

Junos Space Network Director Release 5.1R1 Release Notes

11 January 2022

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Introduction

Junos Space Network Director can be used for campus network management. In the campus, Network Director automates routine management tasks such as network provisioning and troubleshooting, dramatically improving operational efficiency and reliability.

Campus networks have increased variability and unpredictability stemming from a wide range of user and IoT devices. Juniper's portfolio of services, software and hardware products securely address end to end campus network solutions.

Junos Space Network Director enables unified management of EX Series Ethernet Switches, MX Series routers, QFX Series switches, and Junos Fusion Enterprise in your network. It provides for full network life cycle management by simplifying the discovery, configuration, visualization, monitoring, and administration of large networks containing physical and virtual devices. You can download the software images for Network Director and the release notes for Network Director Release 5.1R1 by using the appropriate links on the [Network Director – Download Software](#) page.

Release Notes for Junos Space Network Director

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These release notes accompany Network Director Release 5.1R1:

New and Changed Features

Starting with Release 5.1R1, Network Director supports the following new and changed features:

- [Table 1 on page 4](#) lists the supported platforms and the corresponding qualified Junos OS release versions for Network Director Release 5.1R1.

Table 1: Supported Platforms and Corresponding Qualified Junos OS Releases

Supported Platforms and Line Cards	Qualified Junos OS Releases
Supported Platforms	
EX4400 (Standalone)	Junos OS Release 21.1R1.11
EX4400 (Virtual Chassis)	
EX4400-24T	
EX4400-24P	
EX4400-48F	
EX4400-48P	
EX4400-48T	
QFX5120-48YM	Junos OS Release 20.4R1.12
EX4650 Virtual Chassis	Junos OS Releases 19.1R3-S4.6 and 20.4R1.12

- QFX5120-48YM is supported for MACsec configuration in connectivity association key (CAK) mode. Cipher suite and family type fields are introduced in MACsec CAK configuration.
- Starting with Network Director 5.1, Network Director will not support data center use-cases and supports only campus architecture use-cases. You must migrate to Apstra Solution to manage your data center

requirements. The following user interface views and functionalities are disabled as they are no longer supported in Network Director:

- Datacenter view
- Virtual chassis fabric
- Wireless support

Deprecated Features

This section describes the features that are deprecated or for which support is withdrawn from Network Director 5.1R1:

- QFabric management
- WLAN management

Supported Junos Space Release

The [Table 2 on page 5](#) lists the supported Junos Space Releases for Network Director 5.1R1:

Table 2: Supported Junos Space Releases

Network Director Release	Supported Junos Space Releases
5.1R1	21.1

Junos Space Network Management Platform Requirements

Network Director Release 5.1R1 is supported on the Junos Space Network Management Platform Release 21.1R1. You must download this release of Network Director from [Network Director - Download Software](#) page and Junos Space Network Management Platform from [Junos Space Network Management Platform - Download Software](#) page.

Network Director is supported on a Junos Space JA2500 appliance or a Junos Space Virtual Appliance that meets the hardware requirements specified in the Junos Space documentation.

For detailed information about hardware requirements, see [Junos Space Virtual Appliance Deployment Overview](#).

Supported Platforms and Supported Line Cards

Table 3 on page 6 lists the supported platforms for Network Director Release 5.1R1 and the corresponding qualified Junos OS releases.

Table 3: Supported Platforms and Corresponding Qualified Junos OS Releases

Supported Platforms	Qualified Junos OS Release Version
EX Series Switches	
EX2300 EX2300-48T EX2300-48P	Junos OS Releases 18.1R3.3, 18.2R3-S2.9, 18.4R1.8, and 20.2R1.10
EX2300-24MP (Standalone) EX2300-48MP (Standalone) EX2300-24MP (Virtual Chassis) EX2300-48MP (Virtual Chassis)	Junos OS Releases 18.1R1, 18.1R3.3, 18.2R3-S2.9, and 18.4R1.8
EX3400 EX3400-24P EX3400-24T EX3400-48P EX3400-48T	Junos OS Release 18.1R3.3, 18.4R1.8, 18.2R3-S2.9, and 19.4R1.10
EX3400 Virtual Chassis	Junos OS Releases 20.2R2.8
EX4300-48MP	Junos OS Releases 18.3R1, 18.4R2-S2.3, and 19.4R1.10
EX4300 (Standalone)	Junos OS Releases 18.4R1.8, 18.4R2-S2.3, 19.4R1.10, 20.2R1.10, and 20.4R1.12
EX4300 Virtual Chassis	<p>Junos OS Releases 18.4R1.8, 18.4R2-S2.3, 19.4R1.10, and 20.2R1.10</p> <p>NOTE: The primary switch in EX4300 Virtual Chassis must be running Junos OS Release 13.2X51-D20 or later for auto Virtual Chassis Resync to work. If this is not the case, the role changes and the addition or deletion of members will not reflect in Network Director.</p>

Table 3: Supported Platforms and Corresponding Qualified Junos OS Releases (*continued*)

Supported Platforms	Qualified Junos OS Release Version
EX4400 (Standalone)	Junos OS Release 21.1R1.11
EX4400 (Virtual Chassis)	
EX4400-24T	
EX4400-24P	
EX4400-48F	
EX4400-48P	
EX4400-48T	
EX4600 (Standalone)	Junos OS Releases 18.4R1.8, 18.4R2-S2.3, and 20.1R1.11
EX4600 (Virtual Chassis)	
Mixed EX4600 and EX4300 Virtual Chassis	Junos OS Releases 18.4R2-S2.3 (For all the EX Series switches)
EX4650 (Standalone)	Junos OS Releases 18.4R1.8 and 18.4R2-S2.3
EX4650 (Virtual Chassis)	Junos OS Releases 18.4R1.8, 18.4R2-S2.3, 19.1R3-S4.6, and 20.4R1.12
EX9200 (Standalone)	Junos OS Releases 18.3R1.9, 18.4R2-S2.3, 19.4R1.10, and 20.2R1.10
EX9200 (Virtual Chassis)	
EX9214-15C	Junos OS Release 20.3R1.7
EX9204-15C	
EX9208-15C	
EX9251 (Standalone)	Junos OS Releases 18.2R1, and 18.3R1.9
EX9251 (Virtual Chassis)	
EX9253 (Standalone)	Junos OS Releases 18.2R1, and 18.3R1.9
EX9253 (Virtual Chassis)	
QFX Series Switches	

Table 3: Supported Platforms and Corresponding Qualified Junos OS Releases (*continued*)

Supported Platforms	Qualified Junos OS Release Version
QFX5120-48YM	Junos OS Release 20.4R1.12
QFX5120-48T-6C	Junos OS Releases 20.2R1.10
QFX5120-32C	Junos OS Releases 19.4R1
QFX5120-48Y-8C	Junos OS Releases 18.4R1 and 18.4R2-S2.3
QFX5110 switches with the following product SKUs: QFX5110-32Q QFX5110-48S	Junos OS Releases 18.1R3.3, 18.4R2-S2.3, and 19.4R1.10
QFX5100 switches with the following product SKUs: QFX5100-48S-3AFI QFX5100-24Q-3AFI QFX5100-24Q-3AFO QFX5100-24Q-D-3AFI QFX5100-24Q-D-3AFO QFX5100-48T-AFI QFX5100-48T-AFO QFX5100-48T-DC-AFI QFX5100-48T-DC-AFO	Junos OS Releases 18.4R2-S2.3, and 19.4R1.10
QFX5100-48S (Standalone) QFX5100-24Q (Standalone) QFX5100-96S (Standalone) QFX5100-48S (Virtual Chassis) QFX5100-24Q (Virtual Chassis) QFX5100-96S (Virtual Chassis)	Junos OS Releases 14.1X53-D40.8
QFX5210 switches with the following product SKUs: QFX5210-64C	Junos OS Releases 18.1R1, 18.4R2-S3, and 19.4R1.10
QFX5200 switches with the following product SKUs: QFX5200-48Y	Junos OS Releases 18.1R1, 18.4R1.8, and 18.4R2-S2.3

