

Removal and replacement procedures

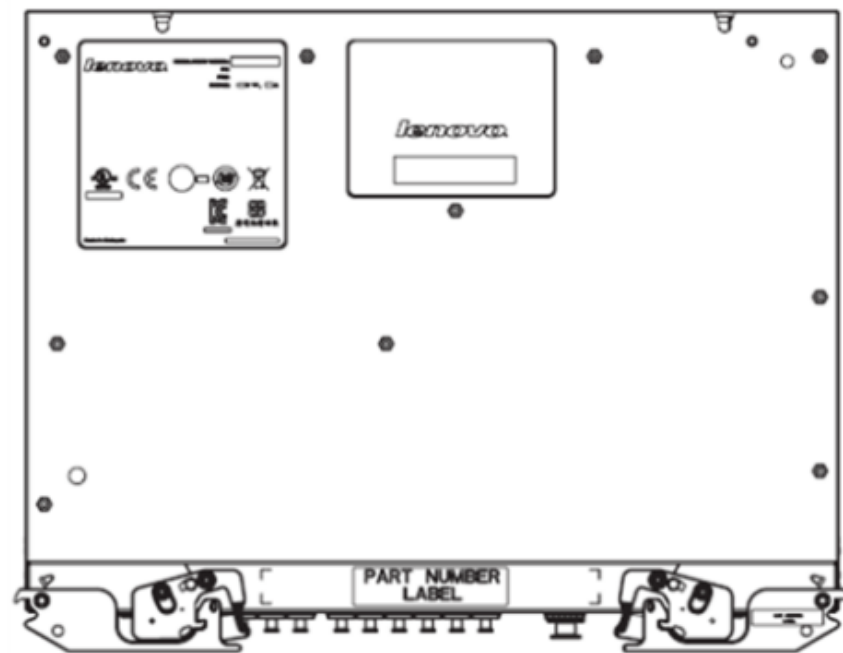
NE2552 Flex Switch

Recording the NE2552E product information

Attention: The following product information is required in order to register your NE2552E Flex switch, update the firmware, place a service call, or replace the unit.

To prevent from having to remove the switch from the Flex chassis in order to read required product information, locate and record the product identification label information on the NE2552E and record the serial number, part number, and Media Access Control (MAC) address of the switch prior to installation.

After the NE2552E is installed and initialized, use the `show sys-info` command in the switch firmware interface to display the product serial number and other required information.



Before you install the NE2552E Flex Switch

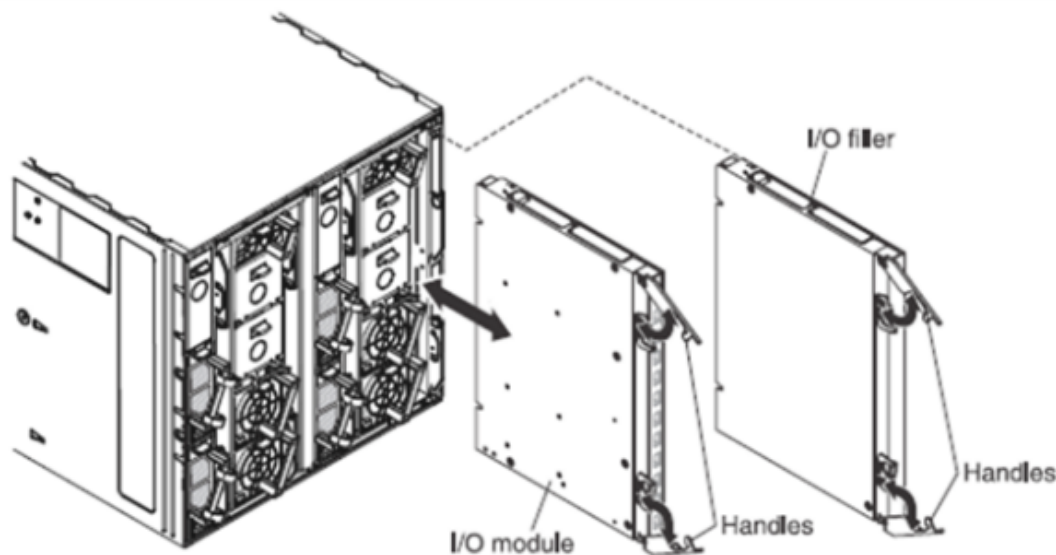
You can install the switch while the Lenovo Flex chassis is powered on. For redundancy support, you must install I/O modules of the same type in I/O bays 1 and 2 and I/O modules of the same type in bays 3 and 4 of the chassis.

