

Junos[®] Space Release Notes

Release 11.1
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Network Application Platform

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), database, licenses, applications, upgrades, tags, and troubleshooting.

New Features

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

- **Junos Space 11.1 Upgrade**—The software is bundled with Service Now and Service Insight. Hot-pluggable applications include:
 - Ethernet Design
 - Network Activate
 - QoS Design
 - Security Design
 - Virtual Control
- **Device Templates**—Device templates enable you to remotely deploy and update the JUNOS OS configuration running on multiple devices on your network. Device template creation involves two major tasks and two user roles:
 - A network engineer who designs a template definition based on configuration options for a Juniper Networks Junos OS device family DMI schema.
 - An operator who creates, validates, and deploys a device template based on a template definition.

Designers can now create rules to specify device-specific values for configuration options in template definitions. The designer can also import and export template definitions from one Junos Space fabric to another.

Configuration options of the data type 'string' can now be changed to the 'enumeration' data type, and corresponding choices can be created.

Device Templates now supports ScreenOS devices.

- **Exporting Multiple Scripts**—You can export multiple scripts to your local file system in tar file format.
- **Scripts Support for SRX Series Services Gateway devices**—You can deploy and manage scripts on SRX1400 Services Gateway and SRX220 Services Gateway devices.
- **Modifying Multiple Script Types**—You can modify the script type of multiple scripts simultaneously. You can select the scripts that you want to modify, and set a common script type for all scripts or set different script types for individual scripts.

- Support for QFX3500 switches— You can manage and deploy scripts and device images on QFX3500 switches.
- You can delete a node from the Junos Space fabric directly using Platform > Administration > Manage Fabric > Fabric Monitoring > Delete Node. You must remove the deleted node from the network and re-image it. Thereafter, you can add it to the fabric using Platform > Administration > Manage Fabric > Add Fabric Node.
- Configuring Junos Space on a JA1500 appliance from a USB drive—You can now download the Junos Space USB bootable image from the Juniper Networks Junos Space software download site (<http://www.juniper.net/support/products/space/>) on to a USB drive with USB 2.0 support and at least 2 GB of free space. Plug the USB drive into a JA1500 appliance and install the Junos Space software.
- Gadget—Number of Jobs per Script Action: A new gadget in the Scripts dashboard graphically displays the number of jobs created for different tasks performed within the Scripts workspace. It also displays the number of successful and failed jobs.

Operational Notes

- We recommend that you increase the login timeout value to **Never** or the maximum allowed (**120 minutes**) for the following operations:
 1. In Junos Space 1.4 and 2.0, before you upgrade to Junos Space 11.1, this action ensures that the UI session remains active during the upgrade process.
 2. When Junos Space manages a large network and you change device IP settings, this action ensures that the UI session remains active and the IP changes are transmitted to all the devices that Junos Space manages.
- Migration of Device Templates from the Release Candidate Test version of Junos Space 2.0 to Junos Space 11.1 is not supported. Device Templates is officially released in Junos Space 11.1.

Known Issues

The Network Application Platform 11.1 release includes the following known issues:

- When you delete a load balancer node from the fabric, a busy indicator appears. As a workaround, manually refresh your Web browser. (PR 579347)
- On the Administration > Manage Fabric inventory page in tabular view, the cursor focus in the Console Message text box disappears and the text you are typing is not displayed if you type continuously in the Console Message text box for approximately 20 seconds. Click in the Console Message text box to continue typing. (PR 551594)
- 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)
- The Search box may lose cursor focus if you try to search at the same time as there are huge numbers (50+) of jobs running. (PR 579015)
- When a Junos Space fabric node is deleted, the IP address of the deleted node is not removed from the devices that it was managing. (PR 579655)

