

Junos[®] Space Network Director Release 1.5 Release Notes

Release 1.5
16 October 2013

Junos Space Network Director enables unified management of Juniper Networks EX Series Ethernet Switches, EX Series Ethernet switches with ELS support, QFX Series switches, QFabric, wireless LAN devices, and VMware vCenter devices in your network.

Contents

Network Director Release Notes, Release 1.5	2
Overview	2
New Features for Network Director in Release 1.5	2
Junos Space Network Management Platform Requirements	6
Supported Platforms for Network Director in Release 1.5	6
Installation Instructions for Network Director Application and Network Director API, Release 1.5	7
Junos Space DMI Schema Requirements for Network Director	8
Installation and Upgrade Scripts	9
Operational Notes on General Interface Use	9
Operational Notes on Device Discovery and Management	10
Known Issues in Network Director Release 1.5	10
Known Limitations in Network Director Release 1.5	20
Junos Space Documentation and Release Notes	20
Documentation Feedback	21
Requesting Technical Support	21
Self-Help Online Tools and Resources	21
Opening a Case with JTAC	22
Revision History	22

Network Director Release Notes, Release 1.5

- [Overview](#)
- [New Features for Network Director in Release 1.5](#)
- [Junos Space Network Management Platform Requirements](#)
- [Supported Platforms for Network Director in Release 1.5](#)
- [Installation Instructions for Network Director Application and Network Director API, Release 1.5](#)
- [Junos Space DMI Schema Requirements for Network Director](#)
- [Installation and Upgrade Scripts](#)
- [Operational Notes on General Interface Use](#)
- [Operational Notes on Device Discovery and Management](#)
- [Known Issues in Network Director Release 1.5](#)
- [Known Limitations in Network Director Release 1.5](#)

Overview

Junos Space Network Director enables unified management of Juniper Networks EX Series Ethernet Switches, EX Series Ethernet switches with ELS support, QFX Series switches, QFabric, wireless LAN devices, and VMware vCenter devices in your network. It provides full network life cycle management by simplifying the discovery, configuration, visualization, monitoring, and administration of large networks containing physical and virtual devices. The software images for Network Director, Network Director API, Junos Space Management Platform, additional scripts, Network Director API Reference documentation, and the release notes for Network Director Release 1.5 are available at: [Junos Space and Junos Space Network Director Download](#) page.

New Features for Network Director in Release 1.5

Network Director Release 1.5 introduces the following features:

- **Virtualization support**—Beginning with Release 1.5, you can use Network Director to discover and monitor VMware vCenter servers, virtual switches, and virtual machines that are part of your virtual network. You can also consistently and seamlessly orchestrate the physical components of your network. You can also view the connectivity details between the physical network and the virtual network by using the View Virtual Network Connectivity feature.
- **Support for data center devices**—Network Director now supports the data center switches QFX3500 and QFX3600 and also QFabric systems (QFX3000-G and QFX3000-M). In addition to this, Network Director automatically converts the EX4500 and EX4550 switches in your network to data center switches that support all the data center functionality. You can discover, manage, and monitor the data center devices within your network by using Network Director. In addition to this, Network Director enables you to perform the following important tasks on your data center devices:

- Use the Port Conversion feature to configure the 40-Gigabit Ethernet QSFP+ ports on QFX Series devices to operate as four 10-Gigabit Ethernet (xe) ports or one 40-Gigabit Ethernet (XLE/FTE) port.
- Set up and monitor node aliases, node groups, and control plane network of a QFabric system. Node aliases replace the hardware serial numbers of components, making it easier to identify system devices and simplifying configuration tasks. Node groups help you combine multiple node devices into a single virtual entity within the QFabric system to enable redundancy and scalability at the edge of the data center. The control plane network connects the Director group to the management ports of the node and Interconnect devices.
- Configure Multichassis Link Aggregation Groups (MC LAGs)—MC LAG is a type of LAG with constituent ports that terminate on separate chassis, thereby providing node-level redundancy. MC LAG is supported on QFX Series devices. MC LAG is applicable only for QFX3500 and QFX3600 switches.
- Use the fabric analyzer to analyze a QFabric system and generate a report.

For details about these data center devices, see [QFX Series Switch and QFabric documentation](#).

- **Support for new EX Series Ethernet switches and Enhanced Layer 2 Switching (ELS) support**—In addition to the EX Series switches that are already supported, Network Director now enables you to discover, manage, and monitor Juniper Networks EX9200 and EX4300 Ethernet Switches. EX9200 switches support current and planned SDN interfaces and protocols, offering the flexibility and scalability to increase business agility by simplifying the deployment and operation of cloud applications, server virtualization, and rich media collaboration tools across campuses and data centers. The EX4300 switches provide connectivity for high-density environments and scalability for growing networks. These switches can be deployed wherever you need high density of Gigabit Ethernet ports (24 to 48 ports) or redundancy. For details about these switches, see [EX Series Ethernet Switches documentation](#).
- **Network Director API**—Network Director now provides users with a set of software orchestration services that exposes a set of Representational State Transfer (REST) APIs. The REST APIs enable network management functions, including:
 - Virtualization of cloud and datacenter operations
 - Provisioning of secure multitenant networks in a shared network infrastructure
 - Support for Layer 2, Layer 3, security, and Internet services
 - Support for a single point of integration with external cloud and datacenter orchestration tools

Before you install or test the Network Director API, see [Junos Space Network Management Platform Requirements on page 6](#).

- **Topology view**—Topology enables you to view all the discovered devices in your network, overlaid on a map. You can use the Topology view to zoom in or out of a site or a building. You can navigate to the level of racks located in a lab in a building. You can also see the connectivity between a device and its immediate neighbors, alarms details, and so on. Topology enables network administrators in debugging, troubleshooting,

planning and executing administrative actions effectively with the complete network in mind.

