

Replace Cisco NCS 1001 Components

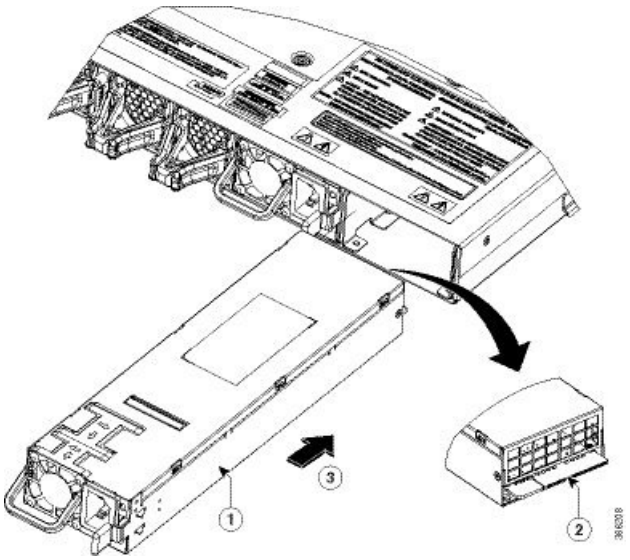
This chapter describes the procedures to replace Cisco NCS 1001 components.

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Insert Power Supply

Use this procedure to insert the power supply units.

Figure 1: Insert Power Supply



1	Insert the PSU into the cage on the rear side of the unit in the direction shown (slots 0 or 1)
2	The PSU connecting PCB must always face the bottom during insertion
3	Direction to insert the power supply

Remove Power Supply

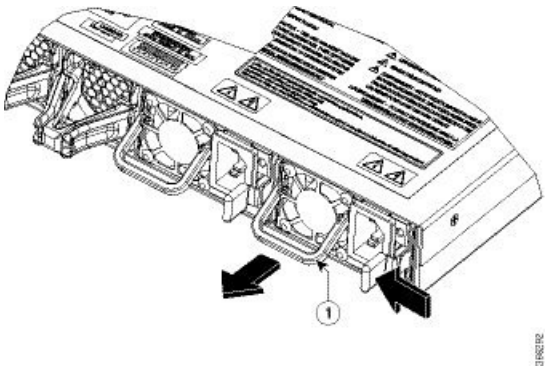
Note The inlet temperature of the system during replacement must be less than 40 deg Celsius at sea level. The replacement time decreases for higher altitudes.

Note In case of PSU failure, the failed PSU must be physically replaced within 2 minutes.

Note The PSU is hot-swappable. While replacing a failed PSU, ensure that the other PSU remains plugged into the chassis to avoid impacting traffic.

