

# Junos<sup>®</sup> Space

## Release Notes

Release 11.3  
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## Network Application Platform

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The Junos Space Network Application Platform provides the essential tools the network administrator needs for automating network operations, including device discovery and management, topology visualization, deploying device images, job operation management, user account management, audit logging, and network administration. Network administration tasks include managing the Junos Space fabric (comprising one or more IP-connected nodes), databases, licenses, applications, authorization servers, tags, permission labels, DMI schemas, syslog search and troubleshooting.

### Upgrading



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#### CAUTION:

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Junos Space Network Application Platform 11.3 supports only the 11.3 versions of the other Junos Space applications. Platform 11.3 has not been tested against the 11.2 versions of the other Junos Space applications. Therefore, if you need to use other Junos Space applications, do not upgrade to Platform 11.3 until the 11.3 version of the Junos Space application you require is released.

### Supported Devices

New with 11.3, Junos Space supports the following platforms running Junos software:

- EX2200C
- EX3300
- EX6200
- MobileNext Control Gateway 5000 (MCG5000)
- Device templates for QFX3000
- SRX110
- SRX120

### New Features

The Junos Space Network Application Platform includes the following new features:

- Support for non-DMI-compliant devices via adapters
- Disable and enable users (as opposed to just deleting them)
- Access Control—Increased granularity of user access control through specification of the parts (objects) in Junos Space users can access
- License Inventory—display licenses currently installed on the devices managed by Junos Space

- View audit trail records in a dedicated application and email them without purging them from the system.
- Cloud Developers: deploy Junos Space as a KVM / QEMU build as opposed to an OVF build
- Set up complex scheduling—including recurring— jobs for your system
- Entire Junos Space system is backed up recurrently by default
- Ensure network planning and change management is successful: view all aspects of inventory, including EOL status and SKU-tracking
- Manage an SRX cluster via a single connection to the current active member
- Semantic validation combined with DMI schema verification of generated configurations
- Upgrade Service Now and Service Insight packages independent of Network Application Platform
- Perform an in-service software upgrade for devices under Junos Space management
- Back up and restore all of Junos Space, not just the database

## Operational Notes

- ISSU support for both device-initiated and Space-initiated Dual RE connections — It is strongly recommended that you configure the Virtual IP on the Dual RE device. Dual RE device without VIP configuration is not yet fully supported on Junos Space.
- The ScreenOS device adapter which was removed in 11.2 has been re-added to Junos Space 11.3 for ScreenOS inventory management capabilities. This adapter is not capable of device configuration or security management. The adapter's current feature capabilities have been validated on 11.2 and 11.3 Junos Space platforms. No new features will be added to the ScreenOS adapter until end of 2012.

## Known Issues

The Network Application Platform 11.3 release includes the following known issues:

- On the Schema Update page, the correct URL for the SVN repository is <https://xml.juniper.net/dmi/repository/trunk>. When entering this URL, do not include any leading or trailing spaces, as they are not correctly parsed. [PR-773679]
- Deleting a device from Space does not delete the SNMP target CLI from the device [PR-698688]
- Deleting a device from Space sometimes does not delete the device from the Network Monitoring workspace [PR-698696 ]
- There is a remote chance of Configuration Template definitions / templates not loading after Space upgrade from 11.2 to 11.3. It is advisable to export the definitions prior to upgrade and import after upgrade. [PR-690376]
- Configuration Templates for EX devices that contain dot1x parameters do not get pushed to the devices. [PR-688691]