Table 3: Supported Platforms and Corresponding Qualified Junos OS Releases (*continued*)

Supported Platforms	Qualified Junos OS Release Version
QFX5200 switches with the following product SKUs: QFX5200-32C-AF QFX5200-32C-AFO QFX5200-32C-DC-AFI QFX5200-32C-DC-AFO	Junos OS Releases 18.1R1, 18.4R1.8, and 18.4R2-S2.3
Virtual Chassis Fabric (QFX5110)	Junos OS Releases 17.2R2.8, 17.3R2.10, and 17.4R1.16
QFX10016	Junos OS Releases 19.1R1.6
QFX10008	Junos OS Releases 18.4R1.8, 18.4R2-S2.3, and 19.4R1.10
QFX10002-36Q switches with the following SKU: QFX10002-36Q-DC QFX10002-72Q switches with the following SKU: QFX10002-72Q-DC	Junos OS Releases 18.4R2-S2.3, and 19.4R1.10
QFX10002-60C	Junos OS Releases 18.4R1, 18.4R2-S2.3, and 19.4R1.10
MX Series Routers	
MX150	Junos OS Releases 18.2R3-S3.11 and 20.1R1.11
MX204	Junos OS Releases 18.4R1 and 20.1R1.11
MX240	Junos OS Releases 18.4R1.8
MX480	Junos OS Releases 19.1R1.6
MX960	Junos OS Releases 15.1R1
MX80 MX104 MX960 MX2010	Junos OS Releases 15.1R1
MX240	Junos OS Releases 19.4R1.10
MX480	Junos OS Releases 14.1R4, 15.1R1, and 17.3R3-S6
MX2020	Junos OS Releases 19.4R1.10

Table 3: Supported Platforms and Corresponding Qualified Junos OS Releases (*continued*)

Supported Platforms	Qualified Junos OS Release Version
MX10003, MX10008, MX10016	Junos OS Release 18.4R1
ACX Series Routers	
ACX710	Junos OS Release 20.2R1 NOTE: You must install the latest hot patch versions of Junos Space Network Management Platform Release 20.1R1 and Network Director.
ACX5448	Junos OS Release 18.4R1
ACX5448-D	Junos OS Release 19.2R1-S1
ACX5448-M	Junos OS Release 19.3R1

Table 4 on page 10 lists the EVPN-VXLAN and layer 3 fabrics supported platforms for Network Director Release 5.1R1 and the corresponding qualified Junos OS releases.

Table 4: EVPN-VXLAN and Layer 3 Fabrics Supported Platforms and Software Versions for Network Director

Supported Platforms	Qualified Junos OS Release Version
EX Series Switches	
EX4300 as Layer 3 Fabric leaf device	Junos OS Release 14.1X53-D42.3
EX4300 as Layer 3 Fabric leaf device (in an EVPN-VXLAN configuration)	Junos OS Release 14.1X53-D27
QFX Series Switches	
QFX5100 as Layer 3 Fabric spine or leaf device	Junos OS Release and 14.1X53-D42.3 for QFX5100
QFX5110-32Q as Layer 3 Fabric spine or leaf device	Junos OS Releases 17.2R2.8 for QFX5110-32Q
QFX5110-48S as Layer 3 Fabric leaf device	Junos OS Releases 17.2R2.8 for QFX5110-48S
QFX10002-36Q as Layer 3 Fabric leaf device	Junos OS Release 20.2R1.10 for QFX10002-36Q
QFX10002-72Q as Layer 3 Fabric leaf device	Junos OS Release 17.4R1.15 for QFX10002-72Q

Table 4: EVPN-VXLAN and Layer 3 Fabrics Supported Platforms and Software Versions for Network Director (continued)

Supported Platforms	Qualified Junos OS Release Version
QFX5110 as Layer 3 Fabric leaf device (in an EVPN-VXLAN configuration)	Junos OS Releases 17.2R2.8 for QFX5110
QFX5100 as Layer 3 Fabric leaf device (in an EVPN-VXLAN configuration)	Junos OS Release 14.1X53-D42.3 for QFX5100
QFX5200-32C-32Q as Layer 3 Fabric spine or leaf device (in an EVPN-VXLAN configuration)	Junos OS Releases 15.1X53-D210 for QFX5200-32C-32Q
QFX10002-36Q as Layer 3 Fabric spine device (in an EVPN-VXLAN configuration)	Junos OS Release 17.2R1.13 for QFX10002-36Q

Table 5 on page 11 lists the ESI LAG configuration supported platforms for Network Director Release 5.1R1 and the corresponding qualified Junos OS releases.

Table 5: ESI LAG Configuration Supported Platforms and Software Versions for Network Director

Supported Platforms	Qualified Junos OS Release Version
EX Series Switches	
EX9200 as peer device in a core network	Junos OS Release 20.2R1.10
EX2300 and EX4300 as client devices in an access network	

Table 6 on page 11 lists the supported DHCP and File Server (FTP and TFTP) for Network Director Release 5.1R1 and the corresponding qualified Junos OS releases.

Table 6: Supported DHCP and File Server (FTP and TFTP) and Corresponding Qualified Versions

Supported DHCP and File Server (FTP and TFTP)	Qualified Versions
DHCP and File Server (FTP and TFTP)	
CentOS	CentOS Release 6.10 and CentOS Release 7.6
Ubuntu	Ubuntu Release 14.04

Table 7 on page 12 lists Juniper Networks line cards supported by Network Director Release 5.1R1.

Table 7: Supported Line Cards

Device	Line Cards
MX240	MPC10E-10C-X
MX480	SCBE3-MX-S
	SCBE3-MX-BB
	SCBE3-MX-R
	MPC10E-15C-X
	MPC10E-10C-X
MX960	5K-AC-PSM
	HV-PSM
MX10008	JNP10008-FAN2
	JNP10008-FTC2
	JNP10K-PWR5500-AC
	JNP10K-PWR5500-DC
MX10016	JNP10016-FAN2
	JNP10016-FTC2
	JNP10K-PWR5500-DC

Supported Web Browsers

The [Table 8 on page 12](#) lists the supported versions of web browsers for Network Director 5.1R1:

Table 8: Supported Web Browsers for Network Director 5.1R1

Web Browser	Supported Versions
Google Chrome	86 and later

Table 8: Supported Web Browsers for Network Director 5.1R1 (*continued*)

Web Browser	Supported Versions
Mozilla Firefox	72.0.2 (64-bit) and later

The recommended 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.

Installation Instructions

You can install Network Director on Junos Space Network Management Platform by using one of the following methods:

- Installing Network Director from Junos Space Store
- Installing Network Director by manually downloading the Network Director application image

NOTE: The preferred method to install Network Director on Junos Space Network Management Platform is by installing Network Director from Junos Space Store.