- Image Management: sometimes upload of large device images fails. The workaround is to retry the upload. (PR 579915)
- In the select Template Definition Page tabular view, sorting on Device family is not supported. Sorting works on Name, Last Modified By, Last Update Time, Description and State. (PR 583291)
- The first time you import a Device Template definition for any given device family, you need to give the system time to load the schema. Therefore, do not try to use the definition immediately in a template. Instead, after importing, select the definition, choose Modify, and wait for the schema - i.e. the complete list of configuration options - to load. Then you can cancel the Modify operation and use the definition in a template. (PR 582786)
- In Device Templates, the container in a table displays as not yet set, even if you have selected it. (PR 573389)
- After you export a template, you find that configuration options whose data type is choice have changed names. (PR 580533)
- The Device Specific Value checkbox is not available for configuration options of the table data type without child nodes, columns, or name keys. (PR 583743)
- If you modify a template definition that is already being used in a template, that template might not be updated with the changes. As a workaround, create a new template based on the modified template definition. (PR 582435)
- In a Junos Space setup if you install Network Activate, the template definition published and unpublished state icons do not appear on the Platform > Device Templates > Manage Definitions > Manage Template Definitions inventory page in thumbnail view. As a work around, change the Manage Template Definition page to tabular view to see template definition states. (PR 585033)

Ethernet Design

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:

- **Workspace Name Change**—Ethernet Design workspace icons appear in the Ethernet Design task ribbon. The Junos Space 11.1 release includes the following workspace name change:

Original Workspace Name	New Workspace Name
Ez Campus Design	EZ Design

- **Creation and Application of the Server Access Port Profile**—In Junos Space, a port profile is a set of configuration parameters that can be applied to a port. Port profiles, when applied to a port, enable the port to play a specific role in the network. Using Junos Space, you can now apply a new port profile, the server access port profile, to a

switch port. A server access port is a physical untagged switch port. By applying this port profile, you are configuring the switch port to act as an access port connecting the devices in a single VLAN to a server. Junos Space also allows you to customize certain parameters of the server access port profile, such as bandwidth, broadcast limit, and so on, based on your network requirements.

- **Enhancement of Server Port Profile**—The server port is a physical tagged switch port that connects to a server. By applying the server port profile, you are configuring the switch port to act as a trunk port connecting devices from different VLANs to a server.

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]

Network Activate

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 application supports the following new features:

- **Service templates**— The Service Templates feature under the Service Design workspace in Network Activate provides a powerful mechanism to configure advanced service related options that are not exposed via the Service order creation workflow. Service Templates is schema-driven and provides access to all the service configuration options available for the supported device families, in this release, M/MX. The service variables in the service templates get resolved for each service that use the template and thus the user can push the same/customized parameter values to all service instances.
- **Layer 3 VPN Services**—Create and deploy Layer 3 VPN full mesh services. A Layer 3 VPN is a set of sites that share common routing information and whose connectivity is controlled by a collection of policies. The sites that make up a Layer 3 VPN are connected over a provider's existing public Internet backbone.
- **VLAN pool range**—Specify a VLAN pool range in Layer 2 (point-to-point and multipoint) or Layer 3 (full mesh) services. Specify VLAN ID start and end values to restrict the range of allowed VLAN IDs to a VLAN pool whether the VLAN IDs are manually and automatically selected.

- **Validate Services**—Validate a service order without pushing the configuration to the device. You can validate a service request that is in the REQUESTED state or INVALID state.
- **New Prestaging rules**—When devices are prestaged, Network Activate determines whether the device is an N-PE router, and also whether the device qualifies for Layer 2 and/or Layer 3 provisioning.
- **Troubleshooting N-PE Devices**— Use the Troubleshoot option to check PE router configurations before you deploy a new service or troubleshoot PE router configurations when you are unable to deploy a new service.

Operational Note

- Upgrading from Junos Space 2.0 to 11.1: if you already have QoS Design in Junos Space 2.0, upgrade QoS Design first, before you upgrade Network Activate. You will notice that several icons on the QoS navigation ribbon are missing, but they will appear once you install Network Activate and either restart jboss or go to Network Activate.
- During Service Template creation if you want to add typed-in text along with Service Specific variables, you must press **Enter** after you type in the text.

Known Issues

The Network Activate 11.1 release includes the following known issues:

- A Functional Audit might show incomplete information in the Functional Audit result window. [PR 559092]
- After deployment of L2 P2P with DOT1Q or QINQ service on an interface, the interface is still available for Port based L3 Provisioning. The interface is not filtered out of L3 Provisioning. [PR 5 81661]
- L3VPN deployment on FE interfaces with Ethernet option as vlan is not supported. Only FE Ethernet port option is supported now. (PR 582460)

QoS Design

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 checkbox 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]

Security Design

The Junos Space Security Design application is a powerful but easy-to-use solution that allows you to design a security topology that represents your physical network, create IPSec VPNs on different sections of your network to provide appropriate security on the network, and create security policies that define a set of rules to permit, deny or reject communication between security domains.

