

Replacing Components

This chapter contains the following topics:

- Cisco UCS Fabric Interconnect 6664 and Cisco UCS Fabric Interconnect 6652 Component Replacement, on page 1
- Replacing a Fan Module During Operations, on page 1
- Replacing a Power Supply Module, on page 4
- Installing and Removing Small-Form Pluggable Modules, on page 7

Cisco UCS Fabric Interconnect 6664 and Cisco UCS Fabric Interconnect 6652 Component Replacement

The Cisco UCS 6600 Series Fabric Interconnect product family consists of the following different models.

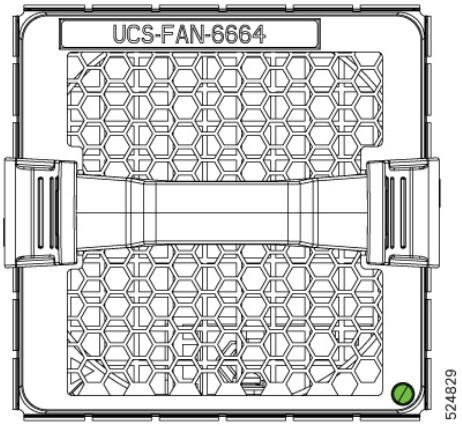
Model	Cisco PID	Notes
Cisco UCS 6664 Fabric Interconnect	UCS-FI-6664	2 rack-unit (2U) chassis supporting Ethernet, FCoE, and FC ports. MACsec enabled.
Cisco UCS 6652 Fabric Interconnect	UCS-FI-6652	1 rack-unit (1U) chassis supporting Ethernet, FCoE, and FC. MACsec enabled.

Both models of the Cisco 6600 Series Fabric Interconnect have similar hardware components that are field-serviceable. You can assume that service procedures are the same for each model unless documentation explains otherwise.

Replacing a Fan Module During Operations

The fabric interconnect contains four fans for proper system cooling. Fans draw intake air from the cool aisle, push it through the chassis, and exhaust the heated air into the hot aisle. Each fan has a Status LED that visually indicates the state of the fan module's health.

To show the location of the Fan Status LED, the following illustration shows a fan for the Cisco UCS 6664 Fabric Interconnect (UCS-FAN-6664). However, the Fan status LED for both the UCS-FAN-6664 and UCS-FAN-6652 is in the same location.



All fan and power supply modules must have the same airflow direction or else an error can occur with the fabric interconnect overheating and shutting down. You can determine the airflow direction of a fan module by the color of the stripe on the front of the module. If the fan module has a blue stripe for port-side exhaust airflow, the power supplies must have blue coloring for the same airflow direction.

If you are changing the airflow direction of all the modules in the chassis, shutdown the switch before replacing all the fan and power supply modules with modules using the other airflow direction. During operations, all of the modules must have the same direction of airflow.

Before you begin

Before you can replace a fan module, ensure that the following conditions exist:

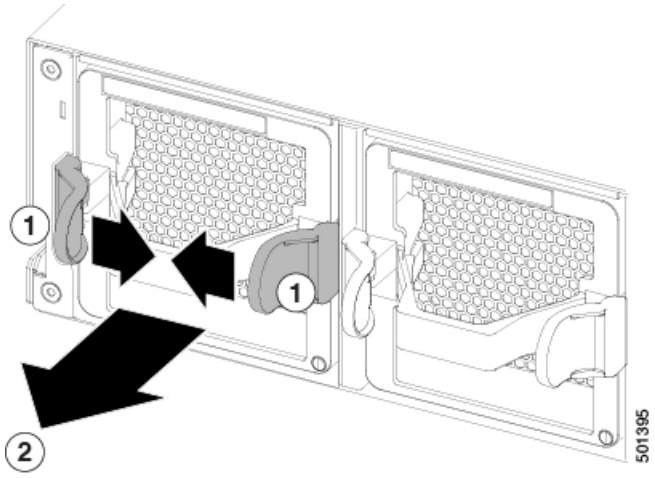
- There are four functioning fan modules in the other fan slots. In order to replace a fan module during operations, there must be three fan modules circulating air in the chassis at all times. The other fan module is redundant and can be replaced.
- Make sure that you use the correct fan for the correct product:
  - For the Cisco UCS 6664 Fabric Interconnect, the correct fan is UCS-FAN-6664.
  - For the Cisco UCS 6652 Fabric Interconnect, the correct fan is UCS-FAN-6652.
- The replacement fan module must have the same airflow direction as the other modules in the chassis.
- You can replace a fan module while the switch is operating, as long as you perform the replacement within one minute. If you cannot perform the replacement within one minute, leave the original fan module in the chassis to maintain the designed airflow until you have the replacement fan module on hand and can perform the replacement.

