

Juniper Networks

Junos Space 1.4 Release Notes

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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.



CAUTION: The Junos Space Upgrade supports only two consecutive releases. You can not directly upgrade from Junos Space release 1.0 or release 1.1. to release 1.4. Instead, indirectly upgrade from Junos Space release 1.0 or release 1.1 to release 1.2 or release 1.3 before upgrading to release 1.4. For more information, see the *Junos Space Network Application Platform User Guide*.

New Features

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

Base Junos Space Release 1.4 Contents

The base Junos Space release 1.4 upgrade includes:

- Network Application Platform Release 1.4 (The platform provides the operating environment for Junos Space, therefore upgrade using the Platform > Administration > Manage Application Upgrade Platform action.)
- Service Now Release 1.4

Junos Space 1.4 Hot-Pluggable Applications

The following applications are hot-pluggable in Junos Space Release 1.4. You can add, remove, and upgrade hot-pluggable applications while Junos Space is still running, and without service interruption. A hot-pluggable application is packaged separately and has a separate image file for installing and upgrading.

- Network Activate Release 1.4
- Service Now Release 1.4
- Virtual Control Release 1.4
- Security Design Release 1.4
- Ethernet Design Release 1.4

Upgrade to Junos Space Release 1.4 Methods

- Upgrade Junos Space release 1.2 to release 1.4 using **Platform > Administration > Manage Application > Upgrade Platform**.

- Upgrade Junos Space release 1.3 to release 1.4 using **Platform > Administration > Manage Application > Upgrade Platform**.

Scripts

Junos scripts are configuration and diagnostic automation tools provided by Junos OS software. Using the Scripts workspace, you can import Junos scripts into the Junos Space server and deploy and enable multiple scripts on one or more devices. After importing a script, you can view the contents of the script, modify it, and export it to your local file system. Once you deploy the scripts onto devices, you can enable, disable, and execute them on those devices. You can also remove these scripts from devices. To help ensure deployed scripts are not tampered with, you can verify their checksum. You can also schedule tasks to deploy, verify, enable, disable, remove, and execute scripts. The Scripts dashboard graphically displays the number of imported scripts and their types.

Export Physical Inventory

You can manage device inventory and export information in a comma-separated (.CSV) file format to other applications for asset management. Export device physical inventory from **Devices > Manage Devices > Export Physical Inventory**.

New Automatic Logout of Idle User Sessions Option in Modify Applications Settings

Junos Space automatically logs out an inactive user who is idle and has not performed any action, such as keystrokes or mouse clicks. This setting conserves server resources and protects the system from unauthorized access. Configure the Automatic Logout of Idle User Sessions option in minutes in the Modify Applications Settings dialog box that displays from **Platform > Administration > Manage Applications**. In the **Manage Applications** inventory page, select the **Network Application Platform** object, then select **Modify Application Settings**. The option setting range is from 0 (off) to 120 minutes; the default is 60 minutes.

Manage Roles

In addition to predefined roles, you can create user-defined roles for providing and fine-tuning user access privileges to Junos Space applications, workspaces, and tasks. To manage roles, select **Platform > Administration > Users > Manage Roles**. You can create user-defined roles per one workspace. You can also modify and delete roles.

Schedule Backup Databases As a Recurring Job

You can schedule database back up as a recurring job using **Platform > Administration > Manage Databases > Backup Database**. You set the repeat interval and the ending date and time. Manage Jobs and Audit Logs inventory display detailed information about a database backup job.

Manage and Share Tags

You can create tags to easily segregate, filter, or search for managed items on your network. From **Platform > Administration > Manage Tags**, you can share, rename, or delete tags. Shared tags are public and all Junos Space users can use them. Tags that you create are private until you have the Tag Administrator share them.