Complete the following steps to install the NE2552E switch into the Flex system chassis:

1. Select an I/O bay in which to install the switch. For details about I/O bay requirements and bay locations, refer to the documentation for the Lenovo Flex System chassis.
2. Remove the filler module from the selected bay. Store the filler module for future use.
3. If you have not already done so, touch the static-protective package that contains the switch to an unpainted metal surface of the Lenovo Flex System chassis or an unpainted metal surface on any other grounded rack-component for at least 2 seconds.
4. Remove the switch from its static-protective package.

Installing the NE2552E Flex Switch (1 of 2)

1. Make sure that the release levers on the switch are in the open position perpendicular to the switch.
2. Slide the switch into the applicable I/O bay until it stops.
3. Push the release levers on the front of the switch to the closed position. After you insert and lock the switch, it is powered on and there may be a slight delay, and a POST occurs to verify that the switch is operating correctly.
4. When you are finished working on the compute node or Lenovo Flex System chassis, reinstall all safety shields, guards, labels, and ground wires.



Installing the NE2552E Flex Switch (2 of 2)

Note: The switch may take up to two minutes to complete the POST. During POST, the Power LED continuously flashes. Once POST has successfully completed, the Power LED remains on and the Error LED is off.

5. Make sure that LEDs on the switch indicate that it is operating correctly.
6. If you have another switch to install, repeat Step 2 through Step 8; otherwise, continue to step 10.
7. Install any port transceiver modules or DACs needed for the switch. For information and instructions, refer to “Connecting switch ports” and the documentation that comes with the transceiver modules or DACs.
8. Attach any cables that are required by the switch. For additional information about cabling the switch, refer to “Connecting switch ports”, the documentation that comes with the port transceiver modules, DACs, cables, and the optional network devices to which the cables are connected.
9. Make sure that the data (nonmanagement) ports on the switch are enabled through the CMM.

Before you replace the NE2552E Flex Switch

Note: Before you begin, read the safety information and installation guidelines in the *Lenovo ThinkSystem NE2552E Flex Switch Installation Guide*.

To enable the switch to communicate with a server node, at least one switch must be installed in the chassis. The Flex chassis supports a maximum of four NE2552E Flex Switches. The Flex system chassis supports a maximum of twenty-eight network adapters. For redundancy support, install I/O modules of the same type in I/O bays 1 and 2, and I/O modules of the same type in bays 3 and 4 of the chassis.

You do not have to power off the Lenovo Flex System chassis to install or replace any of the hot-swap modules on the front or rear of the Lenovo Flex System chassis.

When you install the switch in the Lenovo Flex System chassis, you must also install a compatible I/O network adapter in the compute node to support the switch.

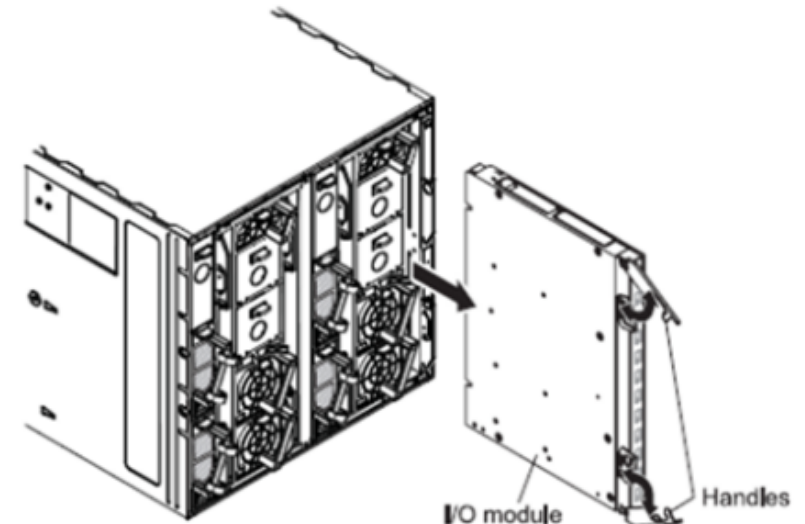
Replacing the NE2552E Flex Switch (1 of 2)

To replace the NE2552E Flex Switch complete the following steps:

1. Detach any cables that are attached to the switch that you will be removing.

Note: Detaching cables from the switch ports disrupts the network connection from the switch to any connected external devices. If you plan to replace the switch with another switch, you can reuse the existing cables, provided they remain securely attached to the network.