If you must replace the fan module during operations and the above conditions are not met, leave the fan module that you need to replace in the chassis to preserve the designed airflow until you have the required module.

Procedure

Step 1 Remove the fan module that you need to replace as follows:

a) Press the two colored sides of the fan module handle towards each other and pull the handle to slide the module out of the chassis.



1	Press inward on both colored slides of the handle.	2	While holding the sides inward, pull on the handle to remove the module from the chassis.

Step 2 Follow these steps to replace the missing fan module within two minutes to avoid a shutdown.

a) Remove the replacement fan module from its packing materials and place it on an antistatic surface.

Hold the module by its handle and do not touch the electrical connectors on its backside. Also, to protect the electrical connectors, avoid letting them come in contact with anything other than the electrical connectors inside the chassis.

b) Verify that you have the correct fan module for the chassis. The correct fan module has one of the following part numbers:

- UCS-FAN-6664 (port-side exhaust airflow direction and a blue stripe) for a Cisco UCS 6664 Fabric Interconnect
- UCS-FAN-6652 ((port-side exhaust airflow direction and a blue stripe) for a Cisco UCS 6652 Fabric Interconnect.

Note
Be sure that the airflow direction of the new fan module matches the airflow direction of the other fan and AC power supply modules already installed in the chassis. Port-side exhaust airflow is indicated with blue coloring.

c) Position the fan module in front of the open fan slot (be sure that the backside of the module with the electrical connectors is positioned to enter the slot first) and slide the module all the way into the chassis until its front side comes in contact with the chassis. For the last 0.2 inches (0.5 cm), carefully mount the module onto the chassis connectors by pushing more firmly, but do not force the module if it does not move further (excessive force can damage the connectors).

Note

If you are not able to push the module all the way into the slot, carefully slide the module out of the slot and check its electrical connectors for damage. If damaged, contact Cisco Technical Assistance for help. If undamaged, repeat this step to reinstall the module.

d) Verify that the STS LED turns on and becomes green.

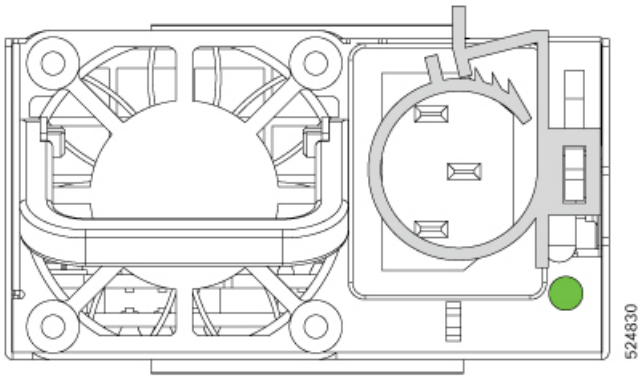
If the STS LED does not turn on, slide the module out of the chassis, and visually check the electrical connectors on the back side of the chassis for damage. If damaged, contact Cisco Technical Assistance for help. If undamaged, repeat the previous step to reinstall the module.

Replacing a Power Supply Module

Both the Cisco UCS 6664 Fabric Interconnect and Cisco UCS 6652 Fabric Interconnect feature two power supply units (PSUs). Power supplies are stacked vertically on the rear of the fabric interconnect. The top PSU is numbered PSU1 and the bottom PSU is numbered PSU2.

Both models of fabric interconnect use the same AC PSUs even though the PIDs differ depending on which chassis has the PSU, either UCS-FAN-6664 for the Cisco UCS 6664 Fabric Interconnect (2U chassis), or the UCS-FAN-6652 for the Cisco UCS 6652 Fabric Interconnect (1U chassis).

Each fabric interconnect requires two power supplies (PSUs) for redundancy, but the fabric interconnect can operate at full power on one PSU for a short time. With one power supply providing the necessary power for operations, replace the other power supply during operations as long as the new power supply has the same airflow direction as the other modules in the chassis.



Replace a power supply with another supported power supply that has the same power source type as the other installed power supply. Additionally, the airflow direction of the power supply must match or conform to the airflow direction of the installed fan modules.

