

ExtremeSwitching™

Installation Job Aid for Virtual Services Platform 8600

Release 4.5.0.1
NN47229-301
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Safety messages and symbols






Definitions of safety symbols

The following section describes the various precautionary statements used in device documentation. Pay attention to all precautionary statements to ensure your personal safety and to ensure the safe operation of the device.

Precautionary statements alert you to issues that require your attention. The following table describes the various types of precautionary statements. For a list of safety statements, alerts and warnings used in a particular document and their translations, see the Translations of safety messages section located in that document.




*** Note:**

Not all safety statements appear in every document.

 Caution:	Caution notices provide information about how to avoid possible service disruption, loss of data, or harm to software.
 Warning:	Warning notices provide information about how to avoid harm to hardware or equipment.
 Danger:	Danger notices provide information about how to avoid a situation or condition that can cause serious personal injury or death.
 Electrostatic alert:	ESD notices provide information about how to avoid discharge of static electricity and subsequent damage to Extreme products.
 Voltage:	Danger—High Voltage notices provide information about how to avoid a situation or condition that can cause serious personal injury or death from high voltage or electric shock.

Other symbols

The following table describes other symbols that appear throughout the documentation:

 Note:	A general note draws your attention to content that supplements the main text.
 Important:	An attention notice provides information about how to avoid a serious inconvenience during the installation and operation of Extreme products.
 Tip:	A tip notice provides helpful information that can assist you with a particular procedure or other content.

Safety messages

For translated safety messages, see *Installing the Virtual Services Platform 8600, NN47229–300*.

Voltage:

Before working on this equipment, be aware of proper safety practices and the hazards involved with electrical circuits. Use power cords that have a grounding wire. If you use power cords without a ground wire, ensure the switch is properly grounded before powering on the unit.

Voltage:

This unit has more than one power supply cord. Disconnect all power supply cords before servicing to avoid electric shock.

Danger:

Use AC power cords that have a ground wire (if applicable). If you use power cords without a ground wire, ensure the switch is properly grounded before powering on the unit. Without a proper ground, you are in danger of receiving an electrical shock. Lack of a grounding path to the switch can result in excessive emissions.

Danger:

To avoid bodily injury from hazardous electrical shock and current, never remove the top of the device. No user-serviceable components are inside.

Danger:

Fiber optic equipment can emit laser or infrared light that can injure your eyes. Never look into an optical fiber or connector port. Always assume that fiber optic cables are connected to a light source.

Danger:

When you inspect a connector, ensure that light sources are off. The light source used in fiber optic cables can damage your eyes. To avoid getting debris in your eyes, wear safety glasses when you work with the canned air duster. To avoid eye irritation on contact, wear safety glasses when you work with isopropyl alcohol.

Danger:

When you remove a cooling module, allow time for the fans to spin down before you fully withdraw the cooling module. Be careful to keep your fingers out of the fan blades.

Electrostatic alert:

Electrostatic discharge (ESD) can damage electronic circuits. Do not touch electronic hardware unless you wear a grounding wrist strap or other static-dissipating device.

Table continues...

 **Caution:**

Use the power calculator to determine if your AC power supply units (PSU) provide the correct power capacity for your chassis configuration. In situations when your switch is heavily populated, it is preferred that you connect to a 240–VAC power source to provide each AC PSU with up to 3,000 watts. Or, in situations when your switch is lightly populated, you can connect to a 120–VAC power source to provide each AC PSU with approximately 1,400 watts.

 **Caution:**

To turn off power to this device, you must disconnect the power cord. After the device has powered down, allow at least 30 seconds before you restore power. Otherwise, this device might produce a core file during the reset that can result in an extra delay during the boot process.

 **Warning:**

Risk of electromagnetic interference

This device is a Class A product. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users are required to take appropriate measures necessary to correct the interference at their own expense.

 **Warning:**

Risk of equipment damage

Do not crush fiber optic cable. If fiber optic cable is in the same tray or duct with large, heavy electrical cables, the weight of the electrical cable can damage the fiber optic cable.