- **Zero touch provisioning for switches**—Zero touch provisioning enables you to provision new Juniper Networks switches in your network automatically, without manual intervention. When you physically connect a switch to the network and boot it with a default factory configuration, it attempts to upgrade the Junos OS automatically and autoinstall a configuration file from the network. After a successful upgrade, the switch sends out the trap message to Network Director to announce that a new switch has been deployed in the network. If the trap message is successfully received, Network Director adds the switch to the Network Director's inventory. This eliminates the need to manually discover new devices that are added to your switching network.
- **Support for JunosV Wireless LAN Controller**—In addition to the wireless LAN controllers supported in earlier releases, Network Director now supports the virtualized wireless LAN controller, JunosV Wireless LAN Controller. The next-generation Juniper Networks JunosV Wireless LAN Controller is a virtual controller that uses a cloud-based architecture with physical access points. The current functionality of a physical controller is available on the virtual controller, and the virtual controller can support up to 256 access points.
- **Custom groups**—Network Director now enables you to create a device group; add switches, controllers, and access points to the group; and name that group. By creating such custom device groups, you can configure multiple devices simultaneously—you can create multiple custom groups and directly associate devices at any level. You can also configure a custom group to automatically add devices after discovery in a hierarchy of up to eight levels deep.
- **Changes to profiles**—With the introduction of the new device families to be managed, Network Director now enables you to create profiles for these device families. These profiles can then be deployed on devices that belong to these device families. In addition to the profile configurations supported on the non-ELS platforms of EX Series switches in earlier releases, the following profiles now support configurations for the new device families—EX Series switches with ELS (EX4300, EX9200 switches) and Data Center devices (QFX3500, QFX3600, EX4500, EX4550 switches, QFabric systems) as listed:
 - Device Common Settings profile—EX Series switches with ELS, Data Center devices
 - VLAN profile—EX Series switches with ELS, Data Center devices
 - Port profile—EX Series switches with ELS, Data Center devices
 - Access profile—EX Series switches with ELS, Data Center devices
 - Authentication profile—EX Series switches with ELS, Data Center devices
 - Filter profile—EX Series switches with ELS, QFX Series switches, Data Center devices
 - CoS profile—EX Series switches with ELS, Data Center devices
 - Radius profile—Applicable for all devices
 - LDAP profile—EX Series switches with ELS and Wireless devices

- **Fabric profile**—New profile for QFX Series devices. Fabric profile contains configuration settings for a gateway Fibre Channel (FC) fabric. You assign Fabric profiles to QFX Series devices that act as a FCoE-FC gateway, to configure gateway FC fabrics.
- **FC Gateway Service profile**—New profile for QFX Series devices. Gateway service profile supports configuring FC gateways on QFX devices. An FC gateway creates associations that connect FCoE devices with converged network adapters (CNAs) on the Ethernet network to an FC switch on the Fibre Channel network.
- **Port groups**—You can configure port groups for your campus switching devices. Port groups enable you to combine ports on various EX Series switches and configure them simultaneously, thereby simplifying the task of port configuration.
- **Profile cloning**—You can now create a replica of a profile in Network Director by using the profile cloning functionality. The profile cloning functionality enables users to clone a profile and make changes to the configuration without altering the profile that is being used by a device or port in your network, thereby eliminating the need to create a new profile from scratch.
- **Changes to Port profile assignment workflow**—You can no longer associate a VLAN profile to an interface. Instead, you must specify a VLAN profile while creating a Port profile and the Port profile can then be assigned to an interface. With this change, You can now assign VLANs based on the type of interface or designate VLANs as voice and native VLANs.
- **Enhancements to search functionality**—The search functionality in Network Director enables you to search for specific values in most of the tables available from the Network Director user interface. You can also use the wildcard character (*) to perform iterative search on each column in a table.
- **Enhancements to monitoring and fault management**—These enhancements to monitoring and fault management are provided:
 - Monitoring QFabric components such as directors, interconnects, and nodes.
 - Analyzing QFabric systems for health and connectivity.
 - Device fingerprinting (categorizing clients by criteria such as SSID and device type).
 - Locating end points on the network.
 - Session roaming history.
 - Real-time device statistics comparison.
 - Monitoring custom groups.
 - Mapping faults to top of rack nodes.

You can now use monitoring and fault management for the following devices—WLC100 Wireless LAN Controller, JunosV Wireless LAN Controller (also referred to as WLC-V), EX4300 switches, EX9200 switches, QFX standalone devices

For information about these features, see the product documentation that is available from the Network Director user interface or see <http://www.juniper.net/techpubs/>.

Junos Space Network Management Platform Requirements

Network Director Release 1.5 is supported on Junos Space Network Management Platform Release 13.1P5. Network Director Release 1.5 is also supported on Junos Space Network Management Platform Release 13.1P1. However, with Junos Space Network Management Platform Release 13.1P1, you may not be able to perform the complete search functionality in Network Director.

Network Director API Release 1.5 is supported only on Junos Space Network Management Platform Release 13.1P5.

Network Director is supported on a Junos Space JA1500 Appliance or a Junos Space Virtual Appliance that meets the hardware requirements specified in the Junos Space documentation. It is not supported on a Junos Space instance running on a Juniper Networks NSM3000 appliance.