Network Director cannot be installed on a system that has Connectivity Services Director already installed. If Connectivity Services Director is already installed on your system, uninstall it before you install Network Director.

Network Director 5.1 is compatible with the following applications:

- Cross Provisioning Platform 21.1R1
- Security Director 21.1R1
- Service Now / Service Insight 18.1R1

For more information about prerequisites for firewall ports for Network Director management, see [“Prerequisites for Firewall Ports for Network Director Management” on page 20](#).

For more information about installing Network Director on Junos Space Network Management Platform, see [Installing Network Director](#).

For more information about overview of installing Network Director, see [Network Director Installation Overview](#).

Upgrade Instructions

You can upgrade to Network Director Release 5.1R1 from Network Director 4.1R1.

If you do not have a supported version of Network Director, upgrade first to Network Director Release 4.1R1. For instructions on upgrading to Network Director Release 4.1R1, [Network Director Release 4.1 Quick Start Guide](#).

For more information about upgrade instructions, see [Upgrading Network Director](#).

Junos Space DMI Schema Requirements for Network Director

In Junos Space Network Management Platform, a device family always has a default DMI schema associated with it. Typically, when you perform a clean installation of Junos Space Platform, a schema (usually the latest one) is automatically set as the default for each device family. When you perform an upgrade of Junos Space Platform, the default schemas stay the same as the ones before the upgrade. 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. This ensures that even if an exact matching schema is not available, the default schema is used for managed devices belonging to a specific device family.

If you cannot find the schema equivalent, use the latest schema from the main release or contact the Juniper Support. For example, for an EX3400 switch running Junos OS Release 20.2R2.8, you must use the Junos OS Release 20.2R2.8 schema. If this is not available, you can use the latest schema available from the Junos OS Release 20.2R2 releases. Use [Table 9 on page 15](#) as a guideline for the fallback schema that you can obtain and upload in Junos Space before you start working on Network Director Release 5.1R1.

EX4600 switches are grouped under Campus Switching ELS platform in Network Director even though the device family for EX4600 displays as JUNOS-QFX in the Inventory page. All Campus Switching ELS profiles can be associated with these switches.

You *must* use the QFX schema to manage this device instead of the EX ELS schema.

QFX10002-60C switches are grouped under the DataCenter ELS platform in Network Director even though the device family for QFX10002-60C is displayed as junos on the Inventory page. All DataCenter ELS profiles can be associated with these switches.

You *must* use the junos schema to manage this device instead of the junos-qfx schema.

[Table 9 on page 15](#) lists the latest DMI schema that you must obtain and upload in Junos Space before you start working on Network Director Release 5.1R1.

Table 9: DMI Schemas

Device	Name of the DMI Schema	Device Family
EX4300 EX4300-48MP	JUNOS 18.4R1.8 JUNOS 18.4R2-S2.3 JUNOS 19.4R1.10 JUNOS 18.3R1 JUNOS 18.4R2-S2.3 JUNOS 19.4R1.10	junos
EX4400 (Standalone) EX4400 (Virtual Chassis) EX4400-24T EX4400-24P EX4400-48F EX4400-48P EX4400-48T	JUNOS 21.1R1.11	junos
EX9200	JUNOS 18.3R1.9 JUNOS 18.2R1 JUNOS 18.4R2-S2.3 JUNOS 19.4R1.10	junos
EX9251	JUNOS 18.3R1.9	junos
EX9253	JUNOS 17.3R3.9 JUNOS 18.3R1.9	junos
EX4600	JUNOS 18.4R1.8 JUNOS 18.4R2-S2.3	junos-qfx
EX4650	JUNOS 18.4R1.8 JUNOS 18.4R2-S2.3	junos-qfx

Table 9: DMI Schemas (continued)

Device	Name of the DMI Schema	Device Family
EX2300 EX2300-48T EX2300-48P EX2300-24MP (Standalone) EX2300-24MP (Virtual Chassis) EX2300-48MP (Standalone) EX2300-48MP (Virtual Chassis)	JUNOS 18.1R3.3 JUNOS 18.2R3-S2.9 JUNOS 18.4R1.8	junos
EX3400 EX3400-24P EX3400-24T EX3400-48P EX3400-48T	JUNOS 18.1R3.3 JUNOS 18.4R1.8 JUNOS 18.2R3-S2.9 JUNOS 19.4R1.10	junos
QFX5120-48Y-8C	JUNOS 18.4 JUNOS 18.4R2-S2.3	junos-qfx
QFX5120-32C	JUNOS 19.4	junos-qfx
QFX5210-64C	JUNOS 18.1R1 JUNOS 18.4R2-S3 JUNOS 19.4R1.10	junos-qfx
QFX5110 switches with the following product SKUs: QFX5110-32Q QFX5110-48S	JUNOS 18.1R3.3 JUNOS 18.4R2-S2.3 JUNOS 19.4R1.10	junos-qfx
QFX5100-48S (Standalone) QFX5100-24Q (Standalone) QFX5100-96S (Standalone) QFX5100-48S (Virtual Chassis) QFX5100-24Q (Virtual Chassis) QFX5100-96S (Virtual Chassis)	JUNOS 14.1X53-D42.3	junos-qfx

Table 9: DMI Schemas (continued)

Device	Name of the DMI Schema	Device Family
QFX5100 switches with the following product SKUs: QFX5100-48S-3AFI QFX5100-24Q-3AFI QFX5100-24Q-3AFO QFX5100-24Q-D-3AFI QFX5100-24Q-D-3AFO	JUNOS 18.4R2-S2.3 JUNOS 19.4R1.10	junos-qfx
QFX5100 switches with the following product SKUs: QFX5100-48T-AFI QFX5100-48T-AFO QFX5100-48T-DC-AFI QFX5100-48T-DC-AFO	JUNOS 18.4R2-S2.3 JUNOS 19.4R1.10	junos-qfx
QFX5200	JUNOS 18.4R2-S2.3	junos-qfx
QFX5200-48Y	JUNOS 18.4R1.8 JUNOS 18.4R2-S2.3	junos-qfx
QFX5200-32Q	JUNOS 18.4R2-S2.3	junos-qfx
QFX5200-32C-AF QFX5200-32C-AFO QFX5200-32C-DC-AFI QFX5200-32C-DC-AFO	JUNOS 18.4R1.8 JUNOS 18.4R2-S2.3	junos-qfx
QFX10016	JUNOS 19.1R1.6	junos-qfx
QFX10008	JUNOS 18.4R2-S2.3 JUNOS 19.1R1.6 JUNOS 19.4R1.10	junos-qfx
QFX10002	JUNOS 18.4R2-S2.3 JUNOS 19.1R1.6 JUNOS 19.4R1.10	junos-qfx
QFX10002-60C	JUNOS 18.4R1 JUNOS 18.4R2-S2.3 JUNOS 19.4R1.10	junos

Table 9: DMI Schemas (*continued*)

Device	Name of the DMI Schema	Device Family
MX Series Routers MX80 MX104 MX960 MX2010	JUNOS 19.4R1.10	junos
MX480	JUNOS 17.3R3-S6	junos
MX2020	JUNOS 19.4R1.10	junos
MX960	JUNOS 19.2R1	junos
MX240	JUNOS 19.2R1 JUNOS 19.4R1.10	junos
MX204	JUNOS 18.4R1.8	junos
MX480	JUNOS 19.1R1.6	junos
MX204 MX10003	JUNOS 18.3	junos
MX10008 MX10016	JUNOS 18.4	junos
ACX710	JUNOS 20.2R1	junos
ACX5448	JUNOS 18.4	junos
ACX5448-D	JUNOS 19.2R1-S1	junos
ACX5448-M	JUNOS 19.3	junos

See [Setting a Default DMI Schema](#) for detailed steps for setting a default schema.