Known Issues

The following issues are known in Junos Space release 1.3 and release 1.4:

- Delay in page redraw is observed when viewing 100 items per page at zoom level 3 because of caching. [PR 533730]
- During upgrade some permissions errors display in error.log. However these permissions errors do not affect the upgrade and can be ignored. [PR 526934]
- In a Junos Space release 1.3 to release 1.4 upgraded setup, a Custom Service Definition appears as an option when you create a user role. This option is not valid, and you should ignore it. However, choosing the Custom Service Definition option by mistake does not impact functionality. [PR 543896]
- It is not possible to untag an object with a private tag, if you create a public tag with that same name. [PR 542862]
- In Junos Space, Op scripts with the .SLAX extension containing the match string `<op-script-out>` are saved as event scripts. (PR 546664)

Resolved Issues

The following issue has been resolved in the current release:

- When you attempt to deploy a device image on an EX4200 device, while a device image deployment on that same device is in progress, the second instance of image deployment fails. The error message does not state why image deployment failed. [PR 530366]

Virtual Control

Features

The core focus of Junos Space Virtual Control (JSVC) is to enable discovery, configuration, provisioning, and monitoring of the virtual switches which are part of the Virtual Network Infrastructure that provides connectivity among Virtual Machines (VMs). In Junos Space Release 1.4, JSVC supports VMware vNetwork Distributed Switch (vDS). Junos Space Virtual Control supports the following features for managing the VMware Virtual Network (vNetwork).

- **Virtual Network Inventory Management**—Junos Space Virtual Control discovers the complete vNetwork inventory consisting of vSphere Hosts, vSwitches, VMs and presents various views of the inventory to the operator. It also discovers any existing Port Group definitions on the vDS. Port Group is a collection of ports on the vDS which are on the same L2 network and share common network properties. This inventory is kept up to date by constantly monitoring events on the vNetwork.
- **Collaborative Management model** —Port Groups can be created by the network operator using JSVC and applied to the vDS. The Port Groups created in JSVC will be available to VMware vCenter Server users. Server administrator can create VMs on demand and associate them to Virtual Machines. In addition, Port Groups created via

VMware vCenter Server can also be discovered by Junos Space Virtual Control and allows a JSVC user to subsequently modify their configuration.

- **vSwitch Port Profiles**—vSwitch Port Profiles are a set of vNetwork related configuration parameters that a Network operator defines based on the networking needs. They can be used to define a common set of properties that are shared by multiple Port Groups on the vDS. It allows for easy and quick deployment of Port Groups. When a Port Group is created in JSVC it needs to be associated with a Profile. Separate profiles for Uplink Port Groups and Access Port Groups can be created. As part of discovery of Port Groups from vCenter Server, the network configuration is abstracted and Port Group Profiles are automatically created in JSVC.
- **P+V Dynamic Orchestrator**—JSVC constantly monitors the changes to the vNetwork and automatically provisions the physical network infrastructure. The following modes are supported for Orchestration:
 - **Strict**—Automates the setup of specific network policies (E.g. VLAN) on the physical switch ports spanning a server cluster, based on the corresponding configuration enabled on the vNetwork. This is the “connectivity for cluster” model.
 - **Very Strict**— Automates the setup of specific network policies (E.g. VLAN) on the physical switch ports spanning a server cluster, based on "active" policies being used by VMs in the vNetwork. Policies may be dynamically re-configured when a VM moves from one location to another. This is the “connectivity on demand” model.
- **Dynamic Synchronization**—JSVC monitors various network related notifications from vCenter Server for changes to the vNetwork inventory and Port Groups and keeps itself up-to-date whenever there is a change in the virtual network. This feature offers a collaborative management paradigm by synchronizing changes done by the server administrator and network administrators.
- **Variable Form Factors**—JSVC is available as an application on the Junos Space platform that comes in two form factors. You can run it as a Virtual Appliance on one of the VMware servers or on a dedicated Junos Space physical appliance. JSVC can be installed as a hot pluggable application on a Junos Space R1.4 installation.
- **Audit Log Support**—JSVC automatically records all the actions performed by users in the JSVC GUI. Administrators can check the user activity and generate the desired reports in user activity.
- **Private VLAN Support in Virtual Switch**—Private VLANs support is enabled in VMware vNetwork Distributed Switch. All the Private VLANs defined for a Virtual Switch will be automatically discovered by JSVC. Network Administrator can provision Port Groups to use the Private VLANs defined as part of the virtual switch.
- **Virtual to Physical mapper**—JSVC provides information on the network connectivity between the virtual and physical networks and the association of vSwitch uplink ports to external physical switch ports. JSVC supports import of a pre-defined physical topology. This helps network admin to plan the physical switch connectivity offline using a CSV file (file with comma separated values) and import them to JSVC.
- **Configuration Audit**—JSVC audits the configuration of the Uplink Port Groups in the virtual switch and the physical switch periodically. It generates an Audit reports by checking the feasibility of the current configuration to offer uninterrupted traffic to the

currently running VMs, feasibility of the current configuration to offer uninterrupted traffic after VM Migration and feasibility of the current configuration to support uninterrupted traffic if any new VM / Port Group is added. Auditing can also be triggered manually.