Supported Platforms for Network Director in Release 1.5

Table 1 on page 6 lists the supported platforms and the corresponding qualified Junos OS releases, Mobility System Software (MSS) releases, or VMware releases:

Table 1: Supported Platforms and the Software Versions for Network Director

Supported Platforms	Qualified Junos OS, MSS, or the ESXi Releases
EX Series Switches:	Junos OS Releases 12.1, 12.2, 12.3, and 13.2X50-D10.2
EX2200 and EX2200-C (standalone and Virtual Chassis) and EX3200	
EX3300 (standalone and Virtual Chassis)	
EX4200 (standalone and Virtual Chassis)	
EX4500 (standalone and Virtual Chassis)	
EX4550 (standalone and Virtual Chassis)	
Mixed EX4200, EX4500, and EX4550 Virtual Chassis	
EX6200	
EX8200 (standalone and Virtual Chassis)	
EX Series Switches with ELS:	Junos OS Release 13.2X50-D10.2 for EX4300
EX4300 (standalone and Virtual Chassis)	Junos OS Release 13.2R1 for EX9200
EX9200	NOTE: The access profile configuration and the port security configuration that are part of the Port profile configuration might not work on EX9200 switches that run Junos OS Release 12.3R2.5.
WLC Series wireless LAN controllers:	MSS Releases 7.7 and 8.0 for WLC2
WLC2	MSS Releases 7.7, 8.0, and 9.0 for other controllers
WLC8	
WLC800	
WLC880	
WLC2800	
WLC200	

Table 1: Supported Platforms and the Software Versions for Network Director (*continued*)

Supported Platforms	Qualified Junos OS, MSS, or the ESXi Releases
JunosV wireless LAN controller WLC100	MSS Release 9.0
WLA Series wireless LAN access points: WLA321 WLA322 WLA422 WLA432 WLA522 WLA532 WLA620 WLA622 WLA632	MSS Releases 7.7, 8.0, and 9.0
Data center switches: QFX3500 QFX3600 QFabric systems (QFX3000-G and QFX3000-M)	Junos OS Releases 12.3X50-D30.2 or 12.3X50-D35 for QFX3500 and QFX3600 Junos OS Release 13.1X50-D15 for QFabric systems NOTE: Junos OS Release 13.1X50-D15 and Release 12.3X50-D35 will release soon after Network Director 1.5.
VMware vCenter server VMware host	VMware ESX versions 4.0 and 4.1 VMware ESXi versions 5.0 and 5.1

Installation Instructions for Network Director Application and Network Director API, Release 1.5

Before you begin to install Network Director Release 1.5, ensure that the Network Management Platform is at the required release with the latest patch release installed. See [Junos Space Network Management Platform Requirements on page 6](#) for requirements information.



NOTE: If you have installed Network Director Release 1.5 Beta on the same Junos Space appliance, then you must uninstall it before installing Network Director Release 1.5.



NOTE: If you have Junos Space Virtual Control installed on your Junos Space Network Management Platform, you must uninstall it and run the clean up script before you install Network Director. You can download the cleanup script for Virtual Control from the [Junos Space and Junos Space Network Director Download](#) page.

The software image for Network Director Release 1.5 enables you to install Network Director and Network Director API together.

A prescribed order is always required for installation or upgrade of Network Director and Network Director API. Use the following table to determine the prescribed order of tasks for your installation or upgrade:

Type of Upgrade or Installation	Order of Installation Required
New Installation—Network Director and Network Director API	<ol style="list-style-type: none"> 1. Install or upgrade to a supported release of Network Management Platform. See Junos Space Network Management Platform Requirements on page 6 for requirements information. 2. Install Network Director, Release 1.5. Once the installation is complete, the system lists Network Director and Network Director API in the installed applications list. 3. Only for Network Director API, import the network topology and the static configurations.
Upgrade from Release 1.0 or 1.1—Network Director, Release 1.5	<ol style="list-style-type: none"> 1. Upgrade to a supported release of Network Management Platform. See Junos Space Network Management Platform Requirements on page 6 for requirements information. 2. Install Network Director, Release 1.5.

For detailed instructions about installing Network Director and Network Director API, see *Network Director Quick Start Guide*.

Junos Space DMI Schema Requirements for Network Director

In most installations, Junos Space automatically matches DMI schemas to device families. But there might be certain situations where your network uses a device for which Junos Space does not have the latest or supported schema available. In such instances, you must obtain and upload the requisite schema and set it as the default DMI schema for each device family. Set a default DMI schema for each device family to enable Junos Space to apply an appropriate schema to a device family.

[Table 2 on page 8](#) lists the latest DMI schema that you must obtain and upload in Junos Space before you start working on Network Director Release 1.5:

Table 2: DMI Schemas

Device	Name of the DMI Schema	Device Family
EX4300 EX9200	JUNOS 13.2X50-D10.2	junos-ex
MX Series (applies to Network Director API only)	JUNOS 12.3R4.6	junos
QFabric devices	JUNOS 13.1X50-D15	junos-qf
QFX3500 QFX3600	JUNOS 12.3X50-D30.2	junos-qfx

Table 2: DMI Schemas (*continued*)

Device	Name of the DMI Schema	Device Family
SRX Series (applies to Network Director API only)	JUNOS 12.1R7.9	junos-es

For detailed steps on acquiring and uploading the schema files, see the *Junos Space Documentation* or [Managing DMI Schemas Overview](#).

Installation and Upgrade Scripts

You must run these scripts, if your Junos Space or Network Director setup is for the scenario described against each script:

- **setupMySQLForND.pl**—If you plan to manage more than 1000 devices or a multi-node cluster using Network Director. This script is available in the `/var/www/cgi-bin` directory of the Junos Space Virtual Machine.