DMI Schema Compatibility for Junos OS Service Releases

The [Table 10 on page 19](#) explains how the Device Management Interface (DMI) schemas are chosen for devices running Junos OS Service releases for the following conditions:

- Device with Service Release and Junos Space with FRS Release
- Device with Service Release and Junos Space without matching DMI Schema
- Device with Service Release and Junos Space with more than one DMI Schemas
- Device with Service Release and Junos Space without more DMI Schemas

Table 10: DMI Schema Compatibility for Junos OS Service Releases

Junos OS Version on Device	Junos Space DMI Schemas Installed	Junos Space Default Version	Junos Space Version Chosen for Platform
Device with Service Release and Junos Space with FRS Release			
18.4R1-S1	18.4R1.8 18.3R1.1 18.2R1.1	18.2R1.1	18.4R1.8
Device with Service Release and Junos Space without matching DMI Schema			
18.4R1-S1	18.3R1.1 18.2R1.1	18.2R1.1	18.2R1.1
Device with Service Release and Junos Space with more than one DMI Schemas			
18.4R1-S1	18.4R1.8 18.4R1.7 18.4R1.6 18.3R1.1	18.3R1.1	18.4R1.8
Device with Service Release and Junos Space without more DMI Schemas			
18.4R1.1	18.3R1.1 18.2R1.1	18.2R1.1	18.2R1.1

In Junos Space Network Management Platform Release 21.1R1, no new Junos OS releases are supported. For information about Junos OS compatibility for releases up to and including Junos Space Platform Release 21.1R1, see [Junos OS Releases Supported in Junos Space Network Management Platform](#).

Operational Notes on General Interface Use

- 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
```

The default username and password is the administrator’s username and password.

- Deployment of configurations to QFX5100 switches from Network Director is possible only after you run the following commands by using the CLI of the QFX5100 switch:

```
[edit]
user@switch# set system extensions providers juniper license-type juniper deployment-scope
commercial
user@switch# set system extensions providers chef license-type juniper deployment-scope
commercial
```

Prerequisites for Firewall Ports for Network Director Management

This section describes the prerequisites for firewall ports for the Network Director 5.1R1.

To discover and manage devices for Network Director, the following protocol ports must be open between the Junos Space Network Management Platform server and the devices:

Table 11: Firewall Ports for Network Director Management

Ports	Scope
22	Enables 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 uses.

Table 11: Firewall Ports for Network Director Management (*continued*)

Ports	Scope
10162	Configures 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).
21 (TCP) and 69 (UDP)	Uploads the software image and configuration file to the FTP server
8282	Connects to the DLE
8774, 9696, 9292, 8777, 35357, and 8776	Access OpenStack and VMware NSX APIs.

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
```

Operational Notes on Device Discovery and Management

- The administrator username that you specify for discovering the OpenStack server must have admin privileges and must belong to an admin tenant in the OpenStack server.
- In a data center network, changes that you make to a vCenter network are dynamically updated in Network Director. However, changes that are made on an OpenStack network require you to wait for the periodic synchronization job to run or you must perform a manual resynchronization for the changes to be updated in Network Director.
- While discovering a CPE switch for a QFabric system, we recommend that you use the root user credentials.
- You must run the following command on all the switches that are connected to a vCenter server for LLDP discovery to work.

```
user@switch# set protocols lldp port-id-subtype interface-name
```

Known Behavior

This section lists the known behavior in Network Director Release 5.1R1.

- When you discover devices in Network Director for the first time, the syslog pattern BR_INFRA_DEVICE is pushed into the device for JUNOS and JUNOS-QFX device families.
- The following alarms are cleared automatically when the corresponding clear event is received, and are available as part of the clear alarm list.
 - FanFailureAlarm
 - TemperatureAlarm
 - HardDiskFailedAlarm
 - PMonOverloadSetAlarm
 - DomAlertSetAlarm
 - POE Power usage High
 - VccpPortAlarm and VccpMemberAlarm
 - PowerSupplyFailureAlarm and PowerSupplyInputFailureAlarm
 - CosFabricQueueOverflowAlarm and CosWanQueueOverflowAlarm
 - FRUPowerOffAlarm, FRUFailedAlarm, and FRUOfflineAlarm
 - CollUnavailableDestAlarm, CollFlowOverloadAlarm, and CollMemoryUnavailableAlarm
 - JdhcpLocalServerIfLimitExceededAlarm and Jdhcpv6LocalServerIfLimitExceededAlarm
 - FabricPowerSupplyFailure, FabricFanFailure, FabricTemperatureAlarm, FabricFruPowerOffAlarm, FabricFruFailedAlarm, and FabricFruOfflineAlarm
- Sometimes the CMEventAttributes table grows to several GBs and consumes disk space. To overcome this, execute the following steps after installing Network Director 3.8R1 or after upgrading Network Director to 3.8R1:
 1. Log in into Network Director.
 2. Go to **Preference -> Fault -> Additional Setting**.
 3. Modify the **Number of Days** to keep the alarm and event or alarm.

Modify the Number of Days such that it triggers a purge event that clears all existing alarms and events. This is a one-time activity.
 4. Click **OK**.

If the alarms are not purged, truncate the tables CMEvent, CMEventAttributes, CMAAlarm, CMAAlarmAttributes using the following steps. This clears the tables of all existing alarms and events. You can view any new alarms and events generated thereafter in Network Director. The alarms will be purged as expected after you perform this procedure.

1. Take a backup of the current database.
2. Stop the JBoss server using the following commands:

```
service jmp-watchdog stop
service jmp-firewall stop
service jboss stop
service jboss-dc stop
```

3. Run the following MySQL commands one after the other:

```
SET FOREIGN_KEY_CHECKS=0;
TRUNCATE TABLE CMEvent;
TRUNCATE TABLE CMEventAttributes;
TRUNCATE TABLE CMAAlarm;
TRUNCATE TABLE CMAAlarmAttributes;
SET FOREIGN_KEY_CHECKS=1;
```

4. Start the JBoss server using the following command:

```
service jmp-watchdog start
```

5. After JBoss started, execute the following steps:

1. Log in into Network Director.
2. Go to **Preference -> Fault -> Additional Setting**.
3. Modify the **Number of Days** to keep the alarm and event or alarm.

Modify the Number of Days such that it triggers a purge event that clears all existing alarms and events. This is a one-time activity.

4. Click **OK**.

- For EX4300 satellite devices to be part of a Junos Fusion Enterprise, ensure that you use *U-Boot 2011.12-00062-gf837a99 (Jul 11 2014 - 13:47:59)* and *FreeBSD/PowerPC U-Boot bootstrap loader 2.4* as the boot loader, with PoE firmware version 2.6.3.92.1, and 10G PIC-2 ports as cluster ports.
- When defining your network configuration in quick templates by using a particular command, ensure that you define the subcommands individually. Stating subcommands as a single command causes errors. For example, the commands **set snmp location sunnyvale** and **set snmp contact admin@example.com** are valid when defined individually. However, if you combine these commands into the single command

set snmp location sunnyvale contact admin@example.com, schema validation treats the last command **contact** as an extra entry and causes an error.