Figure 2: Hot Area on PSU Faceplate

Figure 3: Remove Power Supply

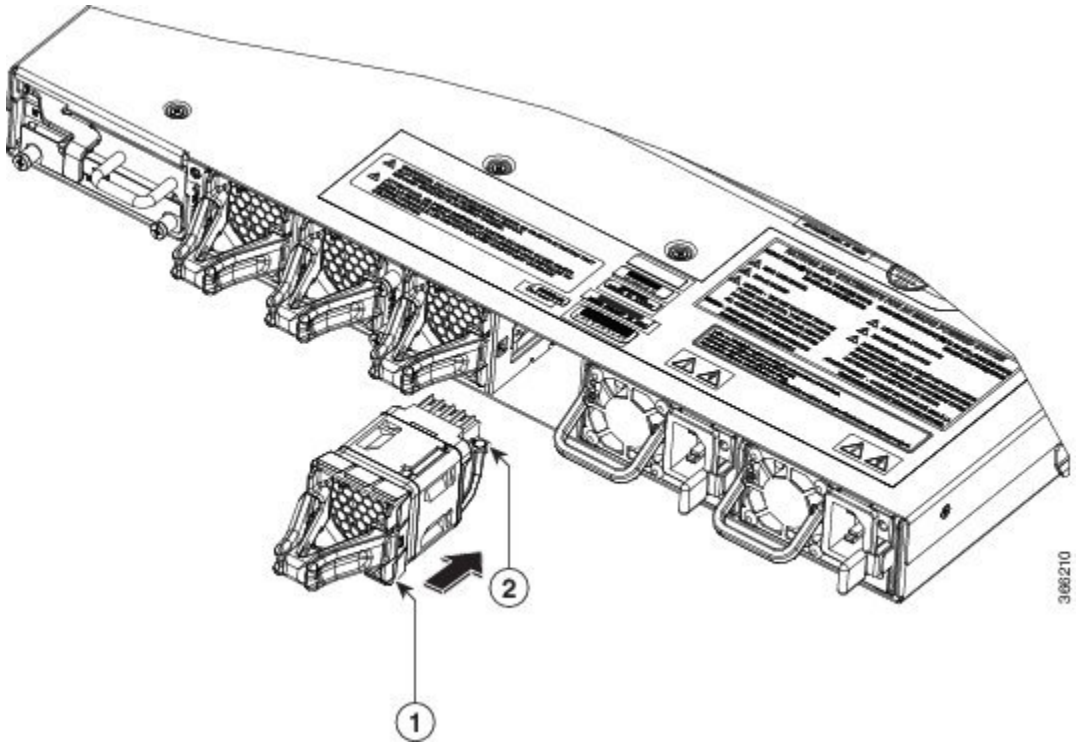


1	Release the lock of the PSU in the direction that is shown and pull the PSU gently using the handle.

Insert Fans

Use this procedure to insert the fans.

Figure 4: Insert Fans



1	Push the fan into the fan slot as shown (slots 0, 1, 2, or 3)
2	Ensure that the fan connector always faces upwards

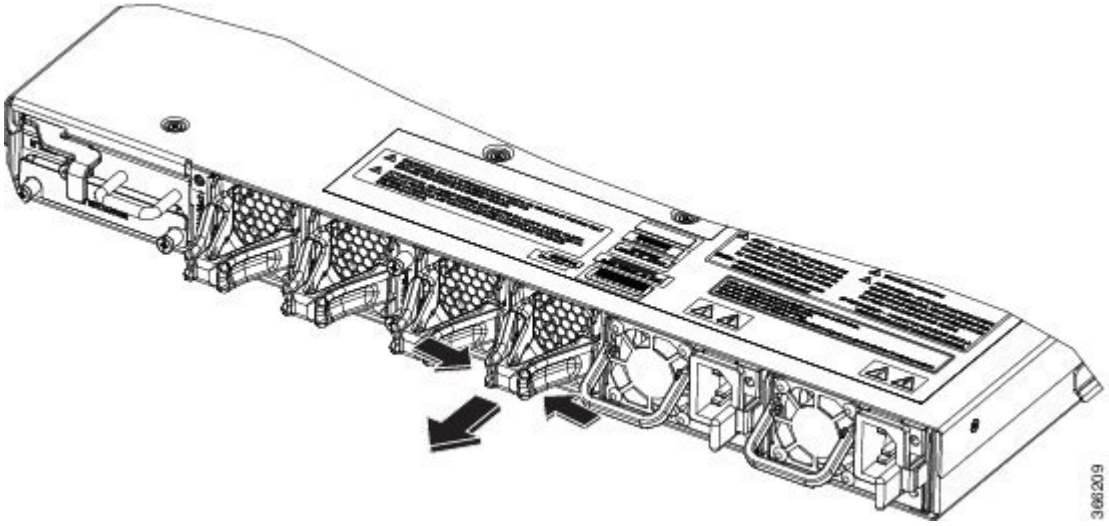
Remove Fans

Note Cisco NCS 1001 has a fan redundancy protection mechanism against a single fan failure for up to 96 hours. The inlet temperature of the system during replacement must be less than 40 deg Celsius at sea level. The replacement time decreases for higher altitudes.

Note It is not recommended to remove two fans simultaneously. When the failed fan is replaced, the new fan must be physically placed within 5 minutes. Otherwise, the performance of the system is affected.

Note NCS 1001 fans are hot-swappable. When replacing a failed fan, ensure that the other fans remain plugged into the chassis to avoid impacting traffic.