- Image Management: sometimes upload of large device images fails. The work-around is to retry the upload. [PR-579915]
- The scope of Object Level Access Control is to filter the object visibility in the corresponding Object's Inventory Landing Page (ILP) only. [PR-688907]
- Object Level Access Control is not applicable for SLP pages, it will display all the objects in the charts. [PR-687203]
- Junos Space server goes to start mode when uninstalling the Fault Management application on a single node setup [PR-613189]
- Old SNMP trap targets are not removed from the device when the network settings on the Junos Space appliance are modified. [PR-689042]
- Wildcard characters are not saved with configuration templates. [PR-686313]
- The Disable Users' action does not take effect immediately (multiple node fabric issue). [PR-675694]
- In a multi (three) node fabric, on modifying the network settings, only the IP address of node-1 is removed from the devices. [PR-680435]
- Enable/Disable User will cause re-authorization for all users. [PR-687228]
- When you launch resync jobs on a large number of devices simultaneously, paging in the Manage Devices inventory page may not function properly. [PR-586001]
- Device reboot may trigger additional resyncs in Junos Space initiated connection scenarios, because Junos Space receives syslogs similar to FPC/PIC insertion, thus triggering resyncs. [PR-595664]
- When you delete a load balancer node from the fabric, a busy indicator appears. As a work-around, manually refresh your Web browser. [PR-579347]
- For a Junos Space initiated connection, the Platform > Manage Devices inventory page fails to switch to the new master Routing Engine on the dual Routing Engine on a JUNOS OS device. [PR-563648]
- After you export a template, you find that configuration options whose data type is choice have changed names. [PR-580533]
- Device Templates: If you modify a template definition that is already being used in a template, that template might not be updated with the changes from the definition. As a work-around, create a new template based on the modified template definition. [PR-582435]
- In a multi-node Space fabric, modifying user information from the Manage Users page will not trigger re-authentication of users connected to other nodes. [PR-658923]
- Modifying user information from the Manage Users page will trigger re-authentication for all users even though password information is not being modified. This may cause 'Authentication Failure' for the current session and re-login is required if there is password match failure with respect to current authorization mode settings. [PR-613237]

**Related  
Documentation**

- Junos Space Frequently Asked Questions

## Service Now

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The Junos Space Service Now application streamlines fault management for JUNOS devices by automating the detection, isolation and resolution of network faults and incidents.

## New Features

The Junos Space Service Now application presents the following new features:

- **AI-Scripts Install Advisor**—Enables you to view information about devices that risk a chance of exposure to known issues. A new screen called “**Potential Exposure to Known Issues**” appears whenever you try to add a device or install an event profile on a device. You can also use the **View Exposure** action to view information about affected devices that were already added.
- **View KB articles**—Service Now provides you with a new action that enables you to view all Knowledge Base articles associated with an incident.
- **E-mail notifications**—Email notifications are sent to all newly added owners or newly flagged users of Service Now incidents and information messages.
- **Monitor support contract information**—Enables you to view support contract information that is received from JSS and track contract expiration dates.
- **Export end customer device inventory**—Enables you to export information about end customer devices in partner proxy mode.
- **Select Site ID**—When submitting a case or adding an organization in the partner proxy or standalone mode, Service Now enables you to select the site ID from a list that is generated when you enter the username and password.

## Operational Recommendation

- When you upgrade Service Now operating in end-customer or partner proxy mode, ensure that the Service Now partner proxy is of the same version as its end-customer Service Now applications or up to 2 versions higher than the versions of the end-customer Service Now applications that it connects to.
- Read the KB article, <http://kb.juniper.net/KB19155>, before installing AI scripts on devices.
- Service Now supports only AI-Scripts Release 2.5 and later.

## Known Issues

- Service Now does not support JMB processing for dual Routing Engine virtual chassis devices. [PR 614683]
- Service Now does not receive device snapshots (iJMBs) from EX Series Ethernet Switches and SRX Series Services Gateways on which AI-Scripts are installed using Service Now.

Workaround: Install AI-Scripts manually on these devices. [PR 614102]

- The status of a technical support case is not updated when the case is associated to a site ID that is not present in Service Now. [PR 575240]
- Service Now does not receive device configuration information (JMBs) from devices running Junos OS 11.2, which have AI-Scripts Install-Package Release 2.1R1 to 2.6R2 installed.

Workaround: Use AI-Scripts Install-Package Release 2.6R2.1 or later. [PR 584236]

- Junos OS devices may not provide specific time zones for incidents, and hence Service Now may display an incorrect time of occurrence for incidents. For example, when the time zone is EST, Service Now uses US EST by default, while the time zone can also be AEST (Australian EST). [PR 544087]

Workaround: See

[http://www.juniper.net/techpubs/en\\_US/junos5/information/podcasts/q&a/q&a-claims-swonges-demos/tmz-re-custom-config.html](http://www.juniper.net/techpubs/en_US/junos5/information/podcasts/q&a/q&a-claims-swonges-demos/tmz-re-custom-config.html) for information on how to configure a custom time zone.