- Network Director does not support Junos Space domains. Do not assign devices to domains in Junos Space.
- In Location View, if you assign all the members of a Virtual Chassis Virtual Chassis Fabric to buildings or floors, then none of the Device level tasks are available. We recommend that you assign the entire logical device—the Virtual Chassis, or the Virtual Chassis Fabric—to any given location.
- When an EX4300 switch is used as a member switch in a QFX5100 mixed mode Virtual Chassis or Virtual Chassis Fabric, Network Director does not consider the configurations that you make on DCBX and Device Count fields, and configuration commits fail.
- Bandwidth utilization value for VCP and aex interfaces might not be displayed in the Topology View.
- Network Director might not display:
 - Unprovisioned members added to a Virtual Chassis or a Virtual Chassis Fabric.
 - The *Not Present* status for members removed from a Virtual Chassis or a Virtual Chassis Fabric.
- For Data Center Switching ELS Port profile, a profile assignment might fail for channelized interfaces in a port range even when the channelized interfaces in that port range are available on the devices.
- The Validate Pending Configuration task does not validate the unsupported configurations on devices.
- In the manual mode, when out-of-band changes are resynchronized, the conflicting CR might not be listed for quick templates.
- During a cluster switchover, if a backup configuration job or a device discovery job is running in Network Director, the switchover status might display as In progress even after the switchover is complete.
- In a Junos Fusion setup, you might need to assign two aggregation devices for an auto-profile policy. For example, if a satellite device has 65 ports, then you might need to add two aggregation devices as AD1: ge-65/0/1- ge-65/0/10 and AD2 : ge-65/0/1 - ge-65/0/10. To assign both the aggregation devices, select the aggregation devices at the group level and do not select the satellite device.
- When editing a MACsec profile that is already deployed in Network Director, you can modify all the configuration parameters in the MACsec profile, except the Connection Association Name and MACsec mode.
- The resynchronization job for the MX Series device fails if the VLAN ID for the device is configured as none from the device CLI.
- You cannot modify the configuration for a Layer 3 Fabric from Network Director if the Layer 3 Fabric was created using the brownfield process during device discovery in Network Director.
- When viewing real-time traffic analysis on a particular port, if Network Director configures the **sflow** command on the device, the command is deleted when you close the Real Time window. Similarly, if a

third-party tool sets the **sflow** configuration on a particular port to view real-time traffic analysis on the port, the **sflow** configuration is removed when you close the Traffic Analysis page.

- Network Director does not support cold migration of virtual machines. Cold migration is the migration of a virtual machine that is powered off.
- When the port statistics counters on a device are reset either manually or during an image upgrade, the traffic widgets might show incorrect values for some time. If this happens, wait for 2 to 3 poll intervals, after which the issue resolves itself.
- The following wireless application user interface screens are still available in **Logical View > Monitor > Client**. These user interface screens are not applicable to campus architecture.
 - Top Users
 - Top Sessions by MAC address
 - Session Trends
 - Current Sessions by Type

Known Issues

This section lists the known issues in Network Director Release 5.1R1.

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

- Port profile deployment fails for ACX5448-M when the Trust DHCP option is selected.
[PR1462460]
- The Auto assigned option is not deleted if you remove a Port profile association that is assigned by auto policy and manually assign the same option.
Workaround: None available at present. [PR1202439]
- After you delete a port association from Port profile, the LLDP does not show which device is connected when you issue the command delete interface interface-name.
Workaround: Assign a Port profile to a port manually or by using quick template, to configure unit 0 on the interface. [PR1223305]
- If you add more than one port to a Port profile that is associated to the extended Port profiles, the deployment fails.
Workaround: After the deployment fails, edit the prompted Port profile and deploy the changes again. [PR1237763]
- Duplicate Port profiles are shown in Network Director after you upgrade Network Director from:

- Release 2.5R1 to Release 3.0R1 or 3.0R2
- Release 2.5R2 to Release 3.0R1 or 3.0R2

Workaround: Delete all the unassigned profiles that are generated as duplicate Port profiles. You can identify duplicate Port profiles from the profile name. A duplicate Port profile name is suffixed with a number. For example, iSCSI_918. [PR1246846]

- The Port status and the power supply status is not shown in a cluster setup when two satellite devices are configured as member nodes.

Workaround: None available at present. [PR1223602]

- ESXi server does not work on ports that have only one VLAN configured. When a tenant overlay fabric is configured such that one of the ports is configured with only one VLAN, native VLAN ID is set to the ID of the only VLAN configured on the interface. This allows Bare Metal Servers (BMS) to use untagged packets. For an ESXi server to work on such ports, the native VLAN ID needs to be removed.

Workaround: Deploy a template by using the command `delete interface native-vlan-id` for those interfaces where one VLAN is configured and tagged packets are sent. ESXi server uses tagged packets by default. [PR1234899]

- The following issues are seen after resynchronizing devices that are part of deployed ESI-LAG:
 - ESI-LAG CLIs are not removed from peer devices after deleting ESI-LAG from Network Director.

Workaround: Create quick template for deleting LAG (peer port to client port).

For example, delete interfaces ae1.

- VLANs that are part of routing instance are not removed from devices after deleting ESI-LAG from Network Director.

Workaround: Delete VLANs from VLAN profiles.

[PR1560855]

- LAG deployment and deletion fail when the device is part of ESI-LAG.

Workaround: Use quick template to create LAG and deployment. [PR1560940]

- You cannot revert changes after a deployed ESI-LAG is deleted and then the delete operation is discarded.

Workaround: After you delete a deployed ESI-LAG, discard the changes for each device consecutively. [PR1366966]

- If two MC-LAG peer devices are brown fielded with different device models and if the IP address of any one of the MC-LAG devices matches the IP address of a Peer device of another MC-LAG device, then the Manage MC-LAG page might display MC-LAG pairing with a different model.

Workaround: Ensure that MC-LAG peer device has a unique ICCP local IP address in the network. [PR1116833]

- Device LAG ports configuration is not supported in EVPN-VXLAN.

Workaround: Use the multi-home LAG option to configure device LAG ports. [PR1236498]

- Adding leaf to an existing multihome LAG, editing the multihome ae interface, or deleting an existing leaf from the LAG are not supported in an overlay network.

Workaround: None available at present. [PR1206683]

- When you create a Zero Touch Provisioning (ZTP) profile, you are unable to add a default route or gateway address.

Workaround:

1. Open the *dhcpd.conf* file on the DHCP server.
2. Add an entry for **option routers**, between the **subnet** and **option subnet-mask** entries of the appropriate subnet, and specify the gateway IP address as shown in the example below:

An example code snippet:

```
subnet 10.222.210.0 netmask 255.255.254.0 {
    option routers 10.222.210.1;
    option subnet-mask 255.255.254.0;
```

3. Restart the dhcpd service from the Junos Space console by issuing the **service dhcpd restart** command.

[PR1103325]

- During ZTP, device autodiscovery might fail if the device takes long time to reboot after upgrading to the new image.

Workaround: Discover the device manually if autodiscovery failed after ZTP. [PR1114186]

- Unable to create Layer 3 fabrics as Zero Touch Provisioning (ZTP) is not supported on Centos 7.2.1511 and DHCP 4.2.5.