Operational Notes

- Junos Version 10.1R1 required for P+V orchestration support.
- JSVC has been qualified with EX4200 series of switches.
- JSVC has been qualified with VMware vSphere 4.0.
- Before triggering P+V Dynamic Orchestrator ensure that no other session (CLI / Web) is in Edit mode on the physical switches. Another session in edit mode will hold the orchestration operation till the session is completed.

Known Issues

- Job Progress view for Inventory Resynchronize job does not display the progress in actual terms. It displays the job at 0% till it is completed and transitions it to 100% once it is completed. [PR 552950]
- Some of the GUI pages like Job Manager may not refresh automatically. Please use the manual refresh to see the latest status. [PR 552955]
- Blocking (and unblocking) of virtual ports is allowed from JSVC even if the override policy is disabled in vCenter Server. [PR 552956]
- Special characters in Port Group Name other than Hyphen, Underscore & Space used in vCenter Server are NOT supported in Junos Space Virtual Control. Single quote allowed in VM name in vCenter Server is NOT supported in Junos Space Virtual Control. [PR 552960]
- Events from vCenter Server will not be received if the network connection of the vCenter Server is severed and reconnected. To remedy this Junos Space server needs to be restarted. [PR 552961]
- During Host and EX switch association, if the device is not in managed state or not in sync with the application, then an ID may be displayed instead of name for the short time while the device is synchronized with Junos Space. [PR 552965]

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. The Network Activate software supports multipoint-to-multipoint (full mesh) services and point-to-multipoint (hub and spoke) services.

New Features

The Network Activate application supports the following new features:

- **Aggregated Ethernet interfaces**—UNI interfaces for prestaged PE devices can be aggregated Ethernet (ae) interfaces.
- **Fast Ethernet interfaces**—UNI interfaces for prestaged PE devices can be Fast Ethernet (fe) interfaces. Fast Ethernet (fe) interface support is limited to specific Ethernet service configurations (on M Series devices with Junos 10.2R1.6). See “Prestaging Devices Overview” in the Network Activate user documentation for more information.
- **Force Deploying a Service**—When a service fails a configuration audit because configuration changes on a PE device do not match the configuration required for the service, you can force deploy the service to push the configuration to the device. Force Deployment pushes the same configuration to the device that was pushed during the deployment of the service, thus allowing the operator to recover from a state in which the configuration on the device was lost or changed out-of-band.
- **Multihomed groups**—Create one or more multihomed groups to connect a customer site to multiple N-PE routers to provide redundant connectivity across a VPLS site while preventing the formation of Layer 2 loops in the service provider’s network. A VPLS site multihomed to two or more N-PE routers provides redundant connectivity in the event of a PE-router-to-CE-device link failure or the failure of an N-PE router.

Network Activate Release 1.4 Issues

There are no known issues in the Network Activate 1.4 release.

Operational Notes

Sorting is disabled in the Manage Service Order > Create P2P/VPLS Service Order workspace.

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

This release of Junos Space Ethernet Design does not introduce new features.

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:

- **Decommission VPNs and Security Policies**—The decommission workflow for VPNs and security policies allows you to decommission the VPNs and security policies you have provisioned. You can also decommission a VPN or a security policy using the delete workflow. The decommission workflow wipes all configuration data pushed to the security devices from the VPN or security policy that is decommissioned.
- **Provisioning States**—The state of the VPNs and security policies created using Security Design is indicated using overlay icons. The overlay icons help you identify VPNs and security policies that are created but not provisioned, partially provisioned, and provisioned on security devices.