- The connection between the Service Now partner proxy and its end customers fails when a user changes the IP address of a Service Now partner proxy.

Workaround: Manually update the IP address of the Service Now partner proxy in your Service Now application. [PR 564827]

- Service Now cannot uninstall AI-Scripts from the back up RE of a device with dual REs. [PR 555657]
- You cannot use Service Now to install AI-Script bundles in a mixed EX4200 and EX4500 Virtual Chassis because, unlike other Junos OS devices, this device does not support the remote procedure call (RPC). [PR 688822]

## Resolved Issues

- Service Now does not support JMB processing for MX80-48t devices.
- Service Now does not receive device snapshots (iJMBs) from EX Series Ethernet Switches and SRX Series Services Gateways on which AI-Scripts are installed using Service Now.
- Auto submit policies are not displayed in Service Now (View Auto Submit Policy page) when the created or last modified date of one or more auto submit policies is from 1st to 9th.

## Service Insight

The Junos Space Service Insight application accelerates operational analysis and manages exposure to known issues.

## New Features

This release of the Junos Space Service Insight application presents the following new features:

- **E-mail notifications**—E-mail notifications are sent to all newly added owners or newly flagged users of Service Insight proactive bug notifications (PBNs).

## Ethernet Design

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The Junos Space Ethernet Design application provides you with a workflow enabling you to simultaneously configure and manage multiple Junos devices within a network.

### New Features

The Junos Space Ethernet Design application presents the following new feature:

- **Support for QFX3000 QFabric Switches**—Ethernet Design provides support for QFabric switches in the new Manage Fabric Port Groups workspace. This workspace enables you to provision port profiles easily to ports on multiple Node devices in a QFabric switch. You can organize the ports into port groups, specifying a port group type, and then provision a port profile to each port group. The types of port groups are: **Ethernet**, **FCoE-FC Gateway**, and **FCoE Transit Switch**. Each port group type consists of related port profiles you can provision. For example, you can select the Desktop port profile from the **Ethernet** port group type, and the Fibre Channel port profile from the **FCoE-FC Gateway** port group type.

### Known Issues

- Provisioned Native and VoIP VLANs are not listed in the **Port Configurations Parameters** dialog box when you try to reconfigure a port. These provisioned VLANs are also not displayed on the **View Port Associations** page. This issue occurs in VLAN-port associations created in Junos Space prior to the 11.1 Release. [PR 576159]

## Junos Space Virtual Control

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### New Features

Junos Space Virtual Control Release 11.3 includes the following new features:

- **Support for EX4500 VC and EX 8200 switches**—Junos Space Virtual Control (JSVC) now supports orchestration on EX4500 VC and EX8200 series of switches.
- **Support for QFX3000 QFabric switches**—JSVC now supports orchestration on the QFX3000 QFabric switch.



- **Dynamic Firewall Configuration Support**—JSVC now supports the dynamic configuration of Junos Space firewall policy filters to restrict any unauthorized access to the Junos Space server through JSVC.
- **Uplink Port Group Life Cycle Management**—JSVC now provides an option to manage the entire life cycle of an uplink port group in a virtual switch. This includes creating, modifying, and deleting uplink port groups.

## Feature Enhancement

Junos Space Virtual Control Release 11.3 includes the following enhancement to existing features:

- **Improved Scalability**—JSVC has been optimized to improve the performance and support scalability for large-scale deployments. The major improvement areas are:
  - vNetwork Discovery
  - vNetwork Synchronization
  - Configuration Audit
  - vNetwork Deletion

## Operational Notes

- Junos Version 10.1R1 and above is required for P+V orchestration support.
- Junos version 10.4R1 and above is required for Private VLAN orchestration support.
- JSVC has been qualified with EX4200, EX4500, EX8200, QFX3500 series of switches, and the QFX3000 QFabric switch.
- JSVC has been qualified with VMWare vSphere 4.0 and 4.1.
- Before starting P+V Orchestration, ensure that no other session (CLI or Web) is in Edit mode on the physical switches. Another session in Edit mode will hold up the orchestration operation until the session is completed.