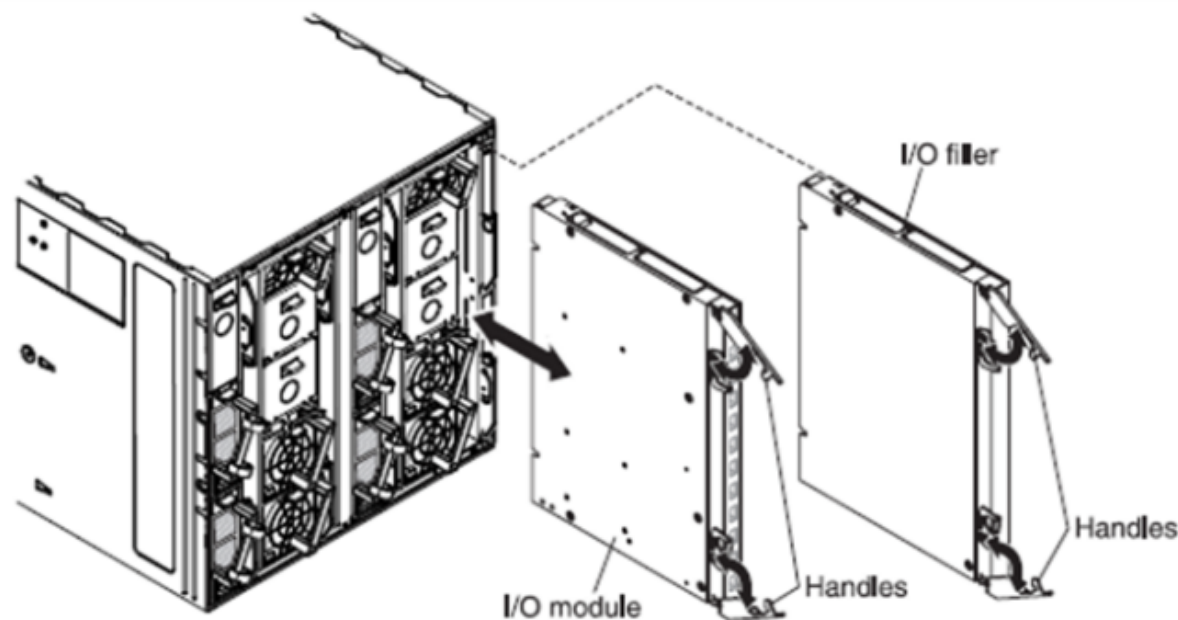
2. Pull the release latches out from the switch. The switch moves out of the bay approximately 0.6 cm (0.25 inches).
3. Slide the switch out of the bay and set it aside in a safe, static-free location.



Replacing the NE2552E Flex Switch (2 of 2)

4. Place either another switch or a filler module in the bay. Complete this step within 1 minute.
5. Reconnect the ports that you disconnected in Step 1 and attach any additional cables that are required by the switch.

Refer to the “Connecting switch ports” section for information about cable and port connections. For additional information about connecting switch ports, refer to the *Lenovo ThinkSystem NE2552E Flex Switch Installation Guide*.



Connecting switch ports

The switch includes a variety of external port options. Fixed ports, such as the RJ-45 management port, can be connected directly by attaching the appropriate cable. Modular ports, such as SFP+ and QSFP+ ports, require the installation of a transceiver module before the cable can be attached. This section describes the following supported ports and transceivers:

- The Serial Console Port
- The RJ-45 Management Port
- SFP+ Ports
- Installing an SFP28 Optical Transceiver
- QSFP+ Ports
- Installing a QSFP28 Optical Transceiver

Notes: The graphics in this course might differ slightly from your hardware. While the information in this section describes the 10 Gigabit Ethernet (GbE) SFP+ transceiver module, it also applies to the 1 GbE SFP transceiver module. The switch supports MSA-compliant copper DACs, up to 5 m (16.5 ft.) in length.