Navigate to this directory and run the script by typing

perl setupMySQLForND.pl 'Number of Fabric Nodes in Space Cluster' 'Number of Devices (to be) Managed in ND'

For example, type **perl setupMySQLForND.pl 2 2500**, if you have two fabric nodes and 2500 devices to manage from network Director.

- **clean_vc_jobs.sh**—If Junos Space Virtual Control is installed on the same Junos Space appliance on which you want to install Network Director Release 1.5, you must run this script after uninstalling Virtual Control, but before installing Network Director. This script is available for download from the [Junos Space and Junos Space Network Director Download](#) page

The README file for these scripts provide detailed steps about how to use these scripts.

Operational Notes on General Interface Use

- The minimum supported screen resolution is 1280 x 1024. If your screen resolution is less than the supported resolution, the Network Director UI might not be displayed properly. For example, icons might not be displayed on the Network Director banner, pages might appear truncated, or scroll bars might not work correctly.
- The supported Web browsers are Google Chrome version 17 and later, Mozilla Firefox version 14.0 and later, and Internet Explorer version 9.0 and 10.0.
- Network Director does not support cold migration of virtual machines. Cold migration is the migration of a virtual machine that is powered-off.
- You can log in directly to Network Director without logging in to the Network Management Platform first. To do so, use the URL:

`https://junos-space-host/networkdirector`

For example: **https://10.20.30.40/networkdirector**

The default username and password are **super** and **juniper123**.

- If you have been logged in to Network Director for a long period of time, the connection to the server might be lost. Monitoring screens might be blank or you might not be able to access tasks. To resolve this, log out of Network Director and then log in again.
- Internet Explorer slows down because some scripts might take an excessive amount of time to run. The browser prompts the user to decide whether to continue running the slow script. Refer to <http://support.microsoft.com/kb/175500> to fix this issue.
- If you receive Java exception error message when you perform an operation, retry the operation. The error condition is usually temporary and harmless.
- In large-scale environments, it might take some time for the network tree in the View pane to reflect changes such as newly discovered devices or newly created locations.

Operational Notes on Device Discovery and Management

- For Network Director to be able to discover and manage devices, the following protocol ports must be open between the Junos Space Network Management Platform server and the devices:
 - Port 22 for SSH connections. If you have changed the SSH port to a port other than port 22 on your Network Management Platform, you must change the SSH ports on your managed devices to the port that the Network Management Platform is using.
 - Port 443 for virtualization support. Use port 443 for outbound traffic to vCenter servers.
 - Port 10162 for SNMP traps. Network Director receives traps from managed devices on this port. (After you install Network Director, use Network Director to configure SNMP on your devices to send traps to Network Director on this port.)
 - Port 8889 for the management of wireless LAN controllers.
 - Port 21 (TCP) and port 69 (UDP) for uploading the software image and configuration file to the FTP server.

You can verify that the ports are open to the devices by logging in to the Network Management Platform CLI and executing the **nmap** command. For example, to verify that port 8889 is open to a controller, enter:

```
root@space# nmap <controller-ip-address> -p 8889
```

Known Issues in Network Director Release 1.5

The following are known issues in Network Director Release 1.5.

PR Number	Problem Description
Installation and Upgrade Issues	
881653	<p>The system does not prevent the installation of Network Director Release 1.5 on Junos Space even if Junos Space already has Virtual Control installed. Virtual Control and Network Director cannot coexist on the same Junos Space appliance.</p> <p>Workaround: Ensure that Virtual Control is uninstalled cleanly from Junos Space before you install Network Director. For detailed steps, see <i>Network Director Quick Deployment Guide</i>.</p>

PR Number	Problem Description
General User Interface and Preferences Issues	
911626	<p>Not able to search with partial characters based on the name column everywhere.</p> <p>Workaround: Use a wildcard (*) to perform the search.</p>
General Build Mode and Deploy Mode Issues	
957213	<p>If the host name of Nodes or Interconnects that belong to different QFabric systems are identical, Network Director displays the links in the QFabric topology only for the QFabric system that was discovered first. Links for the subsequent QFabric systems are not displayed.</p> <p>Workaround: You must change the hostnames of Nodes or Interconnects to ensure that the hostnames are unique. After you do this, rediscover or resynchronize the QFabric system from Network Director.</p>
960716	<p>Alarms generated on QFX devices are not displayed in the Topology view.</p> <p>Workaround: Use the Fault mode to view alarms for QFX devices.</p>
962676	<p>Search by "MAC Address" and "Discovered Through" fields does not work in the Manage Network Adapter Associations page.</p> <p>Workaround: None available at present.</p>
963883	<p>Virtual Topology view displays incorrect details if there are physical NICs on hosts that are connected to multiple TORs on a QFabric system.</p> <p>Workaround: None available at present.</p>
945107	<p>While deploying a Port profile of type Switched Uplink on QFX devices, Network Director does not deploy the classifier associations to the interface. As a result, after deployment if you re-synchronize the device from Network Director, duplicate CoS profiles and Port profiles are created in Network Director.</p> <p>Workaround: Clone the default COS profile named "juniper_DC_Hier_Ethernet_CoS". Attach the cloned profile to the Switched Uplink Port profile and deploy the profile to the QFX devices.</p>
946576	<p>If an access point's serial number contains Capital letters, Network Director creates duplicate access points in the Inventory and Tree view.</p> <p>Workaround: None available at present.</p>
947690	<p>Network Director does not promote a port profile if the trunk port is having vlan "all" as membership.</p> <p>Workaround: None available at present.</p>
963603	<p>Network Director does not support configuring WLA with model WLA532E-WW for the country code RU (Russia).</p> <p>Workaround: You can configure WLA with model WLA532E-WW for the country code RU (Russia) using the CLI or RingMaster.</p>