## Known Issues

- Discovery of a vNetwork will fail if the password for the vNetwork contains any of the following characters: &, <, >, ', or "", which are reserved characters in XML. We recommend avoiding the use of these characters in vNetwork passwords [PR/ 691424]
- The online help for **Managing Uplink Port Groups** is not available from the application, this information is, however, available in the user documentation available in the [Junos Space Virtual Control User Guide](#). [PR/ 692785]
- When you upgrade to JSVC Release 11.3 from Release 2.0 or Release 11.1, all information about switch-port association is lost during the upgrade. The workaround is to note of all the associations in the earlier version before the upgrade, and re-associate them either manually or using a CSV file import, after upgrading to JSVC Release 11.3. This issue does not arise when you upgrade from JSVC Release 11.2 to Release 11.3.

Ensure that the VMWare vCenter server is connected and reachable from JSVC during the upgrade. The VMWare vCenters that are not reachable during the upgrade will be removed from the JSVC database during the upgrade. [PR/692234]

- The MAC address of a virtual machine associated with a VSS port group may not be properly reflected in JSVC. This is due to a limitation with VMWare APIs. Alternatively, you can look up the required MAC address details in the VMWare vCenter. [PR/ 661777]
- When you rename a standalone vSwitch port group in the VMWare vSphere client, it automatically creates a new port group profile and associates it with the port group in JSVC. This is a limitation of the VMWare APIs. We recommend modifying standalone vSwitch port groups from JSVC instead of doing that from the VMWare vSphere client [PR/ 661787]
- When the DHCP server in the VMWare vCenter assigns an IP address to a virtual machine, the IP address may not be dynamically updated in JSVC. This is due to a limitation with VMWare event notifications. The IP address information will reflect in JSVC after a manual (or scheduled) re-synchronization is completed. [PR/ 661790]
- When you power off a virtual machine comprising five or more network adapters which are associated to a port group of ephemeral binding type, and a rename event is triggered off from the VMWare vCenter, JSVC does not receive notification of the deleted ports. This is due to a limitation with VMWare event notifications [PR/ 672702].

## Resolved Issues

- When you associate a standalone vSwitch port group association with a virtual machine on VMWare vCenter, this may not be reflected in JSVC immediately due to a limitation with VMWare APIs. We recommend using “Strict” mode of orchestration instead of “Very Strict” Mode. [PR/ 661783: This issue is resolved.]
- While modifying a vSwitch, the **vSwitch General Settings** page may not load completely and you may not be able to select any values from the fields. In this situation, cancelling and reopening the screen will solve the issue. [PR/ 661806: This issue is resolved.]
- DVS-Host association is shown in JSVC even when this association is removed while moving a disconnected Host from one Datacenter to another in VMWare vCenter. It is automatically deleted by JSVC during the next synchronization cycle (or) at the time of processing an event notification about a DVS or Host. [PR/ 662292: This issue is resolved.]
- JSVC supports deleting a distributed virtual switch (DVS) that is associated with a kernel or consoling NIC; VMWare vCenter does not. If you perform this operation from JSVC, it will fail in VMWare vCenter, and the object will be in a “Delete requested” state in JSVC. This state is changed to “insync” during the next synchronization cycle or at the time of processing an event notification about the DVS. If you need to perform an operation in the DVS immediately, however, and cannot wait for the scheduled synchronization, you will need to manually re-synchronize in order to change the state.[PR/ 662900: This issue is resolved.]

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## Network Activate

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Junos Space Network Activate software enables you to provision point-to-point and multipoint services across networks. You provision point-to-point services across networks that use LDP for signaling in the network core. These services use directed pseudowire virtual circuits across the network to establish point-to-point virtual private networks (VPNs). You provision multipoint services across networks that use BGP signaling in the network core. These VPLS services use route targets and route distinguishers to establish service connectivity. Network Activate software also enables you to provision Layer 3 VPN full mesh services.