The serial console port

To use the serial console, connect a serial console cable to the RS-232 serial console port of the switch and the other end of the cable to the console device.

Mini USB to RJ-45 cable pin out

Pin number	Function	Direction
1	Not connected	
2	RXD	In
3	TXD	Out
4	GND	
5	GND	
6	Not connected	
7	Not connected	
8	Not connected	

Note: You must use one of the two Serial Access Cable options (refer to the *Lenovo ThinkSystem NE2552E Flex Switch Installation Guide*). If your console device uses a standard RS-232 DB9 connector, attach the included mini USB to DB9 serial cable. Otherwise, if your console device uses an RJ-45 connector, attach the included mini USB to RJ-45 serial cable and a user supplied RJ-45 adapter cable. Your adapter cable depends on the pin out required by your console device.

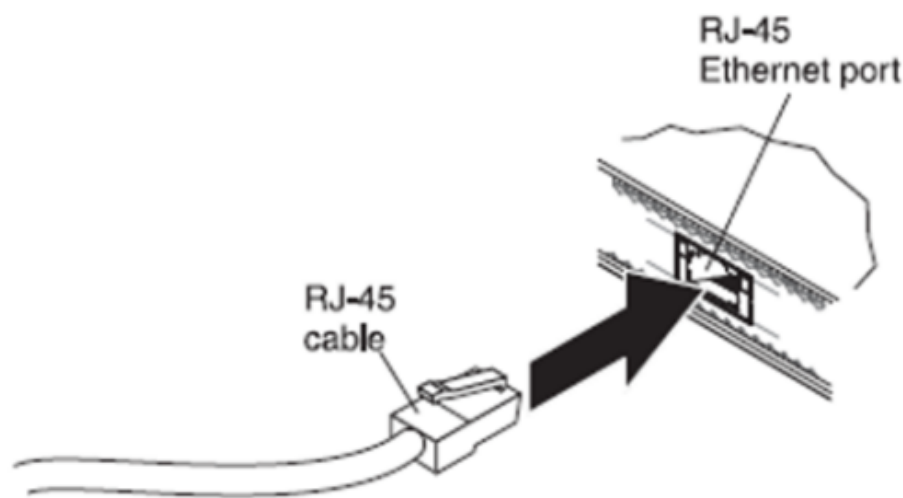
The RJ-45 management port

Connecting the RJ-45 cables

RJ-45 cables can be connected to the external management port and also to SFP+ ports that have legacy 1000 Base-T SFP transceiver modules. To connect the RJ-45 connector to the switch, push the RJ-45 cable connector into the port connector until it clicks into place.

Disconnecting the RJ-45 cables

To disconnect the RJ-45 cable, squeeze the release tab and gently pull the cable connector out of the switch connector.

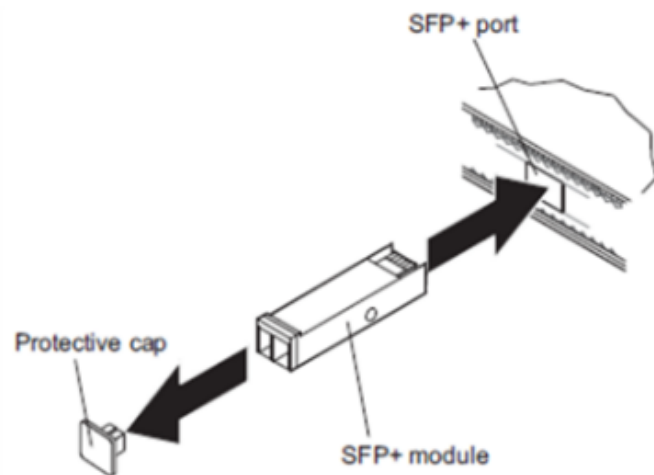


SFP+ ports

The switch SFP+ ports accept SFP+ modules that provide two fiber-optic cable connectors for connecting to external devices.

To install an SFP+ module, complete the following steps.