Resolved Issues

- If you delete VPN or security policy configurations from Junos Space and the security devices on which these VPN or security policy configurations are provisioned, and try to provision a new VPN or security policy configuration to these security devices, the new VPN or security policy configurations will not be provisioned to these devices. Workaround: To create a new VPN or security policy configuration on a security device after deleting an old VPN or security policy configuration, delete the configuration from the device and from Junos Space. Delete and add the security device to Junos Space. [PR 529769]
- While creating a VPN profile in the Main mode, if an IKE Identity type other than the IP address is used, any VPN which uses this VPN profile will not be successfully provisioned. Workaround: Always select IP Address as the IKE Identity type while creating a VPN profile. [PR 530857]
- If you create a VPN profile in the Aggressive mode with the IKE Identity type as User@hostname, and modify the VPN profile using the modify VPN workflow, the changes won't take effect if you click Finish in the first screen of the Modify VPN wizard. Workaround: Click the Finish button in the second or third screen of the Modify VPN wizard. [PR 530859]
- While creating a security policy between two domains using Policy Designer, if you edit a rule using the Advanced Settings tab, enable the Redirect or Reverse Redirect option, and use this Redirection option explicitly for this rule, the Redirection-related changes will not be pushed to the device when the security policy is provisioned. Workaround: For any changes with respect to the Redirection options, create a policy profile with the intended Redirection options and use this policy profile with the security policy for which you want specific Redirection options configured, instead of modifying the rule to incorporate the Redirection options. However, all rules in the security policy will use the Redirection options used in the policy profile. [PR 530934]
- While creating a VPN, if you disassociate an address object from a device and associate it to another device, the endpoint marking for the VPN may not be correct. For example,

the VPN may still mark the device from which the address object was disassociated as the endpoint. [PR 531839]

- Deleting a device used in a VPN in Junos Space, and modifying that VPN by adding another device will cause a Null Pointer exception when the VPN is provisioned. Workaround: In addition to deleting the device from Junos Space, delete the VPN configuration which uses this device in Junos Space. Create a new VPN configuration and provision it.

We recommend that you unmark a device as endpoint using the Modify VPN workflow before deleting the device in Junos Space. You should then add another device as endpoint, save the VPN, and provision it. [PR 531841]

Known Issues

- If you create two Provisioning Jobs to simultaneously provision two VPNs that use a common set of security devices, only the first Provisioning Job will succeed. The second Provisioning Job fails and displays an incorrect error message.

Workaround: You can either re-provision the second VPN that failed to provision after the first VPN's Provisioning Job is complete, or provision these VPNs, one at a time, ensuring that the first VPN's Provisioning Job is complete before you start provisioning the next one.

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

Service Now includes the following new features:

- **Associating multiple organizations with connected members:**— You can associate a connected member with any Service Now organization. This allows you to open JTAC cases using a specific site id for a connected member. You can also associate multiple connected members to individual Service Now organizations to open cases under the same site id.
- **Setting JMB filters at an organization level**—You can specify a particular JMB filter level for individual organizations and connected members. The JMB filter level is the amount of device configuration information in a JMB that a Service Now partner shares with JSS, and an end customer shares with the Service Now partner.

Known 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]

- 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]

Web Browser Issues

The Junos Space user interface runs only on Mozilla Firefox versions 3.0 through 3.6 and Internet Explorer version 7 and later.

Documentation Issues

The following updates to the Junos Space 1.4 installation documentation are available:

- The Junos Space Virtual Appliance installation documentation incorrectly describes NTP server set up for each additional node in a fabric after installation of the first node (virtual appliance). The documentation incorrectly states that "all nodes in a fabric must use the same external NTP source that you configure for the first appliance." The actual behavior is that the first appliance in a fabric has the option of pointing to an NTP server. Additional nodes installed into the same fabric will automatically get their time setting from the first node in the fabric without any additional NTP server configuration.
- The Junos Space Virtual Appliance installation supports the ESX server and ESXi server. You can use either the ESX server Version 3.5 or later, or ESXi server, Version 4.0 or later.

Junos Compatibility

- Specific Junos OS releases and versions that fully support Junos Space 1.4 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
 - 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
- Specific Junos OS releases and versions that fully support Junos Space 1.4 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
- Specific Junos releases and versions that fully support Junos Space 1.4 Service Now are limited to the following:
 - Junos Release 9.0 and later
- Specific Junos releases and versions that fully support Junos Space 1.4 Ethernet Design are limited to the following:
 - Junos OS Release 9.6R1, R2, R3, R4
 - Junos OS Release 10.0R1, R2, R3
 - Junos OS Release 10.1R1, R2, R3
 - Junos OS Release 10.2R1, R2
 - Junos OS Release 10.3R1
- Specific Junos OS releases and versions that fully support Junos Space 1.4 Security Design are limited to the following:
 - Junos OS Release 10.2R1, R2
 - Junos OS Release 10.3R1

Troubleshooting Junos Space

For information about troubleshooting Junos Space, see:

http://www.juniper.net/techpubs/en_US/junos-space1.4/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.