### New Features

The Network Activate 11.3 release includes the following new features:

- **ATM and TDM Pseudowire Services**—Junos Space supports ATM and TDM pseudowires in IP/MPLS networks on BX7000 Multi-Access Gateways and M Series Multiservice Edge Routers with Circuit Emulation Service (CES) Physical Interface Cards (PICs). The ATM and TDM pseudowires run over an LSP connection.

Static pseudowires are designed for networks that do not support LDP or do not have LDP enabled. You define pseudowires by configuring static values for the inbound and outbound labels of the connection. For details on configuring pseudowire connections in Junos OS, see the [Junos OS VPNs Configuration Guide](#), the information about layer 2 circuits, Layer 2 Circuits Configuration Guide, and information about [Configuring Layer 2 Circuit and Layer 2 VPN Pseudowires](#)

Pseudowires are supported on ATM and TDM interfaces on M Series and BX7000 devices. The fixed configuration of the BX devices includes 3 Gigabit Ethernet (GE) interfaces and 16 T1/E1 ports that can be used by ATM or TDM pseudowire services. BX devices get discovered as an N-PE device and have an additional role as a cell-site router (CSR)

#### Prerequisites for M Series Devices

One of the following CES PICs is required:

- 4-Port ChOC3/STM1 CES PIC
- 12-Port T1/E1 CES PIC

#### Prerequisites for the BX Series Gateway

The BX Series devices have a fixed configuration with 3 Gigabit Ethernet (GE) interfaces and 16 T1/E1 ports that can be used by ATM/TDM pseudowire services. The correct level of firmware is required. Refer to the release notes that correspond to the release of Junos Space that you are running for the correct level information.

#### RFCs Supported

RFC 4553, [Structure-Agnostic Time Division Multiplexing \(TDM\) over Packet \(SAToP\)](#).

## Upgrade and Installation Instructions for Network Activate, Release 11.3

In some situations a prescribed order is required for installation of Transport Activate. Use the following table to determine the order required for your installation or upgrade:

Type of Upgrade or Installation	Order of Installation Required
New Installation	<ol style="list-style-type: none"> <li>1. Install Network Activate.</li> <li>2. Install QoS and Transport Activate in any order.</li> </ol> <p><b>NOTE:</b> Network Activate must have been installed successfully before you install Transport Activate.</p>
Upgrade from earlier release	<ol style="list-style-type: none"> <li>1. Upgrade QoS.</li> <li>2. Upgrade Network Activate.</li> <li>3. If Transport Activate is installed, upgrade Transport Activate.</li> </ol>
Uninstalling	<ol style="list-style-type: none"> <li>1. Uninstall Transport Activate and QoS before you uninstall Network Activate.</li> <li>2. Uninstall Network Activate.</li> </ol>

## Known Issues

**Network Activate** The Network Activate 11.3 release includes the following known issues:

### BX Device Issues

- **PR 667673** Deployment of "not normalized" VPLS service order shows "Normalized VLAN cannot apply to Non-MX devices" error.
- **PR 698426** ATM/TDM pseudowire validation fails with 'rpcinvalidvalue' when validated; consequently service order deployment fails with modification of pseudowire when BX is used.

BX does not support JUNOS style service configuration validation. Hence, avoid selecting the **Validate** option and instead select either **Deploy now** or **Deploy later** options to provision the service if a BX device is included in the pseudowire.

If you select the **Save + validate** option during deployment of a service order, the deployment might fail and a restart of jboss service might be required, if a BX device is involved.

The commands to restart the jboss service are:

```
service jboss stop
service jboss start
```

- **PR 699682**—When both the BX and M control planes are up, the Functional Audit feature should have marked indicated *Control plane up, data plane verification not supported*.

BX devices do not support Functional Audit. On the BX device console, enter the **show l2circuit** command to verify that the pseudowire in question is up. Do a ping between 2 CEs of the pseudowire to verify whether the data plane is up. For a detailed description on BX pseudowire validation and/or LSP validation, please refer to BXOS 4.4 documentation at the following URL: [BX Series Hardware and Software Documentation Home](#).

BX devices do not support syslog events, so resyncing automatically does not occur. Junos Space periodically polls BX devices to perform the resync.