 **Warning:**

Risk of equipment damage

To prevent further contamination, clean fiber optic equipment only when you see evidence of contamination.

To prevent contamination, cover the optical ports of all active devices with a dust cap or optical connector.

 **Warning:**

Risk of equipment damage

Transceivers are keyed to prevent incorrect insertion. If the transceiver resists pressure, do not force it; turn it over, and reinsert it.

 **Warning:**

When you mount this device in a rack, do not stack units directly on top of one another. You must secure each unit to the rack with appropriate mounting brackets. Mounting brackets cannot support multiple units.

 **Warning:**

Do not operate a chassis for more than a few minutes with a missing cooling module. To ensure internal chassis air pressure is maintained and to avoid loss of traffic due to modules overheating and shutting down, leave a failed cooling module installed until you have a replacement.

Table continues...

 **Warning:**

Keep the metal cover plate in place over empty module slots. An empty module slot allows air into the chassis, which reduces the negative pressure in the chassis. This reduces airflow to the installed modules.

Installing the chassis and modules

Installing the chassis in an equipment rack

Use the following procedure to install the chassis on a two-post or four-post equipment rack.

Before you begin

Acquire the following items:

- Clips and screws to attach the chassis to the rack
- #2 Phillips screwdriver
- Cable guide kit—optional
- Before lifting the chassis, ensure the following:
 - Reduce the weight of the chassis as much as possible before you lift it.
 - Use a mechanical lift when one is available or use a shelf.
 - Ensure you have at least two people to lift the chassis.
 - Lift the chassis from the bottom.

About this task

The chassis can be installed in any standard 19-inch (48 cm) deep two-post or four-post equipment rack in a flush-mount configuration.

Procedure

1. Determine where you want to install the chassis to the rack, and attach the clips.

 **Note:**

Ensure that the clips line up horizontally on either side of the rack vertical supports.

2. Use a mechanical lift or shelf to support the chassis, and hold it in place.
3. With the chassis lined up to the rack, insert the screws through the flange on the chassis to connect with the nuts in the clips.
4. Use a #2 Phillips screwdriver to secure the chassis to the rack.

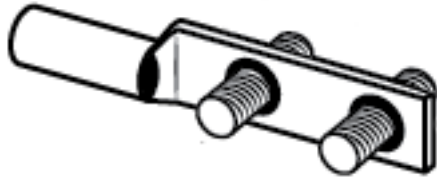
Grounding the chassis

Ground the chassis before you install power supplies or connect power and network cables to the system.

Before you begin

Gather the following:

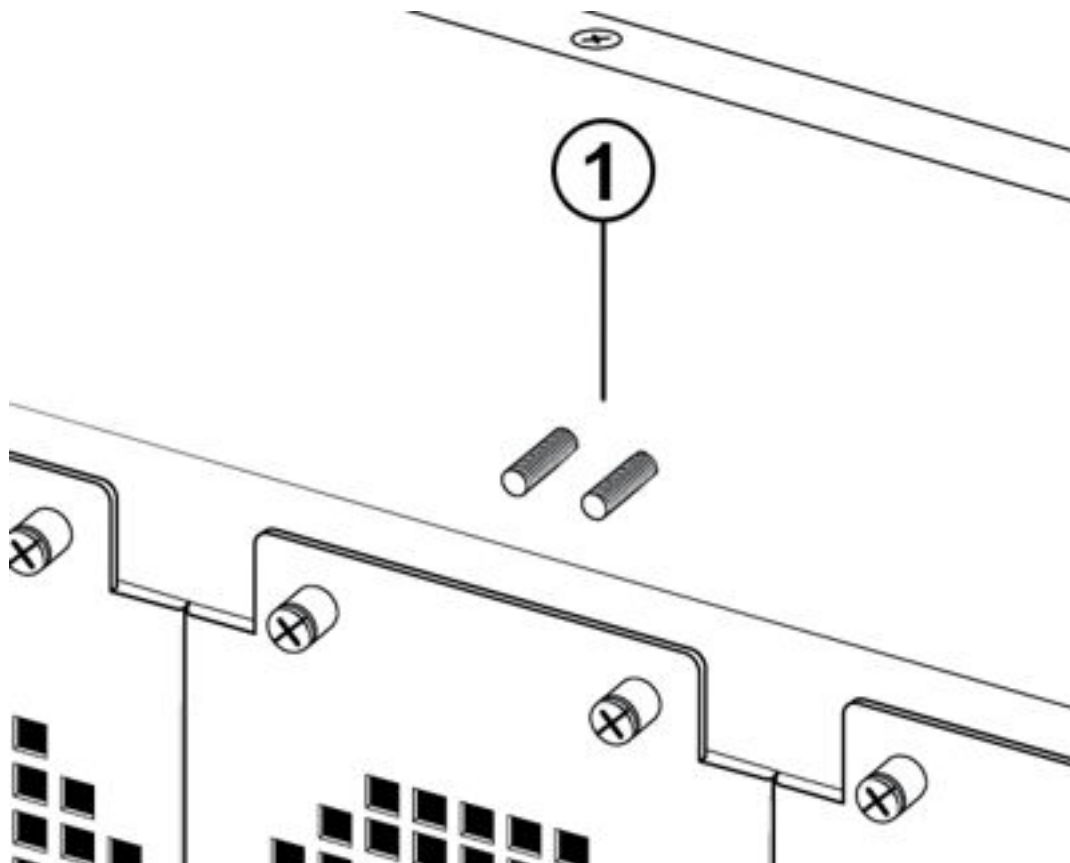
- A two-hole cable lug that fits over the threaded ground posts (supplied), as shown in the following figure.



- A lock washer and nut for each ground post (supplied).
- A #8-AWG ground wire that is long enough to connect to the ground point.
- A socket wrench or lock nut driver.
- A crimping tool.

Procedure

1. Locate the two-post compression ground at the rear of the chassis, as shown (label 1) in the following figure.



2. Crimp the two-hole cable lug onto the ground wire.
3. Attach the two-holed cable lug onto the ground posts, and use a lock washer and nut to secure to each post.
4. Bond the chassis ground cable to the single point ground.

Installing an IOC or SF module

Tip:

You can hot swap an input/output control (IOC) module or switch fabric (SF) module on an operational switch.

Before you begin

- Acquire the following items:
 - Phillips #2 screwdriver
 - Antistatic wrist strap
- Visually inspect the connectors for damage before you insert the module.

Important:

If you insert a module with damaged connectors you will damage the switch.

About this task

The IOCs in slots 1 and 2 operate as master and standby controller, in addition to being used for network connectivity purposes. If slot 1 contains an IOC module, the LEDs are only operational on the master module in slot 1; otherwise the module in slot 2 assumes the master role. If slots 1 and 2 contain modules, during failover, the standby module in slot 2 takes the master role. The switch can be powered up before or after you install the IOCs.

To prevent damage, use the following best practices when installing or handling modules:

- Keep the modules on antistatic material when not in the chassis.
- Avoid touching the components or connector pins.
- Do not stack modules on top of each other outside of the chassis.
- Always keep a module or a filler panel installed to maintain safety compliance, proper cooling, and EMI containment.
- Do no overtighten screws or use a power tool to tighten screws.

Electrostatic alert:

Electrostatic discharge (ESD) can damage electronic circuits. Do not touch electronic hardware unless you wear a grounding wrist strap or other static-dissipating device.

Procedure

1. Locate a free IOC or SF slot:

*** Note:**

There are eight IOC slots located in slots 1 through 4 and 5 through 8, and three SF slots located in SF1 through SF3. Ensure IOC slot 1 or IOC slot 2 contains a module.

2. To remove the filler panel, use a Phillips screwdriver to loosen the top and bottom captive screws, and slide the filler panel out.
3. To install the module, rotate the top lever up and the bottom lever down to the open position.