PR Number	Problem Description
936543	<p>Automatic profile creation (as part of device discovery or out-of-band changes) job fails with error org.hibernate.exception.DataException: Could not execute JDBC batch update for EX Series switches with ELS (EX92xx and EX43xx) if user has configured the login users with authentication type as ssh-dsa/ssh-ecdsa/ssh-rsa.</p> <p>Workaround: Delete the authentication types ssh-dsa/ssh-ecdsa/ssh-rsa of login users and rediscover the devices from Network Director.</p>
925272	<p>If firewall in is disabled and enabled again in Junos Space, then file transfer through FTP and TFTP fails in the Zero Touch Provisioning setup. By default firewall is enabled on Junos Space.</p> <p>Workaround: Execute following commands in space shell mode: modprobe ip_conntrack_ftp modprobe ip_conntrack_tftp</p>
926625	<p>Manage port admin state changes are not reflecting the exact state (UP/DOWN) in ND for the interfaces that are made UP/DOWN from ND if space is running in SSOR mode.</p> <p>Workaround: None available at present.</p>
914437	<p>In Network Director, out of Sync devices are not listed in the Resynchronize Device page after upgrading from network Director Release 1.1 to Release 1.5. This issue is seen only when Space is in SSOR mode.</p> <p>Workaround: Delete and Rediscover the devices after upgrading to Network Director Release 1.5.</p>
928148	<p>The Filter Functionality is not applicable for the Virtual View. However, if you have filters set in any other view - Logical, Location, Device- they are visible in the Virtual view also. When you clear the filters in the Virtual view, the filter is deleted from all other views as well.</p> <p>Workaround: None available at present.</p>
929451	<p>In some instances, after installing Network Director you may not be able to discover devices.</p> <p>Workaround: Restart the JBoss process by issuing the CLI command, service jboss restart and try discovering the devices.</p>
859616	<p>VSTP configurations deployed on a device through Device Common Settings profile fails, if you have more than 253 VLANs configured.</p> <p>Workaround: Disable the configurations from the Device Common Settings profile and try again. Use the CLI to enable VSTP on the device.</p>
889020	<p>Deployment fails for a VLAN profile that has a routing instance when more than one VLAN is deployed on a routing instance at the device level.</p> <p>Workaround: None available at present.</p>
867666	<p>Converting AUTO AP to configured AP is not deploying tags of all the local switching VLANs.</p> <p>Workaround: Configure the VLAN tags using the CLI.</p>

PR Number	Problem Description
930202	<p>Interfaces that are already part of other aggregated ethernet (ae) interfaces are listed in Port profile and FC Gateway Service profile assignment work flow. Assigning profiles to such interfaces will result in deployment failures.</p> <p>Workaround: You must not assign Port profiles or FC Gateway Services profile to interfaces that are part of any other aggregated ethernet interfaces.</p>
887143	<p>When device discovery fails (due to various reasons), Network Director does not display the LLDP data related to virtual networks.</p> <p>Workaround: LLDP data is resynchronized periodically—every 1 hour. The LLDP data that was missed during a device discovery failure situation, will be refreshed and updated in Network Director as part of the next resynchronization. Alternatively, you can initiate a manual vNetwork Resynchronization from the Manage vNetwork page.</p>
899922	<p>In Network Director running in SSOR mode, the status of the following devices will not change to out-of-sync for any out of band changes and Network Director will not be able to reconcile those out-of-band changes.</p> <ul style="list-style-type: none"> • QFX3500 or QFX3600 devices running Junos OS Release 12.3X50-D30.2 • EX4300 devices running Junos OS Release 13.2X50-D10.2 • EX9200 devices running Junos OS Release 12.3R2 <p>Workaround: Upgrade the QFX devices to Junos OS Release 12.3X50.D35. Upgrade EX4300 switches to Junos OS Release 13.2X50-D15.3 and EX9200 switches to Junos OS Release 13.2R1.</p>
912243	<p>Deploying a Fabric profile that has the same name, but a different fabric ID, as an existing one, from Network Director removes the interface association of the existing fabric profile from the device.</p> <p>Workaround: Avoid deploying a Fabric profile that has the same name as an existing one on to the device.</p>
914864	<p>In Network Director, you cannot delete interface associated to Port profiles that are automatically created by Network Director as part of device discovery or out-of-band changes, if they are part of the interface-range stanza.</p> <p>Workaround: None available at present.</p>
924889	<p>In Network Director, Enable DHCP Snooping check box in the VLAN profile page is shown as enabled by default for family ELS device.</p> <p>Workaround: None available at present.</p>
926631	<p>In Network Director, L3-Interface IP address is not promoted if vlan.x is used instead of irb.x under "vlan l3-interface" stanza.</p> <p>Workaround: Use L2NG irb.x naming convention instead of vlan.x.</p>
917106	<p>In a QFabric setup that has 2 Virtual Chassis, even though the node devices are connected to both the Virtual Chassis, Fabric Analyzer will be able to detect only the link to the master Virtual Chassis.</p> <p>Workaround: None available at present.</p>