Figure 5: Remove Fans

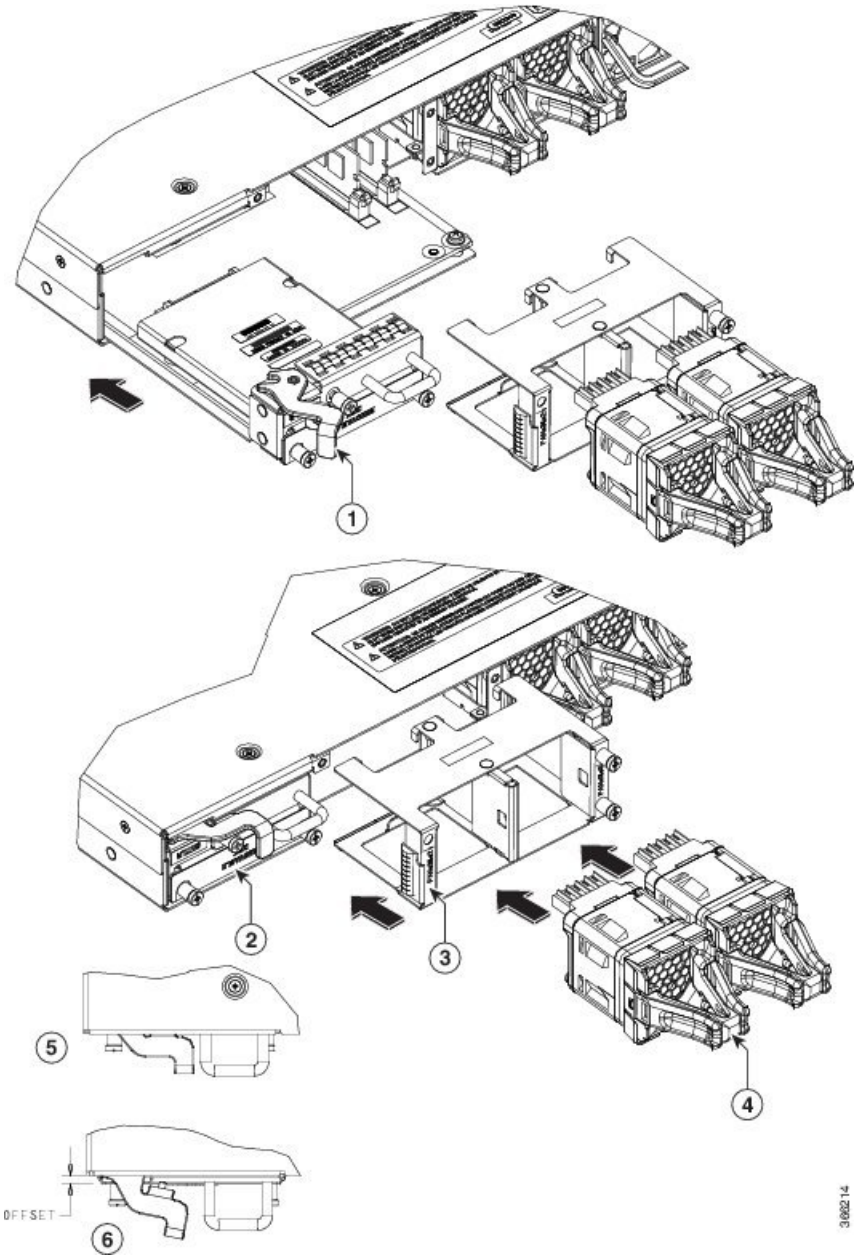


Press the lever of the fan and pull it to remove the fan out as shown.

Insert Control Card

Use this procedure to insert the control card.

Figure 6: Insert Control Card



1	Ejector lever. Rotate and push ejector lever to engage control card to the connector.
2	Control card faceplate. Push this surface area with additional force needed to engage control card.
3	Fan tray
4	Fans
5	The control card is properly seated.

6	The control card is not properly seated. Repeat the instructions mentioned in callout 2 to push the control card.

Procedure

Step 1 Insert the control card in the NCS 1001 box guides.

Step 2 Slide the control card while keeping the ejector open until the faceplate is close to the box and the ejector is engaged.

Step 3 Press the ejector to insert the control card partially.

Step 4 Apply pressure on the control card faceplate to complete the insertion.

Step 5 Ensure that the control card faceplate is aligned to the top cover edge of NCS 1001.

Step 6 Verify that the position of the ejector is final.

Step 7 Fix the screw to lock the ejector.

Step 8 Push the fan tray inside the chassis.

Step 9 Ensure that the captive screws are aligned properly and fasten the captive screws.

Step 10 Insert the fans inside the cage. See Insert Fans, on page 3.

