD, VLANs between 3968 and 4095 are reserved for Layer 3 interfaces by default. These VLANs cannot be used for Layer 2 interfaces. As of now there is no commit check added for this purpose. You need to take care of this while configuring VLANs for Layer 2. [PR1423468](#)
- 2x200G(QSFP56-DD-2x200GBASE-CR4-CU) channel which connected with server through Nvidia connectX-6 NIC might take extra time for link UP. [PR1617676](#)

Open Issues

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- [General Routing | 56](#)
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Learn about open issues in Junos OS Evolved Release 21.4R2 for QFX Series switches.

For the most complete and latest information about known Junos OS Evolved defects, use the Juniper Networks online [Junos Problem Report Search](#) application.

EVPN

- On all QFX platforms running on Junos OS Evolved, with EVPN VXLAN enabled, if there is a default route in primary instance pointing to mgmt interface, it could result in anomalies in Junos OS Evolved database. [PR1622035](#)

General Routing

- On the QFX5130-32CD platform running Junos OS Evolved, you cannot clear or reset the disk option specified in the scheduled request node reboot command. The node reboots with the disk option last specified. [PR1517596](#)
- On QFX5700 devices, ungraceful removal (OIR) of FPC or an FPC fault might result in a PCIE MAJOR alarm **PCI Uncorrected error on dev 0000:00:03.0** which does not get cleared. The only way to clear this alarm is reboot of the device. There are 2 situations in which this alarm can be seen: 1. FPC is faulty: In rare FPC fault cases, the PCI Uncorrected error alarm might be seen along with FPC going to a Fault state as indicated by the `show chassis fpc` command. This will be accompanied by other FPC Major alarms. Once the faulty FPC is replaced with a good one, the alarm will still be seen, and a reboot is required to clear this alarm. Post identification of the fault and FPC replacement, this alarm is harmless, and FPC state can be confirmed via the `show chassis fpc` command. 2. Ungraceful OIR: The ungraceful removal of FPCs is not recommended on QFX5700. This operation might result in PCI Uncorrected Error alarm. Please use one of the following two methods to do a graceful FPC OIR removal: a. Execute the `request chassis fpc slot <slot> offline` command from the CLI. b. Press the Offline Button for 1 second on the FPC to offline the FPC. Once the FPC is gracefully offlined both LEDs - PWR and STS will go off. The FPC can be removed at this point. [PR1620197](#)
- Unexpected intermittent carrier transitions are seen on QSFP56-DD-400G-CR8-CU-2.5M cable after flapping the interface. Carrier Transitions counter should increment by 2 after flapping the interface. [PR1645327](#)

Infrastructure

- Enabling MPLS traffic engineering will cause LDP session not to come up, the reason behind is that the underlying TCP connection stays at SYN-SENT state. Disabling and deactivating the MPLS traffic engineering will solve this issue. [PR1617629](#)

Resolved Issues

IN THIS SECTION

- [Resolved Issues: 21.4R2 | 57](#)
- [Resolved Issues: 21.4R1 | 58](#)

Learn about the issues fixed in this release for QFX Series switches.

For the most complete and latest information about known Junos OS Evolved defects, use the Juniper Networks online [Junos Problem Report Search](#) application.

Resolved Issues: 21.4R2

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General Routing

- FIPS mode is not supported. [PR1530951](#)
- Filter with forwarding-class and destination-class combined might not work. [PR1595788](#)
- Junos OS Evolved, adding configuration hash-key family inet layer-4 disables inet Hash-key Protocol. [PR1648156](#)
- On QFX5700 devices, packets are getting dropped after channelization on 16x100G FPC card. [PR1656065](#)

Infrastructure

- Tunnel interface might fail to come up if configured at the same time as its routing instance. [PR1616920](#)
- On QFX5220 devices, change in the output for L3VPN.inet6 route table in show route forwarding-table summary | display xml command. [PR1653182](#)

Network Management and Monitoring

- False traffic spikes seen SNMP graphs when ifHCOutOctets or ifHCInOctets are used . [PR1635958](#)
- On all QFX platforms running Junos OS Evolved, the remote attacker might cause a CPU Denial of Service by sending genuine traffic to a device on a specific IPv4 port. [PR1636338](#)

Resolved Issues: 21.4R1

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General Routing

- If more than 512 OSPF neighbors are configured, all the OSPF routes might not be learned unless the MTU of the IRB interface is modified. [PR1570498](#)
- The interface might not learn mac-address if it is configured with `vlan-id-list` starting with VLAN id 1 and `native-vlan-id`. [PR1597013](#)
- Traffic loss might be observed when `evo-pfemad` is restarted. [PR1608004](#)
- In QFX5700 FPC, QSFP port reset signal to be inverted in the software. [PR1608849](#)
- The egress traffic is dropped due to the egress queue buffer stuck on 400G interfaces. [PR1618147](#)
- Junos OS Evolved:JDI_FT_REGRESSION:ui:ui_change :: On performing `request system snapshot`, the snapshot message is not captured in `/etc/motd` file. [PR1618946](#)

Infrastructure

- The alarm **Host 0 Active Disk Usage Exceeded** might be generated due to large files which were already marked as deleted. [PR1601251](#)

User Interface and Configuration

- The `file copy` command is not accepting HTTPS URLs. [PR1596881](#)

Upgrade Your Junos OS Evolved Software

Products impacted: ACX7100-32C, ACX7100-48L, ACX7509, PTX10001-36MR, PTX10003, PTX10004, PTX10008, PTX10016, QFX5130-32CD, QFX5220-32CD, QFX5220-128C, QFX5700.

