



Connecting a Cisco Nexus Fabric Extender

This chapter describes how to connect the ports on a Cisco Nexus Fabric Extender (FEX).


Caution

When running power and data cables in overhead or subfloor cable trays, we strongly recommend that you have power cables and other potential noise sources as far away as practical from network cabling that terminates on Cisco equipment. In situations where long parallel cable runs cannot be separated by at least 3.3 feet (1 m), we recommend that you shield any potential noise sources by housing them in a grounded metallic conduit.

This chapter includes the following sections:

- [Preparing for Network Connections, page 3-2](#)
- [Connecting to the 1-Gigabit Ethernet Port, page 3-2](#)
- [Connecting to a 10-Gigabit and 40-Gigabit Ethernet Port, page 3-2](#)

Preparing for Network Connections

When preparing your site for network connections to the Cisco Nexus FEX, consider the following for each type of interface, and gather all the required equipment before connecting the ports:

- Cabling required for each interface type
- Distance limitations for each signal type
- Additional interface equipment required

Connecting to the 1-Gigabit Ethernet Port

This section describes how to connect a 1-Gigabit Ethernet port to a host.

The 1-Gigabit Ethernet ports have RJ-45 interfaces. There are 48 1-Gigabit Ethernet server ports.

To connect a 1-Gigabit Ethernet port to a host, follow these steps:

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- Step 1** Connect the appropriate modular cable to the 1-Gigabit Ethernet port.
- Step 2** Connect the other end of the cable to the device.
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Connecting to a 10-Gigabit and 40-Gigabit Ethernet Port

This section describes how to connect a 10-Gigabit or 40-Gigabit Ethernet port to a host. There are four network facing 10-Gigabit Ethernet ports for the Cisco Nexus 2148T and 2248TP, eight for the Cisco Nexus 2232TM, 2232TM-E, and 2232PP, and two on the Cisco Nexus 2224TP. An SFP+ transceiver is used to connect to a 10-Gigabit Ethernet port. The Cisco Nexus 2300 Series platform FEXs provide six network facing 40-Gigabit uplink ports. A QSFP+ transceiver is used to connect to a 40-Gigabit Ethernet port.

This section includes the following topics:

- [Removing and Installing SFP+ Transceivers, page 3-2](#)
- [Removing and Installing Cables into SFP+ Transceivers, page 3-4](#)
- [Maintaining SFP+ Transceivers and Cables, page 3-6](#)

Removing and Installing SFP+ Transceivers



Caution

Excessively removing and installing an SFP transceiver can shorten its life. Do not remove and insert SFP+ transceivers more often than is necessary. We recommend that you disconnect cables before installing or removing SFP transceivers to prevent damage to the cable or transceiver.

This section describes how to install and remove an SFP+ transceiver. This section includes the following topics:

- [Installing an SFP+ Transceiver, page 3-3](#)

- [Removing an SFP+ Transceiver, page 3-3](#)

Installing an SFP+ Transceiver

To install an SFP+ transceiver, follow these steps:

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- Step 1** Attach an ESD-preventive wrist strap and follow its instructions for use.
- Step 2** Remove the dust cover from the port cage.
- Step 3** Remove the dust cover from the port end of the transceiver.
- Step 4** Insert the transceiver into the port as follows:
- If the transceiver has a Mylar tab latch, position the transceiver with the tab on the bottom, and then gently insert the transceiver into the port until it clicks into place.
 - If the transceiver has a bale clasp latch, position the transceiver with the clasp on the bottom, close the clasp by pushing it up over the transceiver, and then gently insert the transceiver into the port until it clicks into place.



Caution If the transceiver does not install easily, ensure that it is correctly positioned and the tab or clasp are in the correct position before continuing.



Note If you cannot install the cable into the transceiver, insert or leave the dust cover in the cable end of the transceiver.

Removing an SFP+ Transceiver

To remove an SFP+ transceiver, follow these steps:

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- Step 1** Attach an ESD-preventive wrist strap and follow its instructions for use.
- Step 2** If a cable is installed in the transceiver, do one of the following:
- a. Record the cable and port connections for later reference.
 - b. Press the release latch on the cable, grasp the connector near the connection point, and gently pull the connector from the transceiver.
 - c. Insert a dust plug into the cable end of the transceiver.



Caution If the transceiver does not remove easily in the next step, push the transceiver completely in and then ensure that the latch is in the correct position before continuing.