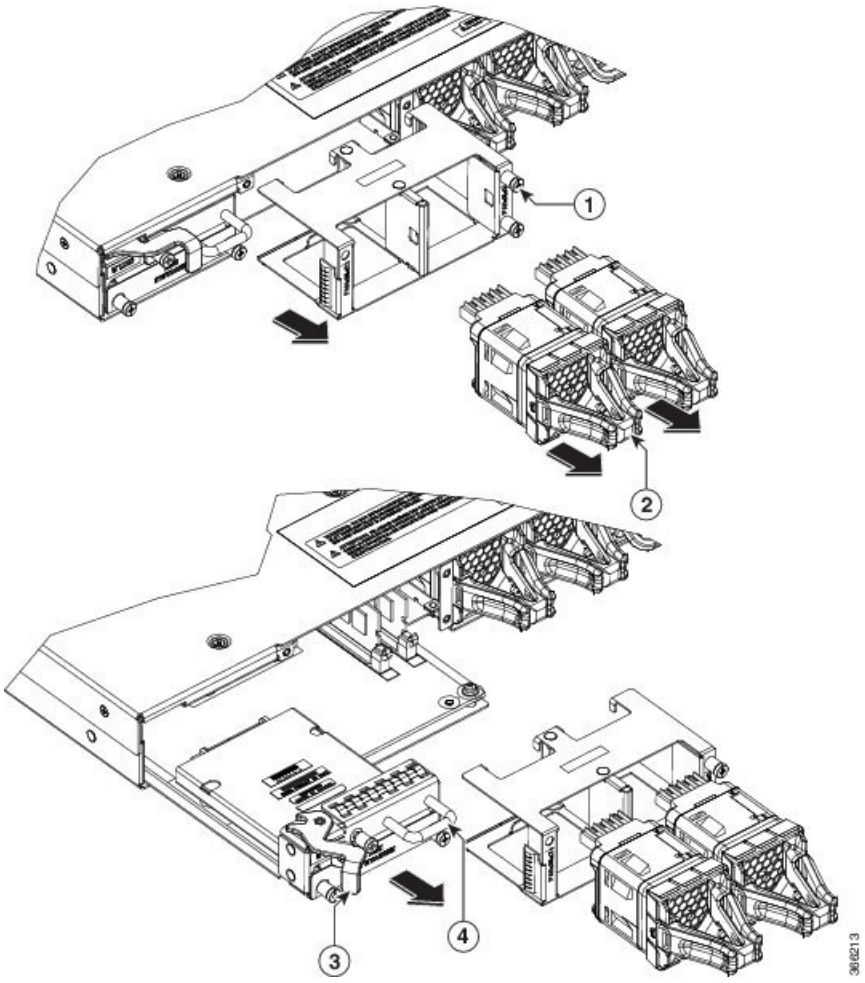
Remove Control Card

Note The inlet temperature of the system during replacement must be less than 40 deg Celsius at sea level. The replacement time decreases for higher altitudes.

Note In case of card failure, the failed control card must be physically replaced within 2 minutes. Otherwise, the performance of the system is affected.

Note The control card is hot-swappable. NCS 1001 supports headless operation, which ensures continuous traffic flow even with a nonfunctional CPU for up to 2 minutes. This headless operation allows you to replace the failed control card without powering down the device.

Figure 7: Remove Control Card



1	Fan tray screws
2	Fans
3	Ejector lever
4	Control card handle.

Procedure

Step 1 Remove the fans from slots 2 and 3. See Remove Fans, on page 4.

Step 2 Unfasten the fan tray screws as shown.

Step 3 Pull out the fans from the chassis as shown.

Step 4 Use the ejector lever to eject the control card from the chassis.

Step 5 Use the control card handle to remove the control card completely.

Remove and Replace SSD

Note If the SSD is removed, it needs to be physically replaced within 10 minutes. If NCS 1001 runs without the SSD, the SSD metallic cover must be placed to close the SSD slot.

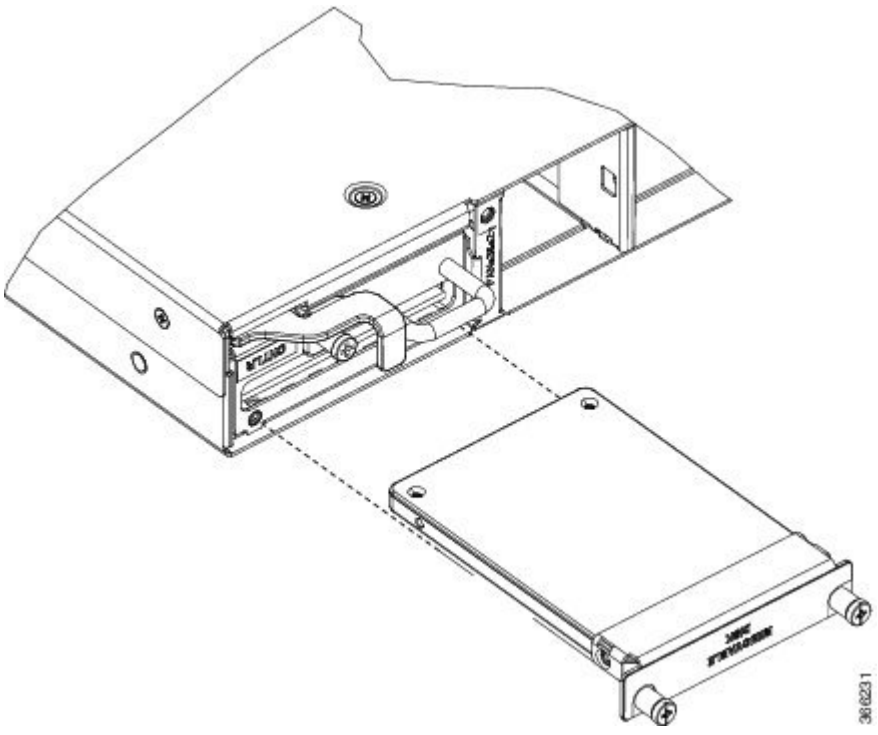
To remove a SSD:

Procedure

Step 1 Loosen the two captive screws in the Removable Disk slot on the back side.