PR Number	Problem Description
919718	<p>After sorting the columns in Node group page, editing the Node groups edits the wrong node group.</p> <p>Workaround: Close and reopen the Manage Node Group page, and without sorting, select the node group that you want to edit and click Edit.</p>
929278	<p>The Data Center Port Profile Assignment page also displays EX4300 and EX9200 switches.</p> <p>Workaround; Ensure that you do not assign profiles created for data center devices, to these EX Series switches.</p>
901454	<p>Reconciliation for a controller fails, with hibernate exception, when multiple controllers are reconciled together.</p> <p>Workaround: Select a maximum of up to 2 controllers for each reconciliation task.</p>
922660	<p>For Manage LAG, deployment might fail for MC-LAG configurations if ICCP settings with LAG is not configured.</p> <p>Workaround: Configure MC-LAG and ICCP settings and try again.</p>
924433	<p>In Fabric Analyzer, the connections between Directors will not be shown in Control Plane topology.</p> <p>Workaround: None available at present.</p>
925774	<p>In the Edit Assignment page for port profile with family Routing, on clicking Device name > Define, the system prompts you to configure Authentication profile which is not required for port profile of family Routing.</p> <p>Workaround: Ignore this message and proceed with the workflow by clicking the Next button</p>
927258	<p>You cannot delete a LAG associated with ICCP-LAG settings, unless the MC LAG is completely deleted.</p> <p>Workaround: Delete all the MC-LAGs and then the deployment.</p>
922191	<p>The Manage ICCP Settings window, that opens from the Manage LAG and the Manage MC-LAG pages, accepts invalid IP addresses for Local IP, Peer IP, and Liveness detection backup peer IP fields. If you enter an invalid IP address in any of these fields, Network Director will not deploy this configuration on the device.</p> <p>Workaround: You must enter a valid IP addresses in these fields or configure the correct values using the CLI and resynchronize the device.</p>
924880	<p>Network Director allows you to assign Fabric or FC Gateway Service profile to different TORs on the same QFabric, when you try to perform multiple assignments on the same QFabric.</p> <p>Workaround: You must not try to assign the same Fabric or FC Gateway Service profile to different TORs on the QFabric using the assignment workflow multiple times.</p>
867593	<p>Access points are duplicated in the tree in some auto AP-related scenarios.</p> <p>Workaround: None available at present.</p>

PR Number	Problem Description
867634	<p>The access point count values might be different in the Equipment Summary By Type Detailed view and in the Equipment Summary By Type pie-chart view (shown in the Summary tab in Monitor mode at My Network level in Network Director).</p> <p>Workaround: None available at present.</p>
901930	<p>You create an Authentication profile with the authentication method—captive portal or 802.1x—and include an Access profile to it, and deploy it using a Port profile. Network Director associates the Access profile to both captive portal and 802.1x even though you configured only one of these authentication methods while creating the Authentication profile.</p> <p>Workaround: None available at present.</p>
841306	<p>Network Director does not support VVRP-Group configuration. If you change the unit number of the irb interface, then you must explicitly configure the vrrp-group configuration on the device for the new logical interface.</p> <p>Workaround: None available at present.</p>
924471	<p>For Transit switches there is no way to configure extended DHCP relay and to enable https protocol from the Device Common Settings profile.</p> <p>Workaround: Configure DHCP relay from the CLI.</p>
885554	<p>When you initiate a nonstop software upgrade (NSSU) for an EX8200 Virtual Chassis, all the member switches may not get upgraded. However, Network Director shows the job as successful even though all the member switches are not upgraded.</p> <p>Workaround: None available at present.</p>
901260	<p>Nonstop software upgrade (NSSU) does not work as expected for QFabric systems.</p> <p>Workaround: None available at present.</p>
915897	<p>For Campus Switching ELS devices, when trust DHCP is not selected from Network Director and deployed for a port, the DHCP security configurations are removed.</p> <p>Workaround: None available at present.</p>
908251	<p>A WLC 2800 controller in an EX Series switch connection link is not displayed in the Show Device Connectivity page if only this controller is discovered..</p> <p>Workaround: None available at present.</p>
883384	<p>Network Director might not display any data in the Fault and Monitor mode at the wireless controllers and wireless access point container levels in the Location and Device view.</p> <p>Workaround: None available at present.</p>
915318	<p>Topology view does not display the STP link between a controller and an EX Series switch.</p> <p>Workaround: Enable LLDP on all the interfaces to view the links.</p>

PR Number	Problem Description
915343	<p>The Tooltip displays the IP address of JunosV Wireless LAN Controllers (JunosV WLCs) in reverse order.</p> <p>Workaround: None available at present.</p>
915087	<p>Automatic resynchronization does not work for Qfabric devices.</p> <p>Workaround: In NSOR mode, for every deploy from Network Director or out-of-band changes, QFabric device goes to out-of-sync. You must manually resynchronize the device each time, to make the device in sync.</p>
911717	<p>QFabric does not provide the IP address for the Director Group. As part of Topology discovery the CPE and the Director Group connections are discovered. As QFabric does not provide the IP address for the Director Group, the link is not shown in the floor plan.</p> <p>Workaround: None available at present.</p>
928198	<p>Network Director uses Openstreetmap tiles and it support tiles through http. So while you work on the Topology view, you will see a warning about unsecure content.</p> <p>Workaround: None available at present.</p>
917395	<p>Virtual view does not reflect the deletion of a virtual network unless the browser or view is refreshed.</p> <p>Workaround: Press the Refresh icon in the bottom of the page, after the delete operation is done or select Virtual Networks from the View pane. Either of these action, refreshes the page.</p>
929388	<p>In virtual View->Show Connectivity-> Popup window is not of proper size.</p> <p>Workaround: Resize the Show Connectivity page manually.</p>
927708	<p>This issue occurs when the Network Director view is set to LOCATION, DEVICE, or CUSTOM GROUP views. In the assign workflow of Device Common Settings and VLAN profiles for QFabric, Network Director displays the Nodes container (which contains TORs of the QFabric), which is not expected. So the user should select only the QFabric to proceed further instead of Individual TORs on the QFabric.</p> <p>Workaround: On the Assign->Device Selection page, select Fabric container or Fabric->QFabric device model container or Fabric->QFabric device model->Qfabric device name container.</p>
929576	<p>Decommissioning the device-level association of a VLAN profile fails when the same VLAN is associated to a Port profile. So avoid decommissioning the VLAN profile when it is associated to a Port profile.</p> <p>Workaround: For a successful deployment, clear the VLAN association from the Port profile.</p>
930226	<p>Port level attributes are not supported for ports that are members of a Port Group.</p> <p>Workaround: In the Assignment workflow, remove the port and re-add the same port. Then you will get the option on the port to add port-level attributes.</p>