Removing an AC Power Supply

The fabric interconnect has two power supplies installed in the rear of the chassis. The power supplies are redundant, so the fabric interconnect can operate with only one PSU installed. However, it is a best practice to operate the fabric interconnect with both PSUs installed. If you are removing or swapping out a PSU, do so as quickly to maximize the PSU redundancy.

To remove an AC power supply, disconnect the power cable and remove the module from the chassis.

Before you begin

- Ensure that the chassis is grounded. For grounding instructions, see Grounding the Chassis.
- To replace a power supply during operations, there must be a functioning power supply providing power to the switch while you replace the other power supply. If there is only one power supply installed in the switch and you need to replace it, install the new power supply in the open slot and power it up before removing the original power supply.
- Power supplies have a latch and a handle. You must use both to successfully remove a PSU from the chassis.

Procedure

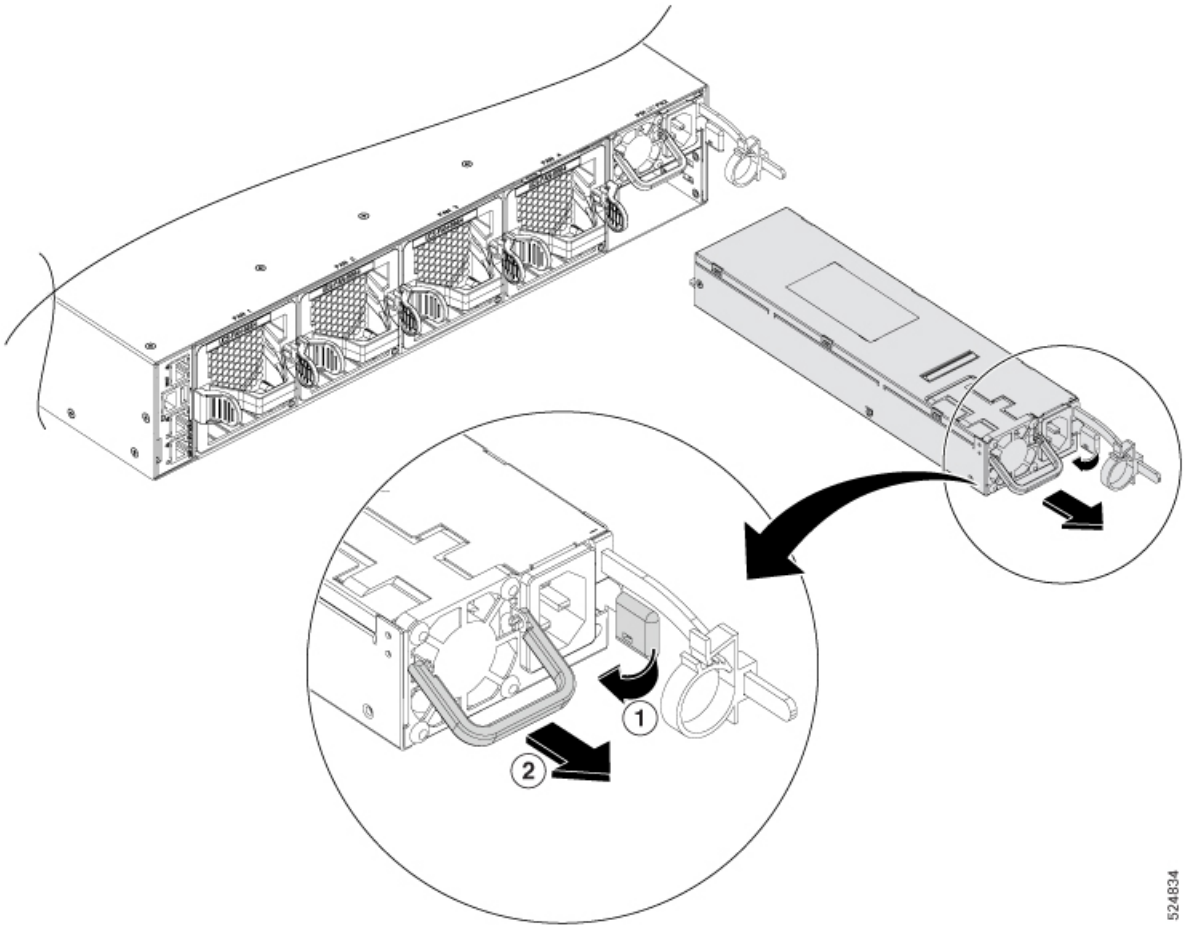
Step 1 Disconnect the power cord from the power receptacle on the power supply to be removed. Verify that the LED turns off.