Step 2 Slide out the SSD from the Removable Disk slot.

Figure 8: Remove SSD



To replace a SSD:

Step 3 Slide the SSD into the Removable Disk slot.

Step 4 Tighten the two captive screws to secure the SSD into place.

Insert Optical Modules

Use this procedure to insert the optical modules.

Procedure

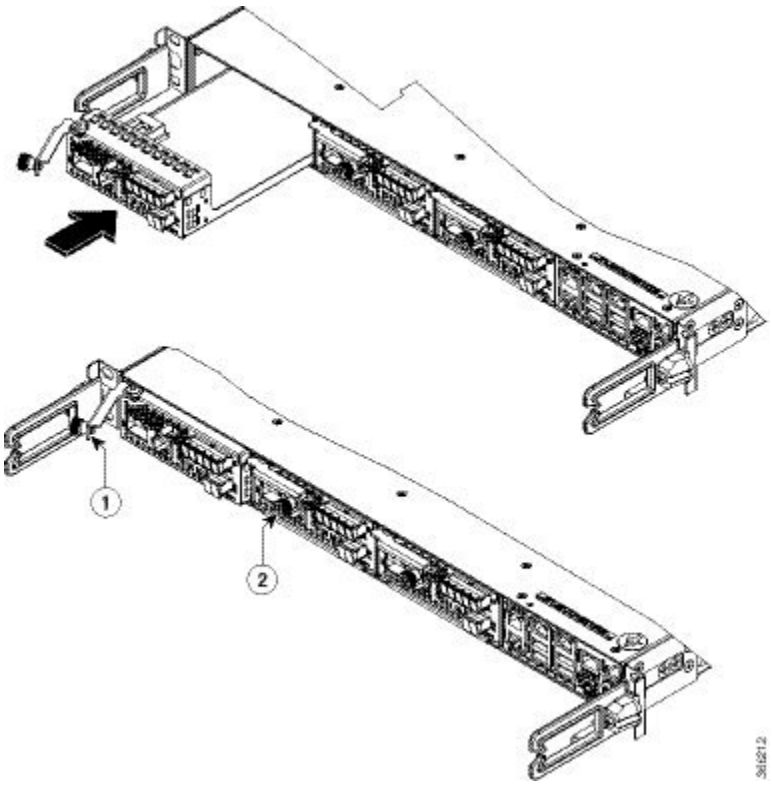
Step 1 Arrange the ejector lever of the optical module approximately at 60 degrees as shown.

Step 2 Push the module gently inside the slot (1, 2, or 3) with the ejector lever on top.

Step 3 Use the ejector lever force to push the module inside.

Step 4 When the ejector is aligned to the faceplate, fasten the captive screw in the clockwise direction to complete the assembly.

Figure 9: Insert Optical Modules



1	Ejector lever
2	Captive screw

Remove Optical Modules

Use this procedure to remove the optical modules.

Before you begin



Note When you plan to replace a configured optical module with a different type of optical module, you must clear the configurations of the old module before you install the new module. For example, when replacing a configured EDFA module with a PSM in the same slot, clear the EDFA configurations.

In general, configurations in a card equipped in an NCS 1001 slot include:

- Card configuration—hw-module parameters configuration related to the slot *S* where the card is equipped
- OTS controller configurations
- Optics controller configurations—only for EDFA cards

The following commands clear the configurations in the previous card.

1. `no hw-module location 0/RP0/CPU0 slot <S>`

   Clear the card parameters configuration.

2. `no controller ots Rack/Slot/Instance/Port`

   Clear each OTS controller configuration.

3. `no controller optics Rack/Slot/Instance/Port`

   (Optional) Clear the controller optics configurations. This must be done only if the card previously equipped in slot *S* was an EDFA.