+ Tip:

The action levers are in the open position when the lever forms a 90° angle with the front of the module.

4. Slide the module into the chassis, and apply light hand pressure until the module connects with the backplane.
5. Rotate the top lever down and the bottom lever up until the levers are flush with the module, as shown in the following figures.

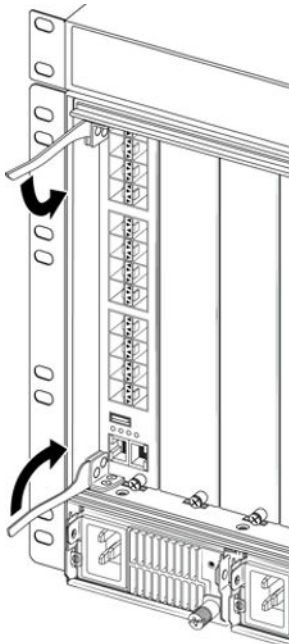


Figure 1: IOC

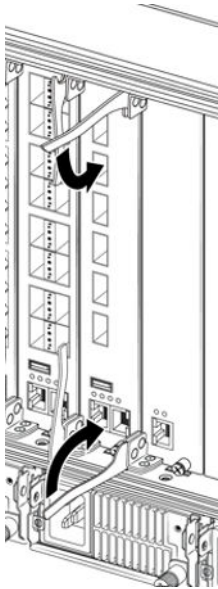


Figure 2: Switch fabric module

6. To secure the module in the chassis, use a Phillips screwdriver to tighten the top and bottom captive screws, as shown in the following figures.

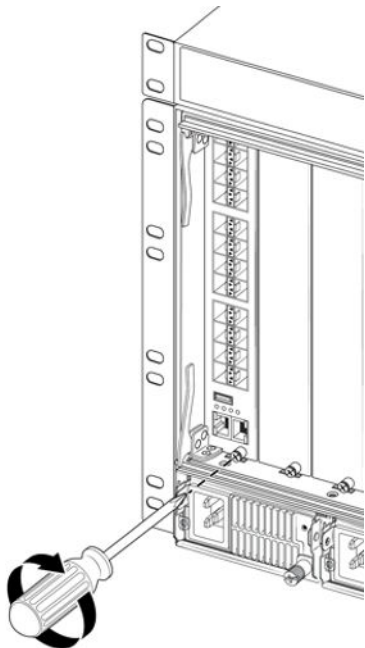


Figure 3: IOC module

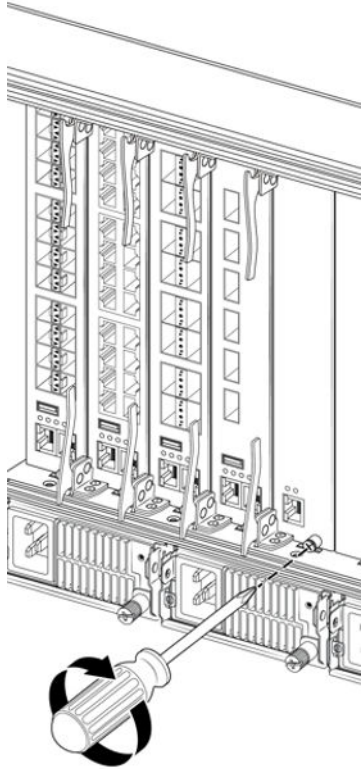


Figure 4: Switch fabric module

Installing power supplies and cooling fan modules

Installing a cooling module

Use the following procedure to install the cooling modules into the rear of the chassis.

+ Tip:

You can hot swap the cooling modules.