Workaround: Use the following versions for ZTP support:

- Ubuntu 14.04
- Centos 6.10

[PR1235928]

- After you upgrade Network Director from Release 2.5 to Release 3.0, the VMware vRealize Operations (vROps) stops receiving data from Network Director.

Workaround: After upgrading to Network Director Release 3.0, open the vROps user interface and delete the Network Director adapter, add the Network Director adapter afresh, and try again.

[PR1232254]

- After you make out-of-band changes on authentication details that are part of a VRRP profile, refreshing the configuration does not create a new profile.

Workaround: Make the out-of-band changes as part of the VRRP profile, deploy the VRRP profile, and resynchronize the configuration from Network Director. [PR1100717]

- If you have VRRP version 3, after you edit an already deployed Device Common Settings profile and deploy the changes, the deployment fails. This occurs because Network Director appends the VRRP version 3 configuration also to the changed configuration, whereas only the changed configuration must be deployed.

Workaround: Disable VRRP version 3 or make VRRP configuration compatible with version 3. [PR1118766]

- Network Director does not perform Virtual Chassis resynchronization for standalone devices when the device status changes from DOWN to UP or when Network Director restarts.

Workaround: Delete and rediscover the devices from Network Director. [PR1001626]

- When a device is removed from one Virtual Chassis or Virtual Chassis Fabric and added to another Virtual Chassis or Virtual Chassis Fabric respectively, the show virtual-chassis status output command from Network Director might not display the expected information for that member in either the Virtual Chassis or the Virtual Chassis Fabric.

Workaround: Before you discover that member from Network Director, recycle that member in the Virtual Chassis or Virtual Chassis Fabric in which the member device information is not displayed. [PR970798]

- The Client Sessions and Session Trend widgets might not show any data when a Virtual Chassis member is assigned under Location View or Custom Group View.

Workaround: Assign the Virtual Chassis logical device as a whole under Location View or Custom Group View. [PR1012400]

- Network Director does not display alarms at the member or node level for a Virtual Chassis or a Virtual Chassis Fabric.

Workaround: Select the Virtual Chassis or the Virtual Chassis Fabric device in Logical View to view the alarms. [PR991298]

- If you physically connect a new Virtual Chassis leaf member before adding the leaf member from Network Director, the leaf member might not be mapped to Layer 3 Fabrics as expected.

Workaround: Plug and play is not supported for Virtual Chassis leaf members. Therefore, before you physically connect the Virtual Chassis members, make sure that you add the Virtual Chassis leaf members by using the Layer 3 Fabric wizard. [PR1098910]

- While editing Layer 3 Fabric profiles (Port, VLAN, and Device profiles) users are not warned by any notification that changing Layer 3 Fabric profile configurations might impact the Layer 3 Fabric functionality.

Workaround: After the profiles are modified, you can discard the changes from the Deploy task. [PR1058811]

- For Layer 3 Fabrics, if a plug-and-play leaf device is added and mapped to the Fabric, the Cabling page in the Edit Layer 3 Fabric workflow might not update the cabling plan for that leaf in the graph and grid views.

Workaround: When you edit the Layer 3 Fabric, modify the description in the Fabric Requirements page and then navigate to the Cabling page. The Cabling page updates the proper cabling plan for the plug-and-play leaf device. [PR1058827]

- If the IP address of space nodes change after installing Network Director, the Layer 3 Fabric configuration might still retain the old IP address of space nodes as the SNMP trap target.

Workaround: Log in to Junos Space console and select the (Debug) run shell option. Run the following commands at the shell prompt:

- **python2.7 /opt/configure_for_ND.py -ndvip <VIP> -nodeip <node management ip> -restport 20080 -traptgt <node management ip> -dbuser <DB user> -dbpass <DB password> -ndtrapport 10162**

- If there is a device management interface configured, run the same command using device management ip option as follows:

python2.7 /opt/configure_for_ND.py -ndvip <VIP> -nodeip <device management ip> -restport 20080 -traptgt <device management ip> -dbuser <DB user> -dbpass <DB password> -ndtrapport 10162

- If it is a cluster environment, the command needs to be run on each node. The argument **-traptgt** must be repeated the same number of times as the number of nodes present. Assuming there are four nodes, run the following command on each of the four nodes:

python2.7 /opt/configure_for_ND.py -ndvip <VIP> -nodeip <node management ip> -restport 20080 -traptgt <node1 management ip> -traptgt <node2 management ip> -traptgt <node3 management ip> -traptgt <node4 management ip> -dbuser <DB user> -dbpass <DB password> -ndtrapport 10162

- If it is a cluster environment and each node has a device management interface configured, the command needs to be run on each node. The argument **-traptgt** must be repeated the same number of times as the number of nodes present. Assuming there are four nodes, run the following command on each of the four nodes.

python2.7 /opt/configure_for_ND.py -ndvip <VIP> -nodeip <device management ip> -restport 20080 -traptgt <node1 device management ip> -traptgt <node2 device management ip> -traptgt <node3 device management ip> -traptgt <node4 device management ip> -dbuser <DB user> -dbpass <DB password> -ndtrapport 10162

NOTE: Junos Space Network Director discovers a virtual chassis device as a standalone device when the **openclos** service is not executing properly. Therefore, when you modify the IP address of a Junos space node, restart the **openclos** service after you execute the **/opt/configure_for_ND.py** script.

[PR1062066]

- For IP Fabrics you cannot configure network address as start address.

Workaround: Use a valid network IP address in the subnet. [PR1233532]

- After the IP Fabric provisioning is successfully completed, auto discovery of IP fabric is not getting triggered in Network Director. This is observed when the eth3 interface IP address is changed on Junos Space sever after Junos Space installation.

Workaround: Modify the eth3 IP address in the .conf files that are pushed to the TFTP server when provisioning the IP Fabric. This ensures that new eth3 interface IP address is used by Network Director while discovering the IP Fabric. [PR1293526]

- The overlay fabric configuration does not get deleted when you remove an IP fabric from the Selected section of the Edit Overlay Fabric page. However, the overlay fabric configuration gets deleted if the overlay is deleted from the from the Manage Overlay Fabric page.

Workaround: None available at present. [PR1234916]

- Editing a tenant and assigning ports to a new leaf device, results in failed deployment.

Workaround: Create a new IP fabric device and assign ports to the device before you edit a tenant and deploy it. [PR1232167]

- All the saved changes (not deployed) on the Manage IP connectivity page are lost after you add a new device to the data center.

Workaround: Before adding a new device to the data center, deploy all the changes that you made in the Manage IP Connectivity page. [PR1109046]

- In the Manage IP Connectivity workflow, if you opted not to resynchronize devices that are Out of Sync, then all new Save or Deploy operations might fail with the following message Manage IP Connectivity Fails.

Workaround: Synchronize the devices once prompted. [PR1119978]

- Network Director does not allow deleting an access profile when RADIUS and LDP are configured. Deleting the access profile results in an error. [PR1365125]
- The EX9200 device is not identified as an aggregation device in Junos Fusion setup and the link up job is not triggered.

Workaround: Configure SNMP on EX9200 devices to identify it as an aggregation device. [PR1186656]

- The quick template functionality is not supported in Junos Fusion Enterprise devices.

