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Quick Start Guide

NFX150-S1 Network Services Platform Quick Start

IN THIS GUIDE

NFX150 Network Services Platform Overview

The Juniper Networks NFX150 Network Services Platform is a secure, automated, software-driven customer premises equipment (CPE) that delivers virtualized network and security services on demand. The NFX150 integrates routing, switching, and security functions on a single platform. The NFX150 is suited for small to medium-sized enterprises and can be used as a secure router or Universal CPE (uCPE).

For more information on NFX150 Hardware, see the *NFX150 Hardware Guide* available at:

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

Package Contents

The NFX150-S1 device is shipped with the following parts:

- One pair of front-mounting brackets

- Eight screws to secure the mounting brackets to the chassis

- An AC power cord with plugs appropriate for your geographical location

- RJ-45 cable and RJ-45 to DB-9 serial port adapter

Register the Product

Register product serial numbers on the Juniper Networks website and update the installation base data if there is any addition or change to the installation base or if the installation base is moved. Juniper Networks will not be held accountable for not meeting the hardware replacement service-level agreement for products that do not have registered serial numbers or accurate installation base data.

Register your product at https://tools.juniper.net/svcreg/SRegSerialNum.jsp.

Update your installation base at https://www.juniper.net/customers/csc/management/updateinstallbase.jsp.

NFX150-S1 Front Panel and Rear Panel

Figure 1: Front Panel Components of NFX150-S1
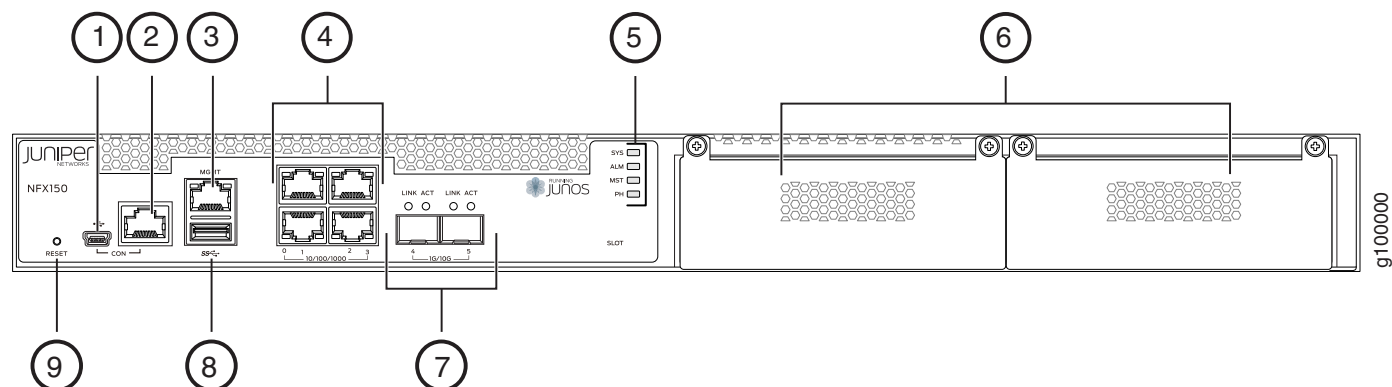
1—Mini USB console Port	6—Expansion module slots
2—RJ-45 console port	7—Two 1-Gigabit Ethernet/10-Gigabit Ethernet SFP+ WAN ports
3—One 10/100/1000BASE-T RJ-45 management port	8—USB 3.0 port
4—Four 10/100/1000BASE-T RJ-45 LAN ports	9—Reset button
5—System status LEDs	

