

Juniper NETWORKS NFX350 Network Services Platform



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NFX350 Network Services Platform Overview

The Juniper Networks NFX350 Network Services Platform is a secure, automated, software-driven universal customer premises equipment (uCPE) platform that delivers virtualized network and security services on demand. Leveraging Network Functions Virtualization (NFV) and built on the Juniper Cloud CPE solution, NFX350 enables

service providers to deploy and chain multiple, secure, high-performance virtualized network functions (VNFs) on a single device.

The NFX350 is suited for large and extra-large deployments. The NFX350 is a high-end resilient UCP platform that can be used in secure SD-WAN and secure router deployments.

For more information on NFX350 Hardware, see the NFX350 Hardware Guide available at:

<https://www.juniper.net/documentation/enUS/release-independent/junos/information-products/pathway-pages/nfx-series/product/>

Package Contents

The NFX350 device is shipped with the following parts:

- A four-post rack-mount kit
- An AC power cord with plugs appropriate for your geographical location
- An AC power cord retainer clip
- End-user license agreement
- Documentation roadmap card

What Else Do I Need

- Someone to help you secure the device to the rack
- An electrostatic discharge (ESD) grounding strap
- RJ-45 cable and RJ-45 to DB-9 serial port adapter



NOTE: We no longer include a DB-9 to RJ-45 cable or a DB-9 to RJ-45 adapter with a CAT5E copper cable as part of the device package. If you require a console cable, you can order it separately with the part number JNP-CBL-RJ45-DB9 (DB-9 to RJ-45 adapter with a CAT5E copper cable).

NFX350 Front Panel and Rear Panel

Figure 1: Front Panel Components of NFX350

1	Reset button	6	Two expansion slots
2	Two USB 3.0 ports	7	SSD and slot status LEDs
3	– One 10/100/1000BASE-T RJ-45 management port	8	– Eight 1-Gigabit Ethernet/1 SFP+ WAN ports
4	Eight 10/100/1000BASE-T RJ-45 LAN ports	9	RJ-45 console port
5	System status LEDs	10	Mini-USB console port

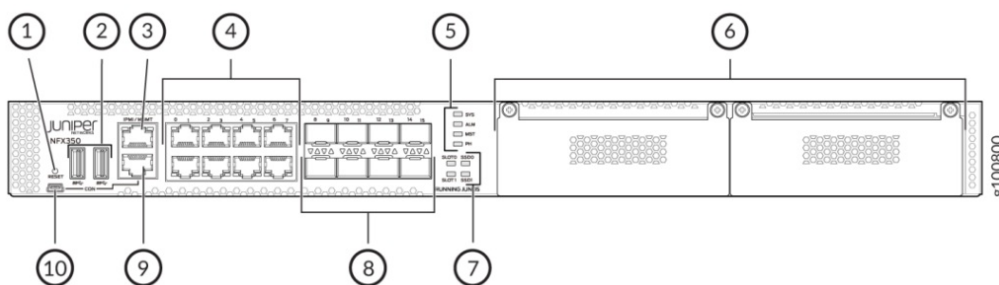
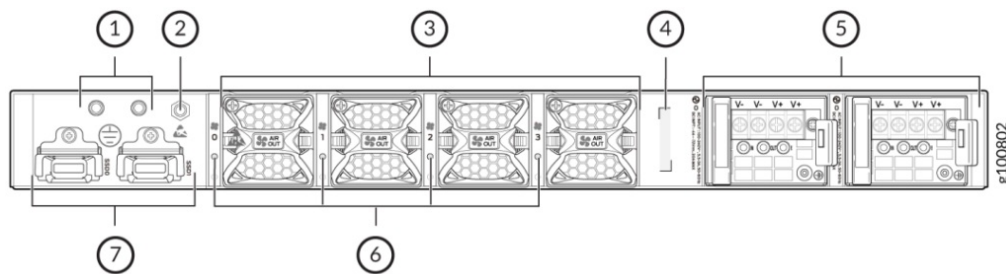


Figure 2: Rear Panel Components of NFX350

1	Grounding point	5	Two power supply units
2	Electrostatic discharge (ESD) point	6	Fan status LEDs
3	Four fans	7	Two SSD trays
4	CLEI code		



Mounting an NFX350 Device on Four Posts in a Rack or Cabinet

You can mount the device a four-post rack by using the mounting brackets provided with the device.