Workaround: None available at present. [PR1239050]

- In a medium-scale Junos Fusion setup where five Junos Fusion systems each with 100 Satellite Devices are managed, incorrect monitoring data is displayed.

Workaround: In a Junos Fusion setup where 5 Junos Fusion systems each with 100 Satellite Devices are managed, change the number of parallel requests by setting the system property to 5 from default value 25.

To change the parallel requests value:

1. Open a debug (command) prompt by using the Junos Space Settings Menu.
2. Navigate to `/usr/local/jboss/domain/configuration/host.xml`
3. Under `<jvm-options>`, change the option value `<option value="-Dmonitoring.simultaneous.request=5"/>`
4. Restart the JBoss process.
`service jboss restart`

[PR1239748]

- In a Junos Fusion Data Center setup, if the alias name of the satellite device does not match on both the aggregation devices, Network Director does not show the monitoring data for the satellite devices.

Workaround: Configure the same alias name for the satellite device on both the aggregation devices.

[PR1293816]

- Network Director deletes the configuration for ports for which auto-speed detection is disabled in Port Conversion.

Workaround: None available at present. [PR1228275]

- The Deploy Configuration page lists all devices for Port Conversion.

Workaround: Use the Device Selection page to only those devices for which you want to convert ports.

[PR1227932]

- Port Conversion pushes the configuration to incorrect FPCs if the renumbering member ID command is used in the configuration for devices that support VC and VCF configurations.

Workaround: None available at present. [PR1227497]

- Network Director might not validate port groups in Port Conversion for QFX10002 and QFX10008 switches.

Workaround: None available at present. [PR1228276]

- The Port Conversion page displays for EX4600 switches even though the port conversion is not supported for these devices.

Workaround: Do not select EX4600 devices for port conversion. [PR1226676]

- After you deploy a policy from Network Director, if you clear the policy options and remove the corresponding Route Filters, only the association of the policy with BGP is deleted. The policy as such is not deleted from the device.

Workaround: None available at present. [PR1109827]

- Deleting configuration files in Junos Space for devices also removes the baseline for the devices.

Workaround: None available at present. [PR1107121]

- If an image upgrade job and a cluster fail job runs simultaneously, the image upgrade job status might show as Success, but the image might not have been upgraded.

Workaround: Retry the image upgrade after cluster failover is complete. [PR1109072]

- In the Dashboard View, the data for the last one hour is displayed in grey color after the filter criteria is applied for one hour.

Workaround: None available at present. [PR1058767]

- Network Director does not support IPv6 topology discovery.

Workaround: None available at present. [PR1204972]

- Network Director might not be able to discover virtual machine tags for vCenter Version 6.0, if there is no description for tags or categories.

Workaround: Upgrade to vCenter Version 6.0 Update 1 or later and try again. [PR1186865]

- In the manual mode, when out-of-band changes are resynchronized, the conflicting CR might not be listed for quick templates.

Workaround: None available at present. [PR1046833]

- If you associate a hierarchical Data Center switching or Campus switching ELS CoS profile that has Priority Flow Control configuration with an interface of an EX4300 switch that is part of an EX4600 Virtual Chassis, QFX Virtual Chassis, or Virtual Chassis Fabric, the deployment fails.

Workaround: Clone the CoS profile, remove the PFC settings from the cloned profile, and associate the cloned profile with the EX4300 interfaces. [PR1017364]

- Unable to close Details window under Monitor mode.

Workaround: Press **Esc** to close the Details window. [PR1117428]

- Running a VM to VM flow analysis might fail or show latency values as 0/0/0 if there are other flows on the VMs being analyzed.

Workaround: None available at present. [PR1062477]

- After you upgrade Network Director from Release 2.5 to Release 3.0, you might not be able to add QFX-5200 and QFX5100-24Q switches as leaf devices under Layer 3 Fabrics.

Workaround: None available at present. [PR1235922]

- After you upgrade Network Director from Release 2.5 to Release 3.0, incorrect roles are displayed for some of the users.

Workaround: Roles and tasks are not deleted after the upgrade and only additional tasks are added. Delete these additional tasks after the upgrade. [PR1231329]

- After an upgrade to Network Director 3.0, earlier versions of APIs are listed.

Workaround: Right-click on the APIs and select Uninstall to remove the earlier versions. [PR1229453]

- If you open Network Director in multiple tabs of the same browser window, autorefresh works only for the latest tab.

Workaround: For autorefresh to work on all sessions, use different browsers. [PR978137]

- With Microsoft Internet Explorer 11, the View Virtual Network Connectivity page in the Datacenter View might not display the Zoom In, Zoom Out, and Refresh icons.

Workaround: Scroll to the left of the screen to use the Zoom In, Zoom Out, and Refresh icons. [PR1098365]

- 100-Gigabit Ethernet ports are shown as 40-Gigabit Ethernet ports in the Convert Ports page unless explicitly set in device.

Workaround: Set the ports with 100-Gigabit transceivers in the device by using the command: `set chassis fpc 0 pic 0 port 8 speed 100G` and commit the configuration. Wait for the device to be in sync. The Convert Ports page now shows the port correctly as a 100-Gigabit Ethernet port. [PR1234853]

- After adding a cascade port, the satellite cluster is not added to the aggregation devices when the link up event is triggered.

Workaround:

1. Connect the device directly to a cascade port on the aggregation device.
2. Configure the port as a cascade port.
3. Refresh the topology and verify the configuration generated on the device.
4. After the resync fusion inventory job is triggered, check the tree to see whether the cluster is added to the Enterprise Fusion setup.

[PR1228613]

- The tree view is not correctly displayed when there is more than one cluster with the same name in the tree view.

Workaround:

1. Make sure only ICCP and ICL devices are connected, and refresh the topology.

The link up event is triggered only for redundancy satellite devices, and not for FPC satellite devices.

2. Connect single-home satellite device or a cluster devices to one of the aggregation device in a multi-host setup and refresh the topology.

The link up event generates the configuration for different FPC devices.

[PR1225525]

- Monitoring cannot be disabled for aggregation devices at the group level.

Workaround: None available at present. [PR1213805]

- The configuration for orchestration for ELS devices fails if you select the interface mode as access or if you do not configure an interface mode.

Workaround: Log in to the device and set interface mode as trunk for the interface and then configure orchestration for that interface. [PR1235223]

- When large number of devices are discovered in Network Director, some of the device status is shown as Down in Network Director even though their status is shown as UP in Junos Space Management Platform.

Workaround: Delete devices that are incorrectly shown as Down in Network director and re-discover the devices in Network Director. [PR1207914]

- In large-scale environments, some of the devices cannot be monitored after the device discovery.

Workaround: Restart the JBoss server for the monitoring features to work properly in standalone and cluster setups:

To restart the JBoss server in a standalone setup:

1. Stop the watchdog, domain controller, and JBoss services on the standalone node.

```
service jmp-watchdog stop
```

```
service jboss-dc stop
```

```
service jboss stop
```

2. Start the watchdog service.

```
service jmp-watchdog start
```

NOTE: Starting the watchdog service restarts the JBoss and domain controller services as well.

To restart the JBoss server in a cluster setup:

1. Stop the services on the secondary node.

```
service jmp-watchdog stop
```

```
service jboss stop
```

2. Stop the services on the primary node (You can find the VIP hosted node at Space > Fabric).

```
service jmp-watchdog
```

```
stop service jboss-dc
```

```
stop service jboss stop
```

3. Start the watchdog service on the primary node.

```
service jmp-watchdog start
```

4. Start the watchdog service on the secondary node.

```
service jmp-watchdog start
```

[PR1165010]

- VLANs that are not configured with Layer 3 interfaces are mapped to spine devices.