### L3VPN Issues

- **PR 613168**—A functional audit fails for a Layer 3 VPN service order when the protocol between the PE/CE link is BGP/OSPF/Static. The data plane validation fails, but a manual ping is successful for networks directly connected with M Series devices.

## Transport Activate

Transport Activate allows you to design, provision, and deploy MPLS–dynamic and RSVP–signaled label-switched path (LSP) services that run from a specific ingress router to a specific egress router. You can configure end-to-end point-to-point and point-to-multiple-point LSPs.

Transport Activate is integrated with and codependent upon Network Activate, that provides Layer 2 and Layer 3 VPN service provisioning. Therefore, to use Transport Activate, you must install Network Activate first.

Provisioning an LSP service includes the following major tasks:

- Discover Juniper Networks devices that have been configured for MPLS-Signaled LSP into Junos Space using the Devices workspace. See the MPLS-Signaled LSP Configuration Guidelines in the *Junos OS MPLS Applications Configuration Guide*.
- Discover LSP devices from the Junos Space Platform database using **LSP Provisioning > Manage LSP Devices > Discover LSP Devices**.
- Assign LSP roles to provide authorization for the LSP definition designer and service activator to provision LSP services using Junos Space **Platform > Users**.
- Create an LSP definition to use to create an LSP service using **LSP Design > Manage LSP Definitions > Create LSP Definition**. You can configure LSP settings in the LSP definition so that they are configurable in the LSP service order.
- Create and validate LSP services using **LSP Provisioning > Manage LSPs**.

### New Features in Release 11.3

**MPLS RSVP LSP Link and Path Protection** - You can now configure redundancy to protect LSP links or paths.

Junos Space allows you to configure Junos redundancy features for MPLS RSVP LSPs. Multiprotocol Label Switching (MPLS) label-switched path (LSP) link protection and node-link protection are facility-based methods used to reduce the amount of time

needed to reroute LSP traffic. Link protection and node-link protection can protect multiple LSPs by using only a single, logical bypass LSP. Link protection can provide robust backup support for a link, node-link protection can bypass a node or a link, and both types of protection are designed to interoperate with other vendor equipment. Such functionality makes link protection and node-link protection excellent choices for scalability, redundancy, and performance in MPLS-enabled networks

You can configure fast reroute on an LSP to minimize the effect of a failure in the LSP. Fast reroute enables a router upstream from the failure to route around the failure quickly to the router downstream of the failure. The upstream router then signals the outage to the ingress router, thereby maintaining connectivity before a new LSP is established. For a detailed overview of fast reroute, see [Fast Reroute Overview](#).

**Static LSP** - Static single-hop LSPs are now supported in the Transport Activate workspace.

## Upgrade and Installation Instructions for Transport Activate, Release 11.3

In some situations a prescribed order is required for installation of Transport Activate. Use the following table to determine the order required for your installation or upgrade:

Type of Upgrade or Installation	Order of Installation Required
New Installation	<ol style="list-style-type: none"> <li>1. Install QoS and Network Activate. The order of installation for these two applications is flexible.</li> <li>2. Install Transport Activate.</li> </ol> <p><b>NOTE:</b> Network Activate must have been installed successfully before you install Transport Activate.</p>
Upgrade from earlier release	<ol style="list-style-type: none"> <li>1. Upgrade QoS.</li> <li>2. Upgrade Network Activate.</li> <li>3. Upgrade Transport Activate.</li> </ol>
Uninstalling	<ol style="list-style-type: none"> <li>1. Uninstall Transport Activate.</li> <li>2. Uninstall QoS and Network Activate. The order of uninstalling these two applications is flexible. If QoS is uninstalled, you must also uninstall Network Activate.</li> </ol>

## Known Issues

PR 697117 - After upgrading to Release 11.3, you must run "Discover Devices" in the Transport Activate application again to import the network-to-network interface (NNI) interface information.

PR 699597 - BX devices might reboot unexpectedly when RSVP LSP with Link/Node-Link protection is configured.

PR 693561 - Transport Activate Search on tagged service order or service definition is not displaying the required item 4.