PR Number	Problem Description
930720	<p>For Data Center Switching Non ELS devices, the Port to Assign window might not display the Family type as SWITCHING/ROUTING/FIBRE and the Mode as ACCESS/TRUNK/TAGGEDACCESS for some of the profiles of Qfabric devices, even when interfaces are configured with family and mode.</p> <p>Workaround: View the family and mode in the Detail window of the respective profile.</p>
930729	<p>For Switching (EX), Campus Switching ELS and Data Center Switching Non ELS devices, in the assignment workflow, the Assign to Port window does not list VLAN information in the Vlans attribute column.</p> <p>Workaround: Select the port profile and click the Details button to view the VLAN associated to the profile.</p>
Monitor, Fault, and Report Mode Issues	
926156	<p>Fault and Monitoring data might not be displayed at the Outdoor Area level in Location View even though the devices associated with Outdoor Area have Monitoring and Fault data.</p> <p>Workaround: None available at present.</p>
929205	<p>In the Find Endpoint Task, Verify Current Location in real time might not work for endpoints found in Qfabric.</p> <p>Workaround: Select My Network in the View pane and click Refresh EndPoint in the Task pane. Network Director synchronizes all the endpoint details and updates the database.</p>
862239	<p>Auto-refresh of Monitoring widgets might stop for hours, because of which it might take hours for monitoring data to be updated.</p> <p>Workaround: Navigate to any other mode—Build, Deploy, Report, or Fault, and then reopen the Monitor mode.</p>
926912	<p>When Qfabric node device alias is changed, Historical Monitoring data will be lost and duplicate port entries might be seen.</p> <p>Workaround: Delete QFabric from Network Director and rediscover, to avoid duplicate entries.</p>
911291	<p>Alarms that already exist in a managed device, even before the device is assigned to any location, will not be shown in the Topology view</p> <p>Workaround: None available at present.</p>
924181	<p>At My Network Level, port count shown in the Port Utilization Trend widget, might not be the actual used port count shown in the Port Status widget.</p> <p>Workaround: None available at present.</p>
866421	<p>At Mobility Domain level, you may not be able to see any Monitoring or Fault data in the Monitor and Fault modes respectively.</p> <p>Workaround: None available at present.</p>
927301	<p>At MyNetwork Level, the Session Trend Widget in the Monitor mode might not show any data.</p> <p>Workaround: Session Trend data can be seen at the individual device level.</p>

PR Number	Problem Description
927659	<p>Fabric Analyzer task for the Qfabric system might fail with the message—Operational RPC Command Results Failed to open netconf channel. This is due to a large number of netconf channels that are already open to the Qfabric system.</p> <p>Workaround: Delete the QFabric and rediscover it from Network Director.</p>
904683	<p>Network Director might not display the Multicast Out value in Port statistics task in Traffic tab for the selected switch if there are more than 10 Multicast Out Packets/sec for the selected device.</p> <p>Workaround: None available at present.</p>
915108	<p>Virtual View > Alarms for ESX servers are not aggregated and shown at Hosts folder level.</p> <p>Workaround: None available at present.</p>
928246	<p>Current Sessions by Type widget might show an empty legend for WLCs that are running an MSS version that is earlier than 8.0.</p> <p>Workaround: None available at present.</p>
928694	<p>In Internet Explorer 10 browser, the graphs displayed in the Monitor mode might not be plotted properly and at times it might have blank values in the X and Y axis.</p> <p>Workaround: Use other browsers such as Internet Explorer 9, Google Chrome, or Mozilla Firefox or use the compatibility view in Internet Explorer 10.</p>
928701	<p>Details view of Resource Utilization Monitoring at Qfabric Node and Interconnect level might not show any data.</p> <p>Workaround: None available at present.</p>
929677	<p>In Internet Explorer 9, clicking close [x] button on some of the windows might not close it.</p> <p>Workaround: Press the Esc key to close the window.</p>
918040	<p>The L3 VLAN Statistics task in Monitoring mode will show No Data for ELS devices like EX4300 and EX9200.</p> <p>Workaround: None available at present.</p>
929857	<p>For QFabric, in Custom Group view and Location view, monitors might show No Data at some of the container levels.</p> <p>Workaround: Monitoring data can be accessed from the Logical view.</p>
922285	<p>The Find Endpoint task might show the Device Name field as empty, if there is no hostname configured on the switch.</p> <p>Workaround: Configure a hostname on the EX Series switches and run the Refresh Endpoint task.</p>

PR Number	Problem Description
929918	<p>Port Utilization Trend data might not be available at the Site, Building, Floor, Aisle, and Rack levels in Location view.</p> <p>Workaround: Go to the individual device level of a device that is part of a Site, Building, Floor, Aisle, or Rack level to see the Port Utilization Trend data.</p>