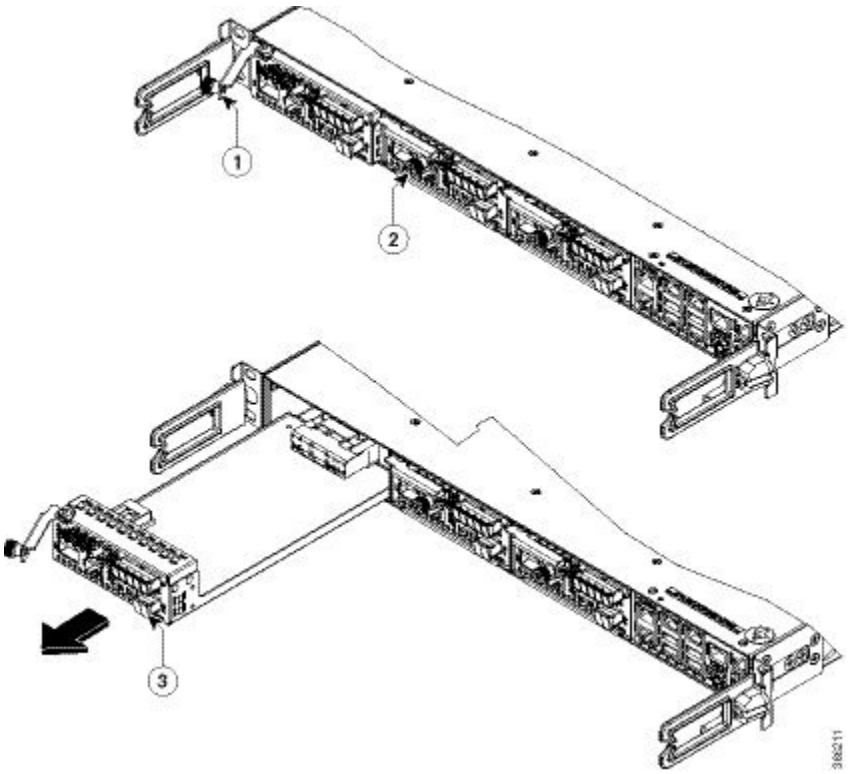
Procedure

Step 1 Unfasten the captive screws in an anticlockwise direction.

Step 2 Use the ejector lever to pull the module outside.

Step 3 When the module is partially out, pull the module from the chassis.