Workaround: None available at present. [PR1237441]

- High CPU utilization is observed in the EX2300 or EX3400, devices when these devices are managed and monitored in Network Director.

Workaround: Increase the poll interval from default 10 mins to 40 or 50 mins for the categories PortTrafficMonitorCollector and EquipmentMonitorDeviceStatusCollector under monitor settings.

To increase the poll interval:

1. Navigate to **Preferences > Monitoring > Monitoring Settings**.

The Preferences page displays the monitoring settings.

2. In the **Poll Interval (in mins)** field, enter the poll interval for the categories PortTrafficMonitorCollector and EquipmentMonitorDeviceStatusCollector.

3. Click **OK**.

NOTE: The poll interval for both the categories should be the same.

If increasing poll interval does not reduce the CPU usage, disable monitoring for affected devices.

To disable monitoring for the devices:

1. Navigate to **Preferences > Monitoring > Device Settings**.

The Preferences page displays Enable/Disable Collection for devices in a tabular format.

2. From the table, select the check box that corresponds to the device for which you want to disable the monitoring.
3. Click **Disable**.
4. Click **OK**.

[PR1285504]

- In Network Director Wired Device Common Settings, you cannot disable the DHCP relay on a device.

Workaround: To disable the DHCP relay on a device, access the device by using the CLI and remove the DHCP relay config stanza from the device. [PR1290375]

- When the Connection Association Key and Confirm Connection Association Key are edited in a MACsec profile, the MACsec profile does not show the state as Pending Deployment.

Workaround: Edit some other attribute in the MACsec profile along with the Connection Association Key and Confirm Connection Association Key for the MACsec profile to show the state as Pending Deployment. [PR1295679]

- Duplicate filter profiles promoted on upgrade from Network Director 3.5 to Network Director 3.6. [PR1422843]

Resolved Issues

The following issues are resolved in Network Director Release 5.1R1:

- Resync device job fails for multiple devices with different errors. [PR1490369]
- Unable to resynchronize device on Network Director. [PR1502230]

- Duration knob/drop-down for port utilization and bandwidth statistics on Network Director does not work as expected for some time. [[PR1545565](#)]

Hot Patch Releases

This section describes the installation procedure and resolved issues in Network Director Release 5.1R1 hot patches.

During hot patch installation, the script performs the following operations:

- Blocks the device communication.
- Stops JBoss, JBoss-dc, and watchdog services.
- Backs up existing configuration files and Enterprise Application Archive (EAR) files.
- Updates the Red Hat Package Manager (RPM) files.
- Restarts the watchdog process, which restarts JBoss and JBoss-dc services.
- Unblocks device communication after the watchdog process is restarted for device load balancing.

NOTE: You must install the hot patch on Network Director 5.1R1.98 or on any previously installed hot patch. The hot patch installer backs up all the files that are modified or replaced during hot patch installation.

Installation Instructions

Perform the following steps in the CLI of the JBoss-VIP node only:

1. Download the Network Director 5.1R1 Patch vX from the [Downloads](#).
X is the hot patch version. For example, v1, v2, and so on.
2. Copy the **ND-5.1R1-hotpatch-vX.tgz** file to the **/home/admin** folder of the VIP node.
3. Verify the checksum of the hot patch:
md5sum ND-5.1R1-hotpatch-vX.tgz.
4. Extract the **ND-5.1R1-hotpatch-vX.tgz** file:
tar -zxvf ND-5.1R1-hotpatch-vX.tgz

5. Change the directory to **ND-5.1R1-hotpatch-vX**:

```
cd ND-5.1R1-hotpatch-vX
```

6. Execute the **patchme.sh** script from the **ND-5.1R1-hotpatch-vX** folder:

```
sh patchme.sh
```

The script detects whether the deployment is standalone deployment or a cluster deployment and installs the patch accordingly.

A marker file **/etc/.ND5.1R1-hotpatch-vX** is created with the list of RPMs that are fixed in the hot patch.

NOTE: We recommend that you install the latest available hot patch version, which is the cumulative patch.

Resolved Issues in Network Director Release 5.1R1 Hot Patches

Table 12 on page 38 lists the resolved issues in Network Director Release 5.1R1 hot patches.

Table 12: Resolved Issues in Network Director Release 5.1R1 Hot Patches

PR	Description	Hot Patch Version
PR1622267	After you upgrade to Network Director Release 5.1R1, devices are shown as out of sync.	v4
PR1604579	After you upgrade to Junos Space Network Management Platform Release 21.2R1, HTTPD service is not running.	v3
PR1598958	You cannot view the Pacemaker and Corosync Shell (PCS) status output if Network Director is installed.	v3

NOTE: If the hot patch contains a user interface fix, you must clear the Web browser's cache for the latest changes to take effect.

Finding More Information

For the latest, most complete information about known and resolved issues with Junos Space Network Management Platform and Junos Space Management Applications, see the Juniper Networks Problem Report Search application at: <http://prsearch.juniper.net>.

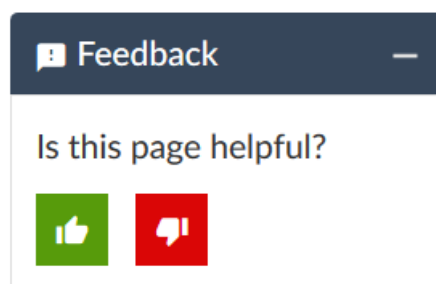
Juniper Networks Feature Explorer is a Web-based application that helps you to explore and compare Junos Space Network Management Platform and Junos Space Management Applications feature information to find the correct software release and hardware platform for your network. Find Feature Explorer at: <http://pathfinder.juniper.net/feature-explorer/>.

Juniper Networks Content Explorer is a Web-based application that helps you explore Juniper Networks technical documentation by product, task, and software release, and download documentation in PDF format. Find Content Explorer at: <http://www.juniper.net/techpubs/content-applications/content-explorer/>.

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- Online feedback system—Click TechLibrary Feedback, on the lower right of any page on the [Juniper Networks TechLibrary](#) site, and do one of the following:



- Click the thumbs-up icon if the information on the page was helpful to you.
- Click the thumbs-down icon if the information on the page was not helpful to you or if you have suggestions for improvement, and use the pop-up form to provide feedback.
- 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 Partner Support Service support contract, or are covered under warranty, and need post-sales technical support, you can access our tools and resources online or open a case with JTAC.

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the *JTAC User Guide* located at <https://www.juniper.net/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.

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

- Find CSC offerings: <https://www.juniper.net/customers/support/>
- Search for known bugs: <https://prsearch.juniper.net/>
- Find product documentation: <https://www.juniper.net/documentation/>
- Find solutions and answer questions using our Knowledge Base: <https://kb.juniper.net/>
- Download the latest versions of software and review release notes: <https://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <https://kb.juniper.net/InfoCenter/>
- Join and participate in the Juniper Networks Community Forum: <https://www.juniper.net/company/communities/>
- Create a service request online: <https://myjuniper.juniper.net>

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

Creating a Service Request with JTAC

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

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

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

Revision History

11 January 2022—Revision 2, Junos Space Network Director Release 5.1R1.

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