Note
The LED might be on and amber colored. This indicates that the input power has been disconnected.

Step 2 Using your fingers, push the latch inward to disengage the latch and allow the PSU to be removed from the chassis.

Step 3 Using the same hand, while the release latch is disengaged, pull the handle straight towards you to slide the PSU most of the way out of the chassis.

Step 4 Place your other hand underneath the PSU to support its weight, and slide the PSU completely out of the chassis.



Step 5 Place the power supply on an ESD-safe workspace or in its original packing material. s

What to do next

When you are ready, install the power supply, go to Installing an AC Power Supply, on page 6.

Installing an AC Power Supply

You can replace one power supply while the other one provides power to the fabric interconnect.

Before you begin

- The power supply that you are installing must be capable of using the same airflow direction as the fan trays installed in the same fabric interconnect. It must use the same type of power source as the other power supply installed in the same fabric interconnect.
- An AC power source must be within reach of the power cable that will be used with the replacement power supply. If you are using *n*+*n* power redundancy, there must be a separate power source for each power supply installed in the chassis. Otherwise, only one power source is required.

- There must be an earth-ground connection to the chassis that you are installing the replacement module. Typically, the chassis is grounded by its metal-to-metal connection with a grounded rack. If you need to ground the chassis, see Grounding the Chassis.

Procedure

Step 1 Holding the replacement power supply with one hand underneath the module and the other hand holding the handle, turn the power supply so that its release latch is on the right side. Align the back end of the power supply (the end with the electrical connections) to the open power supply slot. Carefully slide the power supply all the way into the slot until it clicks into place.

Note
If the power supply does not fit into the open slot, turn the module over, before sliding it carefully into the open slot.

Step 2 Test the installation by trying to pull the power supply out of the slot without using the release latch.

If the power supply does not move out of place, it is secured in the slot. If the power supply moves, carefully press it all the way into the slot until it clicks into place.

Step 3 Attach the power cable to the electrical inlet on the front of the power supply.

Step 4 Verify that the other end of the power cable is attached to the appropriate power source for the power supply.

Note
Depending on the outlet receptacle on your power distribution unit, install the optional jumper cable to connect the fabric interconnect to your outlet receptacle.

Step 5 Verify that the power supply is operational by making sure that the power supply LED is green.

Installing and Removing Small-Form Pluggable Modules

Use the following task to install or remove small form pluggable (SFP or SFP+) modules.

Before you begin

See the Cisco UCS 6600 Series Fabric Interconnect datasheet on cisco.com for a list of supported SFP and SFP+ modules. Use only supported SFP/SFP+ modules on the platform.

Warning **Statement 1008—Class 1 Laser Product**

This product is a Class 1 laser product.

Note We recommend that you wait 30 seconds between removal and insertion of an SFP on an interface module. This time is recommended to allow the transceiver software to initialize and synchronize with the standby RSP. Changing an SFP more quickly could result in transceiver initialization issues that disable the SFP.

- Do not remove the dust plugs from the SFP and SFP+ modules or the rubber caps from the fiber-optic cable until you are ready to connect the cable. The plugs and caps protect the module ports and cables from contamination and ambient light.
- Removing and installing an SFP and SFP+ module can shorten its useful life. Do not remove and insert any SFP/SFP+ module more often than is necessary.
- To prevent ESD damage, follow your normal board and component handling procedures when connecting cables to the fabric interconnect and other devices.
- When you insert several SFP and SFP+ modules in multiple ports, wait for 5 seconds between inserting each SFP/SFP+. This will prevent the ports from going into error disabled mode. Similarly, when you remove an SFP and SFP+ from a port, wait for 5 seconds before reinserting it.

Procedure

Step 1 Attach an ESD-preventive wrist strap to your wrist and to an earth ground surface.

Step 2 Find the send (TX) and receive (RX) markings that identify the top of the SFP/SFP+ module.

On some SFP/SFP+ modules, the send and receive (TX and RX) markings might be shown by arrows that show the direction of the connection.

Step 3 If the SFP/SFP+ module has a bale-clasp latch, move it to the open, unlocked position.

Step 4 Align the module in front of the slot opening, and push until you feel the connector snap into place.

Step 5 If the module has a bale-clasp latch, close it to lock the SFP/SFP+ module in place.

Step 6 Remove the SFP and SFP+ dust plugs and save.

Step 7 Connect the SFP and SFP+ cables.