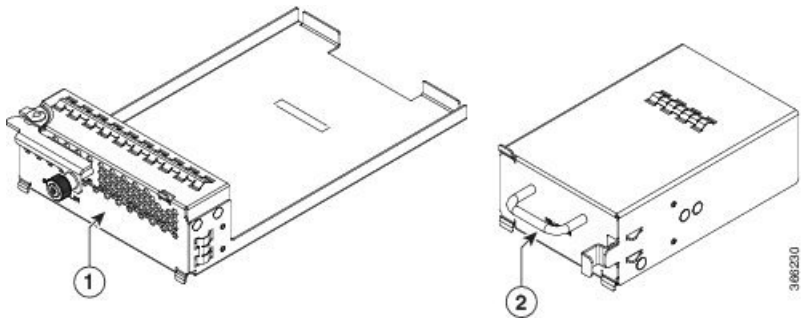
Figure 10: Remove Optical Modules



1	Ejector lever
2 and 3	Captive screw

Filler Modules

Figure 11: Filler Modules



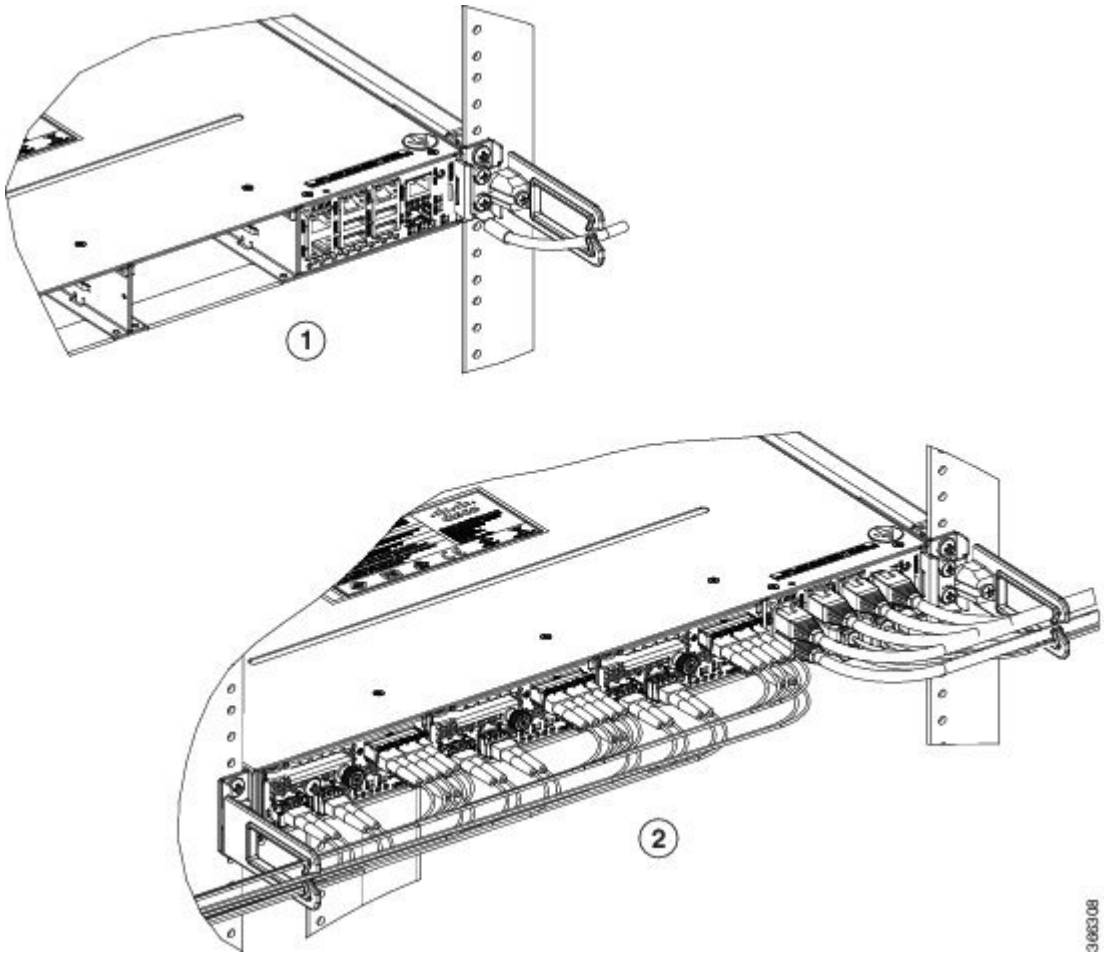
1	Optical filler module

2	PSU filler module

The insertion and removal procedure of the optical filler modules (left) and the PSU filler modules (right) is the same as the module replacement.

Cable Routing

Figure 12: Cable Routing



Routing of ground cable: If there is a requirement to route ground cable separately from other electrical cables, it can be passed under the cable managed bracket and tied with bracket arm.

Routing of other cables: If there is a requirement of separate routing of fibre and copper cables, there are several 1 RU fibre management trays available which can be made use of during installation.

Install 32-Channel Even Mux/Demux Patch Panel

Note Before proceeding to even mux/demux panel installation, see Safety Guidelines for Mux/Demux Patch Panel for Safety Guidelines.

Installation procedure for the 32-Channel Even Mux/Demux Patch Panel is similar to the 32-Channel Mux/Demux Patch Panel. Follow the steps as described in Install Cisco NCS 1000 32-Channel Mux/Demux Patch Panel to install the even mux/demux patch panel.

Remove 32-Channel Even Mux/Demux Patch Panel

Removal procedure for the 32-Channel Even Mux/Demux Patch Panel is similar to the 32-Channel Mux/Demux Patch Panel. Follow the steps as described in Remove and Replace NCS 1000 32-Channel Mux/Demux Patch Panel to remove the even mux/demux patch panel.

Install 32-Channel Even Mux/Demux Patch Panel-Enhanced

Use this procedure to install Cisco NCS 1000 32-Channel Mux/Demux patch panels.

Before you begin

Prepare to Install Cisco NCS 1000 32-Channel Mux/Demux Patch Panel - Enhanced

Procedure

Follow the steps as described in Install Cisco NCS 1000 32-Channel Mux/Demux Patch Panel - Enhanced to install the mux/demux patch panel-enhanced.

Remove 32-Channel Even Mux/Demux Patch Panel-Enhanced

Use this procedure to remove Cisco NCS 1000 32-Channel Mux/Demux patch panels.

Procedure

Follow the steps as described in Remove Cisco NCS 1000 32-Channel Mux/Demux Patch Panel - Enhanced to install the mux/demux patch panel-enhanced.

Remove and replace the RTC battery in the controller

Use this procedure to remove and replace the controller RTC battery.

Before you begin

Ensure you have these tools and equipment.

- Plastic spudger/pry tool
- Plastic or ceramic tweezers
- Electrostatic discharge (ESD) strap or other grounding equipment such as a grounded mat
- Replacement battery – Choose any one from the options:
  - CR-2032L/BN — Panasonic
  - 06032 101 501 — Varta Microbattery Inc.
  - 100272 — Renata

Caution Handle all components only by the carrier edges. Always use an ESD wrist-strap or grounding device to avoid damaging static-sensitive components.

Warning Ensure the system is shut down and power is removed before you begin.