NOTE: The device weighs approximately 9.4 lb (4.3 kg). Two persons are required for mounting the device.

To mount an NFX350 device on a rack, you require the parts that are shipped with the device along with the following additional parts and equipment. These are not shipped with the device.

- Electrostatic discharge (ESD) grounding strap
- Four screws to secure the chassis and mounting bracket to the rack
- Phillips (+) screwdriver, number 2
- Management host, such as a PC or laptop, with a serial port
- Two 10-32 x .25 inch screws with #10 split-lock washer
- Two #10 flat washers
- Grounding cable (minimum 14 AWG (2 mm²), minimum 90°C wire), grounding lug (Panduit LCC10-14BWL or equivalent), a pair of 10-32x.25-in. screws, and a pair of flat washers

For information about installing the grounding cable, see the NFX350 Hardware Guide available at:

https://www.juniper.net/documentation/en_US/release-independent/junos/information-products/pathway-pages/nfx-series/product/



NOTE: Ensure that the rack is in its permanent location, allowing adequate

clearance for airflow and maintenance, and secured to the building structure.



NOTE: If you are mounting multiple units in the rack, mount the heaviest unit at the bottom and mount the other units from bottom to top in the order of decreasing weight.

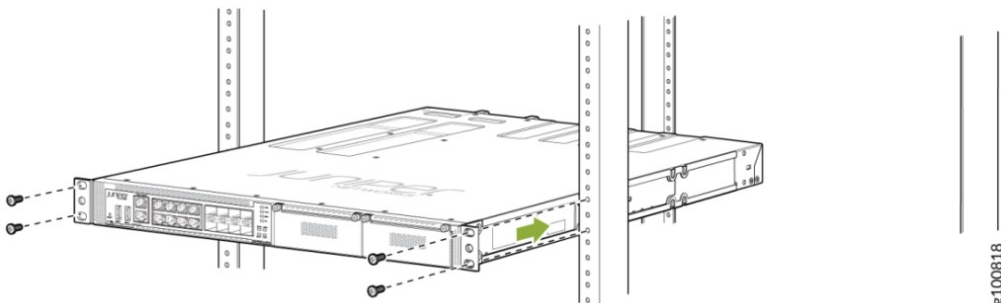


CAUTION: Wrap and fasten one end of the ESD grounding strap around your wrist and connect the other end to a site ESD point.

To mount the device on a rack:

1. Align the mounting brackets along the front or rear of the side panels of the chassis—depending on whether you will front-mount or rear-mount the device—and attach the mounting brackets to the chassis by using the mounting bracket screws. Tighten the screws.
2. Have one person grasp both sides of the device, lift the device, and position it in the rack, aligning the mounting bracket holes with the threaded holes in the rack rail. Align the bottom hole in each mounting bracket with a hole in each rack rail, making sure that the chassis is level.

Figure 3: Attaching the Device to the Rack



3. Have the second person use the rack-mounting screws (and cage nuts and washers if your rack requires them) to attach the mounting brackets to the rack.
4. Slide the rear mounting-blades into the front-mounting brackets.
5. Attach the rear mounting-blades to the rear post by using the appropriate screws for your rack. Tighten the screws.
6. Ensure that the device chassis is level by verifying that all the screws on the front of the rack are aligned with the screws at the back of the rack.

Connect Power to the Device



CAUTION: Wrap and fasten one end of the ESD grounding strap around your wrist and connect the other end to a site ESD point.



NOTE: Ensure that you ground AC-powered systems by attaching one end of the grounding cable to earth ground and the other end to the chassis grounding points.

To connect the device to the power supply:

1. Set the power switch on the device to the off (O) position.
2. Insert the power cord plug into the power source outlet and power cord coupler into the chassis power inlet.
3. Set the power switch to the on (1) position.
4. Verify that the power LED is lit green and on steadily.

Power Cable Warning (Japanese)



WARNING: The attached power cable is only for this product. Do not use this cable for another product.

Factory-Default Settings

The NFX350 device is shipped with the following factory-default settings:

Table 1: Security Policies

Source Zone	Destination Zone	Policy Action
trust	trust	permit
trust	untrust	permit

Table 2: Interfaces

Port Label	Interface	Security Zone	DHCP State	IP Address
------------	-----------	---------------	------------	------------

0/0 to 0/7	ge-0/0/0 to ge-0/0/7	trust	server	192.168.2.1/24
0/8 to 0/15	xe-0/0/8 to xe-0/0/15	untrust	client	ISP assigned
MGMT	fxp0	N/A	N/A	192.168.1.1/24

Table 3: LTE Interfaces

Interface	Security Zone	IP Address
cl-1/1/0	N/A	N/A
dl0 (logical)	untrust	ISP assigned

The NFX350 device is shipped with the following services enabled by default: DHCP, HTTPS, and TFTP.