Figure 2: Rear Panel Components of NFX150-S1
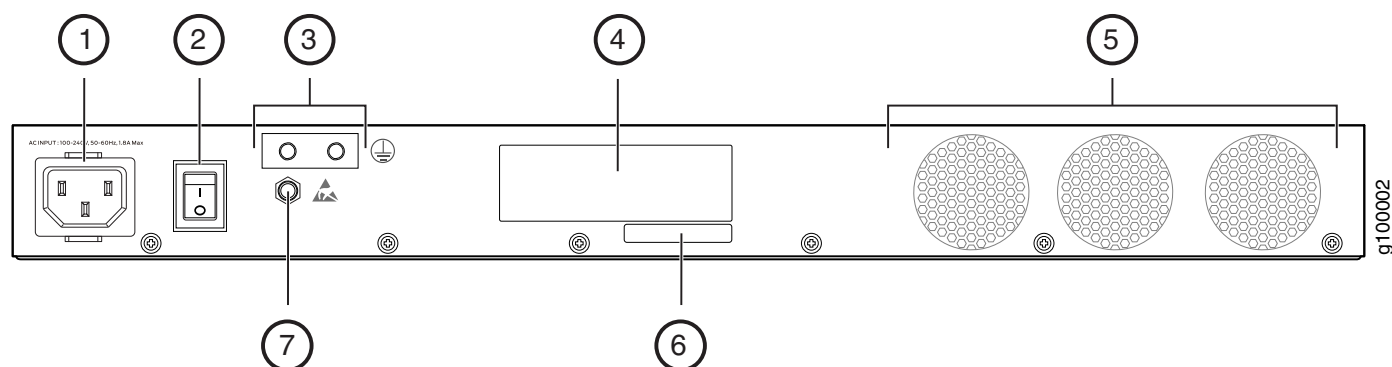
1—AC power cord inlet	5—Fans
2—Power switch	6—CLEI code
3—Grounding point	7—Electrostatic discharge (ESD) point
4—Serial number	

Mount an NFX150-S1 Device on Two Posts of a Rack

To mount an NFX150-S1 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

- 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 *NFX150 Hardware Guide* available at:

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

You can mount an NFX150-S1 device on two posts of a 19-in. rack by using the mounting brackets provided with the device. To install NFX150-S1 on two posts of a 23-in. rack, you need additional mounting brackets.

NOTE: The device weighs approximately 13 lb (5.9 kg). Two persons are required for mounting the device.

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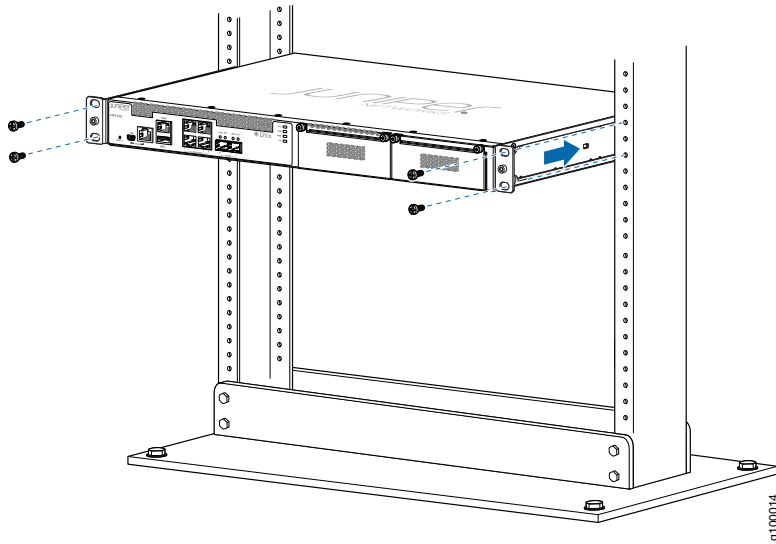
CAUTION: Wrap and fasten one end of the ESD grounding strap around your wrist and connect the other end to a site ESD point.

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: Mounting the Device on Two Posts of a 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.

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 (**|**) 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.