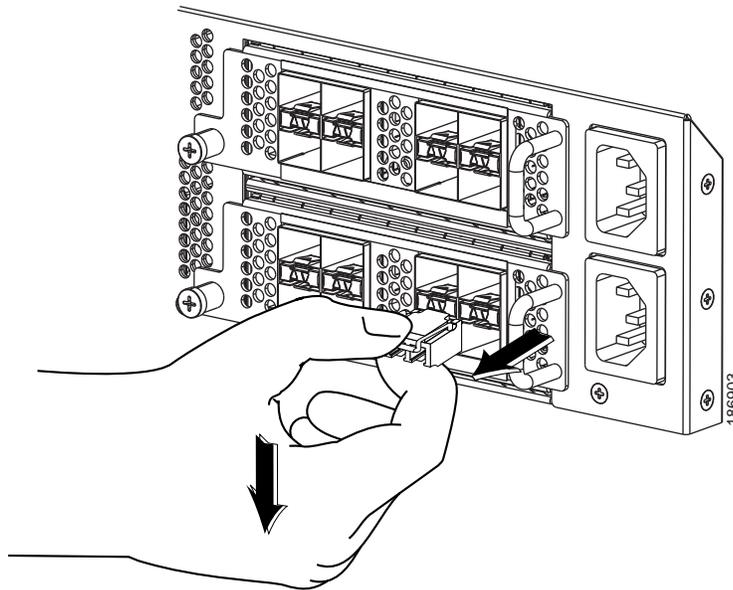
- Step 3** Remove the transceiver from the port as follows:
- If the transceiver has a Mylar tab latch, gently pull the tab straight out (do not twist), and then pull the transceiver out of the port.

- If the transceiver has a bale clasp latch, open the clasp by pressing it downward, and then pull the transceiver out of the port.



Note If you have difficulty removing a bale clasp SFP+ transceiver, you should reseal it by returning the bale clasp to the up position. Press the SFP+ transceiver inward and upward into the cage. Next, lower the bale clasp and pull the SFP+ transceiver straight out with a slight upward lifting force (see [Figure 3-1](#)). Be careful not to damage the port cage during this process.

Figure 3-1 Alternate Removal Method for Bale Clasp SFP+ Transceivers



- Step 4** Insert a dust cover into the port end of the transceiver and place the transceiver on an antistatic mat or into a static shielding bag if you plan to return it to the factory.
- Step 5** If another transceiver is not being installed, protect the optical cage by inserting a clean cover.

Removing and Installing Cables into SFP+ Transceivers

This section describes how to remove and install cables into and from SFP+ transceivers.



Caution

To prevent damage to the copper cables, do not place more tension on them than the rated limit and do not bend to a radius of less than 1 inch if there is no tension in the cable, or 2 inches if there is tension in the cable.

This section includes the following topics:

- [Installing a Cable into an SFP+ Transceiver, page 3-5](#)
- [Removing a Cable from an SFP+ Transceiver, page 3-5](#)

Removing a Cable from an SFP+ Transceiver

**Caution**

When pulling a cable from a transceiver, grip the body of the connector. Do not pull on the jacket sleeve, because this action can compromise the fiber-optic termination in the connector.

**Caution**

If the cable does not remove easily, ensure that any latch present on the cable has been released before continuing.

To remove the cable, follow these steps:

- Step 1** Attach an ESD-preventive wrist strap and follow its instructions for use.
- Step 2** Press the release latch on the cable, grasp the connector near the connection point, and gently pull the connector from the transceiver.
- Step 3** Insert a dust plug into the cable end of the transceiver.
- Step 4** Insert a dust plug onto the end of the cable.

Installing a Cable into an SFP+ Transceiver

**Caution**

To prevent possible damage to the cable or transceiver, install the transceiver in the port before installing the cable in the transceiver.

To install a cable into a transceiver, follow these steps:

- Step 1** Attach an ESD-preventive wrist strap and follow its instructions for use.
- Step 2** Remove the dust cover from the connector on the cable.
- Step 3** Remove the dust cover from the cable end of the transceiver.
- Step 4** Align the cable connector with the transceiver and insert the connector into the transceiver until it clicks into place.

**Caution**

If the cable does not install easily, ensure that it is correctly positioned before continuing.

For instructions on verifying connectivity, see the *Cisco Nexus 2000 Series Fabric Extender Software Configuration Guide*.

Maintaining SFP+ Transceivers and Cables

You must keep SFP+ transceivers clean and dust free to maintain high signal accuracy and prevent damage to the connectors. Attenuation (loss of light) is increased by contamination and should be below 0.35 dB.

Follow these maintenance guidelines:

- SFP+ transceivers are static sensitive. To prevent ESD damage, wear an ESD-preventive wrist strap that is connected to the chassis.
- Do not remove and insert a transceiver more often than is necessary. Repeated removals and insertions can shorten its life.
- Keep all optical connections covered when not in use. If they become dusty, clean before using to prevent dust from scratching the fiber-optic cable ends.
- Do not touch ends of connectors to prevent fingerprints and other contamination.
- Clean regularly; the required frequency of cleaning depends upon the environment. In addition, clean connectors if they are exposed to dust or accidentally touched. Both wet and dry cleaning techniques can be effective; refer to your site's fiber-optic connection cleaning procedure.
- Inspect routinely for dust and damage. If damage is suspected, clean and then inspect fiber ends under a microscope to determine if damage has occurred.