Network Director API Issues

904780	<p>If your network includes an MX Series router and has multiple tenants set up with Layer 3 and Internet access services, each tenant might be able to View the Layer 3 traffic of other tenants on the MX Series router.</p> <p>Workaround: None available at present.</p>
905118	<p>After you use Network Director API to activate services such as Layer 2 or Layer 3 connectivity on a switch, the access port on the switch is configured with the trunk port mode by default. As a result, the access port cannot communicate with physical (non-virtualized) servers that are part of the services. This issue does not affect virtualized servers.</p> <p>Workaround: In a non-virtualized environment, configure the server port to send the Ethernet frames with VLAN tags:</p> <ol style="list-style-type: none"> 1. Find the VLAN ID from the NaasService-L2ConnectivityService 2. Enter the following CLI command: <pre>sudo vconfig add interface-name VLAN-ID</pre> <p>For example: <code>sudo vconfig add eth1 22</code></p> 3. This creates a virtual interface eth1.22. Configure this virtual interface with an IP address and add routes as needed (similar to configuring any other physical interface).
905360	<p>After you install the Network Director API, activating NaaS services might fail.</p> <p>Workaround: Restart the JBoss process by issuing the CLI command, service jboss restart, and then activate NaaS services again.</p>
918553	<p>Reactivate with Layer 3 in QFabric fails in certain scenarios.</p> <p>Workaround: None available at present.</p>
929572	<p>If you install Network Director and Network Director API after upgrading Junos Space network management platform to Release 13.1P5, the topology import for Network Director API might not work in some cases.</p> <p>Workaround: Login to the SQL server and execute the command: alter table ServiceAccessPointPeer modify column peerL int(11);</p>
930768	<p>The Network Director API does not support clustered deployment across multiple Junos Space servers in this release.</p> <p>Workaround: Deploy and use the Network Director API in a single Junos Space server environment only.</p>

ND Mobile Issues

PR Number	Problem Description
898154	ND Mobile when launched in Chrome Browser from an Apple iPad, might take around 2 mins to display login page. Workaround: Use Safari browser for working on ND Mobile.

Known Limitations in Network Director Release 1.5

The known limitations in Network Director Release 1.5 include:

- Resynchronization feature for QFabric devices does not work as expected. When Junos Space runs in:
 - NSOR mode, for all the out-of-band and in-band changes, the QFabric device goes out-of-sync in Network Director. You must manually resynchronize the device each time, to make the device in sync.
 - SSOR Mode, reconciliation for QFabric devices is not supported.
- Nonstop software upgrade (NSSU) for EX8200 Virtual Chassis and QFabric systems may not work as expected.
- The Data Center Port Profile Assignment page also displays EX4300 and EX9200 switches. Ensure that you do not assign profiles created for data center devices to these EX Series switches.
- Network Director supports Role-based Access Control (RBAC) only at the task category level. There is no support for object level or task level access control.
- The Network Director API supports running Junos Space in Space as System-of-Record (SSOR) mode only.
- Only user accounts with Admin privileges can use Network Director API.

Related Documentation

- [Network Director](#)
- [Junos Space](#)

Junos Space Documentation and Release Notes

For a list of related Junos Space documentation, see <http://www.juniper.net/techpubs/>.

If the information in the latest release notes differs from the information in the documentation, follow the *Junos Space Release Notes*.

To obtain the most current version of all Juniper Networks® technical documentation, see the product documentation page on the Juniper Networks website at <http://www.juniper.net/techpubs/>.

Juniper Networks supports a technical book program to publish books by Juniper Networks engineers and subject matter experts with book publishers around the world. These books go beyond the technical documentation to explore the nuances of network

architecture, deployment, and administration using the Junos operating system (Junos OS) and Juniper Networks devices. In addition, the Juniper Networks Technical Library, published in conjunction with O'Reilly Media, explores improving network security, reliability, and availability using Junos OS configuration techniques. All the books are for sale at technical bookstores and book outlets around the world. The current list can be viewed at <http://www.juniper.net/books>.

Documentation Feedback

We encourage you to provide feedback, comments, and suggestions so that we can improve the documentation. You can provide feedback by using either of the following methods:

- Online feedback rating system—On any page at the Juniper Networks Technical Documentation site at <http://www.juniper.net/techpubs/index.html>, simply click the stars to rate the content, and use the pop-up form to provide us with information about your experience. Alternately, you can use the online feedback form at <https://www.juniper.net/cgi-bin/docbugreport/>.
- E-mail—Send your comments to techpubs-comments@juniper.net. Include the document or topic name, URL or page number, and software version (if applicable).

Requesting Technical Support

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or JNASC 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 <http://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf>.
- Product warranties—For product warranty information, visit <http://www.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: <http://www.juniper.net/customers/support/>
- Search for known bugs: <http://www2.juniper.net/kb/>
- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>

- Download the latest versions of software and review release notes:
<http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications:
<http://kb.juniper.net/InfoCenter/>
- Join and participate in the Juniper Networks Community Forum:
<http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

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

Opening a Case with JTAC

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at <http://www.juniper.net/cm/>.
- 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 <http://www.juniper.net/support/requesting-support.html>.

Revision History

16 October 2013—Revision 1, Junos Space Network Director, Release 1.5

25 February 2014—Revision 2, Junos Space Network Director, Release 1.5

Copyright © 2014, Juniper Networks, Inc. All rights reserved.

Juniper Networks, Junos, Steel-Belted Radius, NetScreen, and ScreenOS are registered trademarks of Juniper Networks, Inc. in the United States and other countries. The Juniper Networks Logo, the Junos logo, and JunosE are trademarks of Juniper Networks, Inc. All other trademarks, service marks, registered trademarks, or registered service marks are the property of their respective owners.

Juniper Networks assumes no responsibility for any inaccuracies in this document. Juniper Networks reserves the right to change, modify, transfer, or otherwise revise this publication without notice.