1. Touch the static-protective package that contains the SFP+ module to an unpainted metal surface of the Lenovo Flex System chassis or an unpainted metal surface on any other grounded rack component in the rack in which you are installing the switch for at least 2 seconds.
2. Read “Handling Transceiver Modules” in the *Lenovo ThinkSystem NE2552E Flex Switch installation Guide*.
3. Remove the SFP+ module from its static-protective package.
4. If a protective cap is installed in the switch SFP+ port where you are installing the SFP+ module, remove the cap and store it in a safe place.
5. Remove the protective cap from the SFP+ module and store it in a safe place.
6. Insert the SFP+ module into the switch SFP+ port until it clicks into place.
7. Connect the fiber optic cable (Refer to “Connecting and disconnecting a fiber-optic cable”) and any cables that you disconnected in a previous step.



Fiber optic cable guidelines

Note: To avoid damage to the fiber optic cable, follow these guidelines.

- Do not route the cable along a folding cable-management arm.
- When you attach the cable to a device on slide rails, leave enough slack in the cable so that it does not bend to a radius of less than 38 mm (1.5 in.) when the device is extended or become pinched when the device is retracted.
- Route the cable away from places where it can be snagged by other devices in the rack.
- Do not overtighten the cable straps or bend the cables to a radius of less than 38 mm (1.5 in.).
- Do not put excess weight on the cable at the connection point. Make sure that the cable is well supported.

Connecting and disconnecting a fiber-optic cable

Connecting a fiber-optic cable

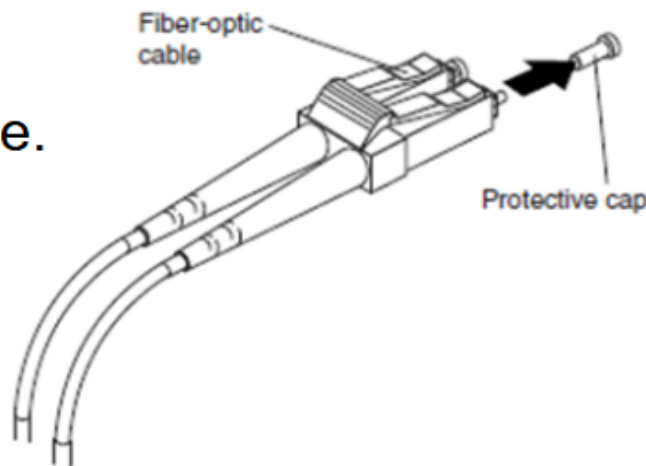
To connect the fiber-optic cable to the SFP+ module, complete the following steps.

1. Remove the protective caps from the end of the fiber-optic cable.
2. Gently slide the fiber-optic cable into the SFP+ module until it clicks into place.
3. Check the LEDs on the switch. When the switch is operating correctly, the green link LED is lit. For information about the status of the switch LEDs, refer to “Switch status LEDs”.

Disconnecting a fiber-optic cable

To disconnect the fiber-optic cable from an SFP+ module, complete the following steps:

1. Squeeze the release tabs and gently pull the fiber-optic cable from the module.
2. Replace the protective caps on the ends of the fiber-optic cable.

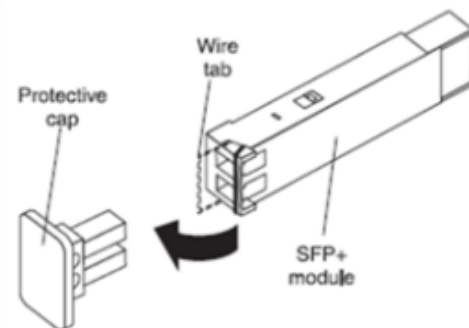


Removing a SFP+ module

Note: To avoid damage to the cable or the SFP+ module, make sure that you remove the fiber-optic cable before you remove the module from the switch port.

To remove the SFP+ module, complete the following steps.

1. Read the “Handling Transceiver Modules” section in the *Lenovo ThinkSystem NE2552E Flex Switch installation Guide*.
2. Remove the fiber optic cable from the module that you want to replace. For more information about removing the cable, see “Connecting and disconnecting a fiber-optic cable”.
3. Unlock the SFP+ module by pulling the wire tab straight out, as shown in the following graphic.
4. Grasp the wire tab on the module and pull it out of the switch port.
5. Replace the protective caps on the module and the switch SFP+ port.
6. Place the module into a static-protective package.



Installing an SFP28 optical transceiver

The SFP28 ports accept approved SFP28 transceivers. The SFP28 optical transceiver provides an MTP cable connector for connecting to external ports. For detailed safety and installation instructions, refer to the *Lenovo ThinkSystem NE2552E Flex Switch installation Guide*.