To provide secure traffic, a basic set of screens are configured on the untrust zone.

Access the NFX350 Device

1. Ensure that the NFX350 device is powered on.
2. Connect to the console port:
 - a. Plug one end of the Ethernet cable into the console port on your NFX350 device.
 - b. Connect the other end of the Ethernet cable to the RJ-45-to-DB-9 serial port adapter (not provided).



NOTE: We no longer include the console cable as part of the device package. If the console cable and adapter are not included in your device package, or if you need a different type of adapter, you can order the following separately:

- RJ-45 to DB-9 adapter (JNP-CBL-RJ45-DB9)
- RJ-45 to USB-A adapter (JNP-CBL-RJ45-USBA)
- RJ-45 to USB-C adapter (JNP-CBL-RJ45-USBC)

If you want to use an RJ-45 to USB-A or RJ-45 to USB-C adapter, you must have

the X64 (64-Bit) Virtual COM port (VCP) driver installed on your PC. See <https://ftdichip.com/drivers/vcp-drivers/> to download the driver.

c. Connect the RJ-45-to-DB-9 serial port adapter to the serial port on the management device.

Use the following values to configure the serial port:

Baud rate-9600; Parity-N; Data bits-8; Stop bits-1; Flow control-None.



NOTE: Alternately, you can use the USB cable to connect to the mini-USB console port on the device. To use the mini-USB console port, you must download the USB driver from the following page and install it on the management device:

<https://www.juniper.net/support/downloads/junos.html>

3. Use any terminal emulation program, such as HyperTerminal, to connect to the device console. The CLI displays a login prompt.
4. Login as root. If the software completes booting before you connect to the console, you might need to press the Enter key for the prompt to appear:

```
login: root
```

5. Start the CLI:

```
root@:~ # cli
```

```
root@>
```

6. Enter configuration mode:

```
root@> configure
```

```
[edit]
```

```
root@#
```

7. Change the password for the root administration user account:

```
[edit]
```

```
root@# set system root-authentication plain-text-password
```

```
New password: password
```

```
Retype new password: password
```

8. Enable SSH service for the root user:

```
[edit]
```

```
root@# set system services ssh root-login allow
```

9. (Optional) Enable WAN connection for devices connected on LAN:

```
[edit]
```



```
root@# set access address-assignment pool junos DHCP Pool family inet dhcp-attributes
name-
server dns-server-ip
```

10. Commit the configuration:

```
[edit]
root@# commit
```

Establish the Connection

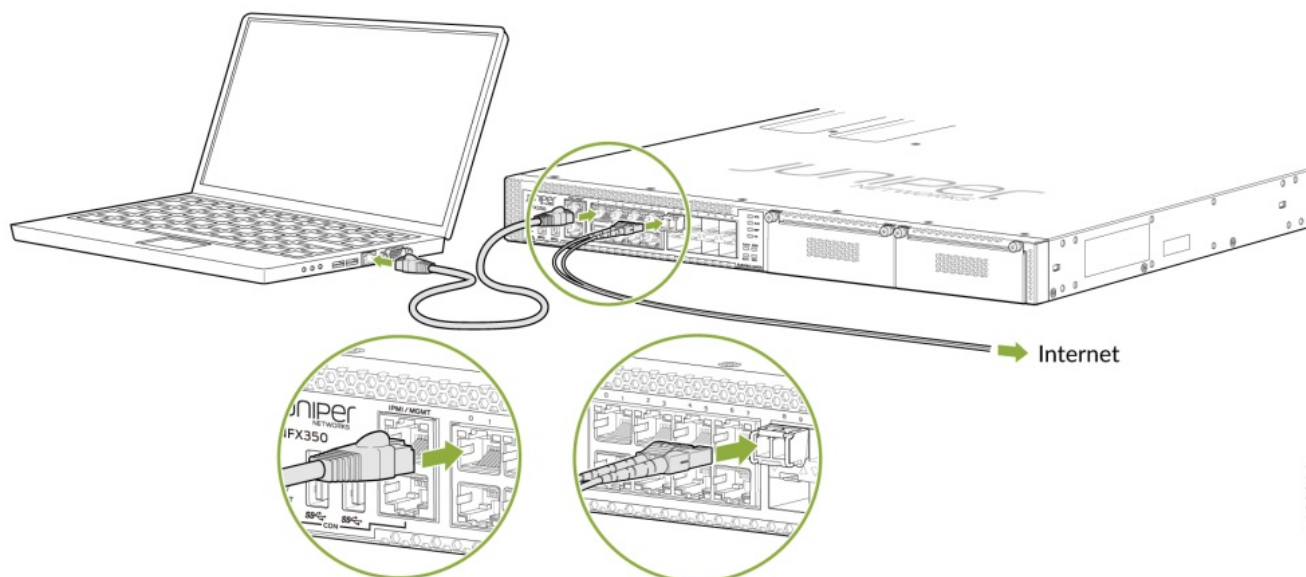
1. Connect the device to the Internet Service Provider (ISP) by using the following step:



NOTE: For information on interface mapping, see Figure 4 on page 9.

Connect one of the WAN ports ranging from xe-0/0/8 to xe-0/0/15 to the ISP. The device is assigned an IP address by the ISP through DHCP.

Figure 4: Connecting the Interfaces on an NFX350 Device



NOTE: The LTE expansion module must be purchased separately. Optionally, you can obtain a SIM card from the ISP and connect the device through LTE.

For more information about SIM card activation, see the How to Configure NFX350 available at:

https://www.juniper.net/documentation/en_US/release-independent/junos/information-products/pathway-pages/nfx-series/product/

2. Connect the laptop to one of the front panel LAN ports ranging from ge-0/0/0 to ge-0/0/7. The laptop is assigned an IP address by the DHCP server running on the interface.
3. Open a browser on your laptop, navigate to <https://www.juniper.net>, and verify your

connectivity.

Next Steps

For information on downloading the image, provisioning virtual network functions (VNFs), and performing initial configuration using the CLI, see the How to Configure NFX350 available at:

https://www.juniper.net/documentation/en_US/release-independent/junos/information-products/pathway-pages/nfx-series/product/

Safety Warnings Summary

This is a summary of safety warnings. For a complete list of warnings, including translations, see the NFX350 documentation at

https://www.juniper.net/documentation/en_US/release-independent/junos/information-products/pathway-pages/nfx-series/product/.



WARNING: Failure to observe the following safety warnings can result in personal injury or death:

- Permit only trained and qualified personnel to install or replace device components.
- Perform only the procedures described in this Quick Start Guide and the NFX350 documentation. Other services must be performed only by authorized service personnel.
- Before installing the device, read the planning instructions in the NFX350 documentation to make sure that the site meets power, environmental, and clearance requirements for the device.
- Before connecting the device to a power source, read the installation instructions in the NFX350 documentation.
- The NFX350 device weighs approximately 13 lb (5.9 kg). Manually installing the device in a rack at a height above 60 in. (152.4 cm) requires two persons; one to lift the device and the second to install the mounting screws. To prevent injury while lifting, keep your back straight and lift with your legs, not your back.
- If the rack has stabilizing devices, install them in the rack before mounting or servicing the device in the rack.

- Before installing or after removing an electrical component, always place it component-side up on an antistatic mat placed on a flat, stable surface or in an antistatic bag.
- Do not work on the device or connect or disconnect cables during electrical storms.
- Before working on equipment that is connected to power lines, remove jewelry, including rings, necklaces, and watches.
- Metal objects heat up when connected to power and ground and can cause serious burns or become welded to the terminals.

Reference

Technical Support

<https://www.juniper.net/support/requesting-support.html>

How to Configure NFX350

https://www.juniper.net/documentation/en_US/release-independent/junos/information-products/pathway-pages/nfx-series/product/

NFX350 Hardware Guide


https://www.juniper.net/documentation/en_US/release-independent/junos/information-products/pathway-pages/nfx-series/product/

Supported Transceivers

<https://apps.juniper.net/hct/product/#prd=NFX350>



Documents / Resources

	<p>Juniper NETWORKS NFX350 Network Services Platform [pdf] User Guide</p> <p>NFX350, NFX350 Network Services Platform, Network Services Platform, Services Platform</p>
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References

- [User Manual](#)

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