There is danger of explosion if the RTC battery is replaced incorrectly. Replace the RTC battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

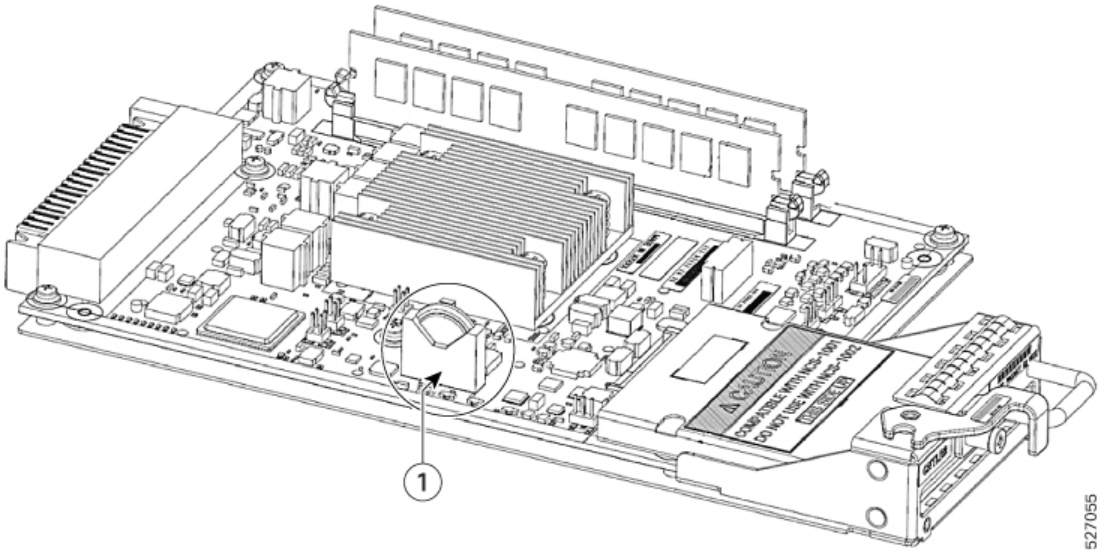
Follow these steps to remove and replace the RTC battery in the controller.

Procedure

Step 1 Remove the RTC battery.

a) Locate the vertical RTC battery socket in the controller.

Figure 13: Locating the vertical RTC battery socket



1	Vertical RTC battery socket

b) Using a plastic spudger tool, gently push against the socket's spring tab to release the battery.
c) Carefully lift the battery from the socket with plastic or ceramic tweezers.

Step 2 Install the new RTC battery.

a) Identify the battery polarity.

The positive side has the "CR2032" text and a plus sign (+). The negative side is flat.

b) Insert the battery at a slight angle around 30-degrees to the holder's opening, with the flat negative side facing the internal lower spring contact.
c) Gently push the battery inward toward the spring, then press down until it clicks securely under the retaining tabs.

Note
Ensure the battery is seated snugly and correctly.

The positive side should face the retainer clip or tab in the vertical holder.

The new RTC battery is correctly installed and seated. The controller is ready for reassembly and power-up.

What to do next

- Power on the controller and verify that it recognizes the new RTC battery and no battery errors are reported.
- Safely dispose the old battery according to local practices.

Wipe Data in Disk Using Secure Erase

When NCS 1001 becomes faulty, contact TAC to open a Return Material Authorization (RMA) request. Before opening a RMA request, the user can securely wipe data in NCS 1001 disks using the Secure Erase feature. The Secure Erase feature is supported from BIOS version v13.10.

Warning Use this procedure only during RMA.

Before you begin

The NCS 1001 unit that is planned for RMA must be taken out of the data center and the network. The user must access NCS 1001 only using the console port.

Procedure

Step 1 When NCS 1001 boots (power cycle), the following message appears.

```
Version 2.17.1245. Copyright (C) 2016 American Megatrends, Inc.
BIOS Date: 03/22/2016 11:19:42 Ver: 0ACBZ1310
Press <DEL> or <ESC> to enter setup.
```

Press DEL or ESC key to enter BIOS.

Step 2 Select the **Security** tab using the arrow keys.

The disk security details such as setting Hard Disk Drive (HDD) password and erasing HDD are displayed in the Security tab.

Step 3 Select **Set HDD Password** to set the new HDD password.

The HDD password can contain only ASCII characters and is not case sensitive. The HDD password needs to be provided after power reset and the password can be set or changed after power reset. The disk security is enabled after setting the HDD password.

Warning
When HDD password is set, the user must remember the password. If the password is lost, the data in HDD cannot be recovered.

Warning
When HDD password is set, BIOS prompts for HDD password to unlock the HDD after each power reset.

Step 4 Select **Erase HDD** using the arrow keys.

The Erase HDD screen appears.

Step 5 Enter the HDD password in the Erase HDD field.

Step 6 Select **OK** in the Erase Confirmation screen that indicates the data in the disk has been securely wiped.

The disk security settings are reverted to factory defaults after the secure erase. The configured HDD password is also wiped.