New Features

The Junos Space Security Design application presents the following new features:

- **Support for Device Clusters**—Supports addition of device clusters to the security topology, and participation of device clusters in IPSec VPN, security policy, and NAT creation and deployment.
- **Export Security Topology**— Security topology can be exported in the CSV format from the Security Topology Designer Whiteboard.
- **Tabular representation of the Security Topology**— Tabular representation of the security topology can be used to connect devices and networks, add devices, and delete or modify device links.
- **Infranet Authentication for Firewall Policy Configuration** — The Redirect URL and Redirect Traffic settings can be configured on security policy profile settings when Infranet Authentication is enabled for a security policy profile.
- **Security Domain Provisioning and Decommissioning** —Security domain-level policies can be provisioned on the security devices protecting the security domain resources. The blacklisted applications listed in the security domain specify traffic that is not permitted in to or out of the security domain.
- **Tabular Representation of Security Policy**— Tabular representation of security policy can be used to view the rules in all the security policies. Security policies can be modified, provisioned, decommissioned, or deleted by using the tabular view. This tabular view can also be filtered based on policy name, endpoints, direction, and application.
- **Address and Domain Based Filtering of Tabular View**— All security policies which are a part of a specific address or domain can be viewed from the address or domain inventory panel. This view will also show if the security policy is provisioned.

- **Default Policy Profile**— A security policy profile can be configured as a default policy profile for security policies. This policy profile will be chosen by default when creating a security policy.
- **Rule Ordering**— Rules in a security policy can be reordered. This reordering ensures that the rules will be provisioned to the device in the specified order.
- **Policies to Internet**— A pre-defined security domain for the Internet is associated with the predefined Internet Address. An Internet Domain can signify any object that is untrusted.

Known Issues

- If you create a device group with more than 100 devices, the device group will not be visible on the topology whiteboard.
Workaround: Click on the topology whiteboard. [PR 563375]
- When you decommission a VPN that has VPN Monitor setting enabled, VPN Monitor options such as Interval and Threshold are not removed from the device.
Workaround: Manually remove the VPN Monitor options using the CLI interface.
[PR 546065]
- If you create and configure a group link that has a large number of devices, the Link Properties window will still show that the group link is not configured. If you delete a group link that has a large number of devices, the link is still displayed on the topology whiteboard.
Workaround: Click on the topology whiteboard. [PR 561740]

Service Insight

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

New Features

The Junos Service Insight application presents the following new feature:

- **Support for QFX3500 switches**— Service Insight supports EOL and EOS analysis and Proactive Bug Notifications for QFX3500 switches.

Service Now

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 feature:

- **Event Profiles**—Service Now Event Profiles allow you to select the events in an AI script bundle that you want to enable on devices. You can change the default priority for events to reflect the priority of specific events in your network. You can also create event profiles, clone event profiles, set a particular event profile as default, display devices that are associated with an event profile, export information about event activity associated with an event profile, delete event profiles, and view an event profile's event activity in the last 7 days, in the last 30 days, and in the last 365 days.
- **Support for SRX1400 and SRX220 Service Gateways**—Service Now supports JMB processing for SRX1400 and SRX220 Service Gateways.
- **Support for QFX3500 switches**—Service Now supports JMB processing for QFX3500 switches.
- **Detach JMB files**—You can choose to detach JMB files from the e-mail notifications sent by Service Now.

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.

Known Issues

- 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]

- 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]

- Service Now does not support JMB processing for MX80-48t devices.

Workaround: Use AI-Scripts install-package 2.6R2. [PR 578428]

Resolved Issues

- The connected members displayed on the **Manage Organizations** page will not receive dynamic notifications when Service Now operates in the partner proxy mode. [PR/526175]

Virtual Control

New Features

This release of Junos Space Virtual Control presents the following new features:

- **Support for VMWare vSphere's Standalone vSwitch**—In addition to the distributed vSwitch, JSVC now supports the standalone vSwitch (also known as vSS -- vNetwork Standard Switch).
- **Support for vSwitch 4.0 and 4.1 Port Group Profiles**—JSVC is now capable of creating version-specific profiles for vSwitches with appropriate attributes.
- **Resource Allocation for Distributed vSwitch 4.1**—JSVC is now capable of managing resource allocation of VMware vSphere 4.1 distributed vSwitches.
- **Private VLAN Orchestration**—JSVC is now capable of supporting Private VLAN orchestration in physical switches. Please note that this requires Junos 10.4 (or higher) to be installed in the physical switches.
- **Support for EX4200 - Virtual Chassis and EX4500**—JSVC is now capable of orchestrating virtual switch configuration to EX4200 configured with a virtual chassis and EX4500.
- **Connection Status of vNetwork**— JSVC now monitors the connectivity status of vNetwork and displays it to the user as either 'connected' or 'not connected'.
- **Connection State of Hosts and Virtual Machines**— The various connection states of hosts and virtual machines are now displayed, so users can perform appropriate operations, as needed.
- **Power State of Virtual Machines**—The various power states are now displayed so users can perform appropriate operations, as needed.
- **Primary IP for Virtual Machines**—The primary IP address of a virtual machine is now displayed in the tabular view of Manage Virtual Machines ILP. (Note: IP address of a virtual machine will be displayed only if the virtual machine is installed with VMware Tools).
- **Change in vNetwork Inventory Charts**—The main chart in vNetwork workspace is now split into individual charts for virtual switches, hosts, and virtual machines to show the inventory on a per-vNetwork basis.
- **Discovery Workflow**—The workflow for discovering vNetworks now supports multiple vNetwork discoveries.

Operational Notes

- Junos Version 10.1R1 and above 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 and EX 4500 series of switches.
- JSVC has been qualified with VMware vSphere 4.0 and 4.1.
- Before starting P+V Orchestration, ensure that no other session (CLI/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

- The special characters (/, \, %) in the virtual switches and port groups are not supported. Please avoid using these special characters while creating or modifying virtual switch and port group names.
- The Job Progress view for re-sync job does not indicate the progress accurately. It displays the job progress at 0% until the job is completed and then transitions to 100%, once the job is completed [PR 552950]
- The standalone vSwitch port group association to virtual machines made on VMWare vCenter may not reflect in JSVC immediately due to a limitation with the VMWare APIs. The changes will reflect after a manual (or the periodic) re-synchronization is completed.
- Renaming a standalone vSwitch port group from the VMWare vSphere client creates a new port group profile and associates it with the port group in JSVC. This is due to a limitation of the VMWare APIs. Hence, it is recommended that you modify a standalone vSwitch port group from JSVC instead of the vSphere client.
- After upgrading from JSVC 2.0 to JSVC 11.1, the port group profiles that are associated with port groups will be re-discovered (with the port group's name), and the profiles that are not associated with port groups will be removed. Therefore, before upgrading to JSVC 11.1, it is recommended that you make a note of the un-associated port group profiles, and create them manually after upgrading to JSVC 11.1, and rename the re-discovered profiles, if required.
- After upgrading from JSVC 2.0 to JSVC 11.1, the association between the physical NICs of the host and the physical switch ports will be removed. Therefore, it is recommended that you make a note of all the associations, and re-associate them manually (or through a CSV file import) after upgrading to JSVC 11.1.

Resolved Issues

- The Job Progress view does not indicate the progress accurately for some jobs, when they are running. It displays the job progress at 0% until the job is completed and then transitions to 100%, once the job is completed. This has been fixed for orchestration and discovery.

- Blocking (and unblocking) of virtual ports is allowed from JSVC even if the override policy is disabled in vCenter. This has been fixed and now blocking and unblocking will not be allowed from JSVC if the override policy is disabled in vCenter. [PR 552956]

Junos Compatibility

- Specific Junos OS releases and versions that fully support Junos Space 11.1 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
- Specific Junos OS releases and versions that fully support Junos Space 11.1 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
- Specific Junos releases and versions that fully support Junos Space 11.1 Service Now are limited to the following:

- Junos Release 9.0 and later
- Specific Junos releases and versions that fully support Junos Space 11.1 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
- Specific Junos OS releases and versions that fully support Junos Space 11.1 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

Troubleshooting Junos Space

For information about troubleshooting Junos Space, see:

http://www.juniper.net/techpubs/en_US/junos-space2.0/topics/concept/junos-space-troubleshoot-overview.html

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.