注意

附属の電源コードセットはこの製品専用です。
他の電気機器には使用しないでください。

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Factory-Default Settings

The NFX150 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: Interface Mapping (for Junos OS Releases 18.1, 18.2 R1, and 18.3 R1)

Port Label	Interface	Virtual Interface	Security Zone	DHCP State	IP Address
0/0 to 0/3	heth-0-0 to heth-0-3	ge-0/0/0 to ge-0/0/3	trust	Server	192.168.2.1/24
0/4	heth-0-4	ge-1/0/1	untrust	Client	ISP assigned
0/5	heth-0-5	ge-1/0/2	untrust	Client	ISP assigned
MGMT	fxp0	N/A	N/A	N/A	192.168.1.1/24

Table 3: Interface Mapping (for Junos OS Releases 18.2 R2 and 18.4R1)

Port Label	Interface	Virtual Interface	Security Zone	DHCP State	IP Address
0/0 to 0/2	heth-0-0 to heth-0-2	ge-0/0/0 to ge-0/0/2	trust	Server	192.168.2.1/24

Table 3: Interface Mapping (for Junos OS Releases 18.2 R2 and 18.4R1) *(continued)*

Port Label	Interface	Virtual Interface	Security Zone	DHCP State	IP Address
0/3	heth-0-3	ge-1/0/1	untrust	Client	ISP assigned
0/4	heth-0-4	ge-0/0/3	trust	Server	192.168.2.1/24
0/5	heth-0-5	ge-1/0/2	untrust	Client	ISP assigned
MGMT	fxp0	N/A	N/A	N/A	192.168.1.1/24

Table 4: LTE Interfaces

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

The NFX150 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 Device

1. Ensure that the NFX150 device is powered on.

2. Connect to the console port:

   a. Plug one end of the Ethernet cable into the console port on your NFX150 device.

   b. Connect the other end of the Ethernet cable to the RJ-45—to—DB-9 serial port adapter shipped with your device.

   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. Log in as **root** and enter the password **juniper123**. 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
    password: juniper123
    ```

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 junosDHCPPool 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 Table 2 and Table 4.

   Connect one of the WAN ports such as **heth-0-4** or **heth-0-5** to the ISP. The device is assigned an IP address by the ISP through DHCP.

   Figure 4: Connecting the Interfaces on an NFX150-S1 Device
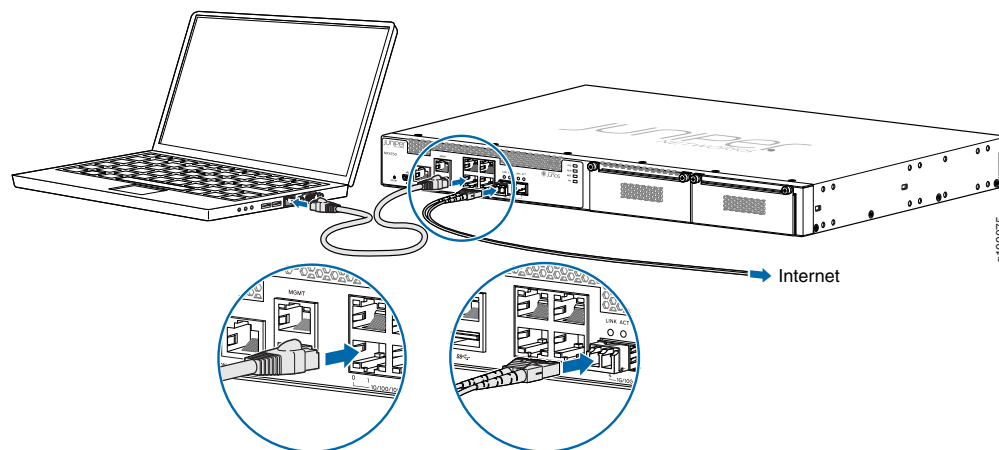
   Optionally, you can obtain a SIM card from the ISP and connect the device through LTE.

   > **NOTE:** The LTE expansion module must be purchased separately.

   For more information about SIM card activation, see the *Getting Started with NFX150* 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 such as **heth-0-0**, **heth-0-1**, **heth-0-2**, or **heth-0-3**. 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 *Getting Started with NFX150* 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 NFX150 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 NFX150 documentation. Other services must be performed only by authorized service personnel.

- Before installing the device, read the planning instructions in the NFX150 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 NFX150 documentation.

- The NFX150 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

- Getting Started with NFX150

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

- NFX150 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=NFX150