Follow these steps to upgrade your Junos OS Evolved software:

1. Using a Web browser, navigate to the All Junos Platforms software download URL on the Juniper Networks webpage: <https://www.juniper.net/support/downloads/>
2. In the Find a Product box, enter the Junos OS platform for the software that you want to download.
3. Select Junos OS Evolved from the OS drop-down list.
4. Select the relevant release number from the Version drop-down list.
5. In the **Install Package** section, select the software package for the release.
6. Log in to the Juniper Networks authentication system using the username (generally your e-mail address) and password supplied by a Juniper Networks representative.
7. Review and accept the End User License Agreement.
8. Download the software to a local host.
9. Copy the software to the device or to your internal software distribution site.
10. Install the new package on the device.



NOTE: We recommend that you upgrade all software packages out of band using the console because in-band connections are lost during the upgrade process.

For more information about software installation and upgrade, see [Software Installation and Upgrade Overview \(Junos OS Evolved\)](#). For more information about EOL releases and to review a list of EOL releases, see <https://support.juniper.net/support/eol/software/junosevo/>.

Licensing

In 2020, Juniper Networks introduced a new software licensing model. The Juniper Flex Program comprises a framework, a set of policies, and various tools that help unify and thereby simplify the multiple product-driven licensing and packaging approaches that Juniper Networks has developed over the past several years.

The major components of the framework are:

- A focus on customer segments (enterprise, service provider, and cloud) and use cases for Juniper Networks hardware and software products.
- The introduction of a common three-tiered model (standard, advanced, and premium) for all Juniper Networks software products.
- The introduction of subscription licenses and subscription portability for all Juniper Networks products, including Junos OS and Contrail.

For information about the list of supported products, see [Juniper Flex Program](#).

Finding More Information

- **Feature Explorer**—Juniper Networks Feature Explorer helps you to explore software feature information to find the right software release and product for your network.

<https://apps.juniper.net/feature-explorer/>

- **PR Search Tool**—Keep track of the latest and additional information about Junos OS open defects and issues resolved.

<https://prsearch.juniper.net/InfoCenter/index?page=prsearch>

- **Hardware Compatibility Tool**—Determine optical interfaces and transceivers supported across all platforms.

<https://apps.juniper.net/hct/home>



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

- **Juniper Networks Compliance Advisor**—Review regulatory compliance information about [Common Criteria](#), [FIPS](#), [Homologation](#), [RoHS2](#), and [USGv6](#).

<https://pathfinder.juniper.net/compliance/>

Requesting Technical Support

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

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the JTAC User Guide located at <https://www.juniper.net/content/dam/www/assets/resource-guides/us/en/jtac-user-guide.pdf>.
- Product warranties—For product warranty information, visit <https://support.juniper.net/support/warranty/>.
- JTAC hours of operation—The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

Self-Help Online Tools and Resources

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

- Find CSC offerings: <https://support.juniper.net/support/>
- Search for known bugs: <https://prsearch.juniper.net/>
- Find product documentation: <https://www.juniper.net/documentation/>
- Find solutions and answer questions using our Knowledge Base: <https://supportportal.juniper.net/s/knowledge>

- Download the latest versions of software and review release notes: <https://support.juniper.net/support/downloads/>
- Search technical bulletins for relevant hardware and software notifications: <https://supportportal.juniper.net/s/knowledge>
- Join and participate in the Juniper Networks Community Forum: <https://www.juniper.net/company/communities/>
- Create a service request online: <https://supportportal.juniper.net/>

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

Creating a Service Request with JTAC

You can create a service request with JTAC on the Web or by telephone.

- Visit <https://support.juniper.net/support/requesting-support/>
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, see <https://support.juniper.net/support/requesting-support/>.

Revision History

28 March 2025—Revision 6, Junos OS Release 21.4R2 for the ACX7100-32C, ACX7100-48L, PTX10001-36MR, PTX10003, PTX10004, PTX10008, PTX10016, QFX5130-32CD, QFX5220, and QFX5700 Devices.

20 July 2023—Revision 5, Junos OS Release 21.4R2 for the ACX7100-32C, ACX7100-48L, PTX10001-36MR, PTX10003, PTX10004, PTX10008, PTX10016, QFX5130-32CD, QFX5220, and QFX5700 Devices.

24 November 2022—Revision 4, Junos OS Release 21.4R2 for the ACX7100-32C, ACX7100-48L, PTX10001-36MR, PTX10003, PTX10004, PTX10008, PTX10016, QFX5130-32CD, QFX5220, and QFX5700 Devices.

29 July 2022—Revision 3, Junos OS Release 21.4R2 for the ACX7100-32C, ACX7100-48L, PTX10001-36MR, PTX10003, PTX10004, PTX10008, PTX10016, QFX5130-32CD, QFX5220, and QFX5700 Devices.

25 May 2022—Revision 2, Junos OS Release 21.4R2 for the ACX7100-32C, ACX7100-48L, PTX10001-36MR, PTX10003, PTX10004, PTX10008, PTX10016, QFX5130-32CD, QFX5220, and QFX5700 Devices.

12 May 2022—Revision 1, Junos OS Release 21.4R2 for the ACX7100-32C, ACX7100-48L, PTX10001-36MR, PTX10003, PTX10004, PTX10008, PTX10016, QFX5130-32CD, QFX5220, and QFX5700 Devices.

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