## QoS Design

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The QoS Design application allows you to configure Quality of Service (QoS) features to provide improved service to certain network traffic on Ethernet services. Enabling QoS on an Ethernet service can improve network service by providing dedicated bandwidth, setting traffic priorities across the network, improving loss characteristics, shaping network traffic, and managing network congestion.

Create a QoS profile to configure classification and policing for UNI ingress traffic and policing, scheduling and shaping for UNI egress traffic on Ethernet services. The QoS Design application lets you to define levels of service that you can then apply to Ethernet services in the Network Activate application:

### New Features

The QoS Design application includes no new features in this release.

### Known Issues

- There is a Create scheduler issue when you deselect a class of service. If you clear the check box for some CoS rows and then edit one or more selected CoS rows, when you click OK the edited CoS rows that you configured are preserved. However, the CoS rows that were cleared before you clicked OK are automatically selected again. As a workaround, clear the check box for each CoS row that was automatically selected and then click Create. Only the CoS rows you intentionally selected are saved for the QoS scheduler. [PR 565752]

## Hardware Support

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The Junos Space software supports all platforms in the following product series. For the latest platform support, see the Junos Space Platform and application data sheets.

- MX Series devices
- M Series devices
- T Series devices
- J Series devices
- EX Series devices
- SRX devices
- QFX devices
- BX devices

## Junos OS Compatibility

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- Specific Junos OS releases and versions that fully support Junos Space 11.3 Platform are limited to the following:

- Junos OS Release 9.3R4
- Junos OS Release 9.4R3, R4
- Junos OS Release 9.5R2, R3
- Junos OS Release 9.6R1, R2, R3, R4
- Junos OS Release 10.0R1, R2, R3, R4
- Junos OS Release 10.1R1, R2, R3
- Junos OS Release 10.2R1, R2, R3
- Junos OS Release 10.3R1
- Junos OS Release 10.4R1
- Junos OS Release 11.1R1
- Junos OS Release 11.2R1
- Junos OS Release 11.3R1 (for EX, QFX3500 and QFX3000)
- Specific Junos OS releases and versions that fully support Junos Space 11.2 Network Activate are limited to the following:
  - Junos OS Release 9.3R4
  - Junos OS Release 9.4R3, R4
  - Junos OS Release 9.5R2, R3
  - Junos OS Release 9.6R1, R2
  - Junos OS Release 10.0R1, R2
  - Junos OS Release 10.1R1
  - Junos OS Release 10.2R1
  - Junos OS Release 10.2R2
  - Junos OS Release 10.3R1
  - Junos OS Release 10.4R1
  - Junos OS Release 11.1R1
  - Junos OS Release 11.2R1
- Specific Junos releases and versions that fully support Junos Space 11.2 Service Now are limited to the following:



- Junos Release 9.0 and later
- Specific Junos releases and versions that fully support Junos Space 11.2 Ethernet Design are limited to the following:
  - Junos OS Release 9.6R1, R2, R3, R4
  - Junos OS Release 10.0R1, R2, R3, R4
  - Junos OS Release 10.1R1, R2, R3
  - Junos OS Release 10.2R1, R2, R3
  - Junos OS Release 10.3R1
  - Junos OS Release 10.4R1
  - Junos OS Release 11.1R1
  - Junos OS Release 11.2R1
- Specific Junos OS releases and versions that fully support Junos Space 11.2 Security Design are limited to the following:
  - Junos OS Release 10.2R1, R2, R3
  - Junos OS Release 10.3R1
  - Junos OS Release 10.4R1
  - Junos OS Release 11.1R1
  - Junos OS Release 11.2R1

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## Troubleshooting Junos Space

For information about troubleshooting Junos Space, see:

[http://www.juniper.net/techpubs/en\\_US/junos-space11.1/topics/concept/junos-space-troubleshoot-overview.html](http://www.juniper.net/techpubs/en_US/junos-space11.1/topics/concept/junos-space-troubleshoot-overview.html)

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## Junos Space Technical Publications

Junos Space technical documentation is available as online help in the graphical user interface and on the Web in HTML and PDF file formats. The Web-based documentation is maintained after the final build of the online help, therefore use it wherever discrepancies exist between the help and the Web-based documentation.