Before you begin

- If necessary, remove the existing cooling module.
- You require the following items:
 - Phillips #2 screwdriver
 - Antistatic wrist strap

⚠ Electrostatic alert:

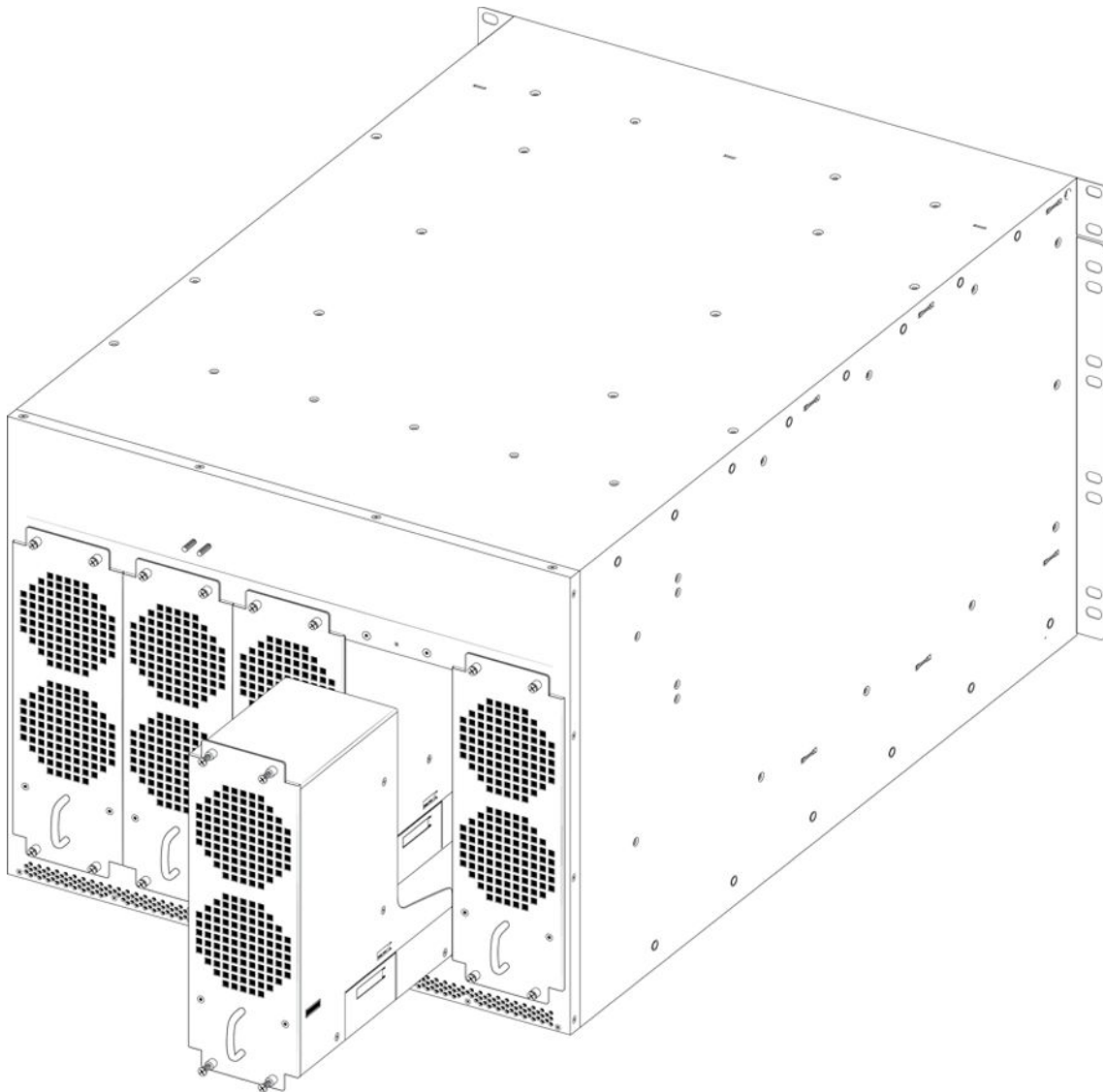
Electrostatic discharge (ESD) can damage electronic circuits. Do not touch electronic hardware unless you wear a grounding wrist strap or other static-dissipating device.

⚠ Warning:

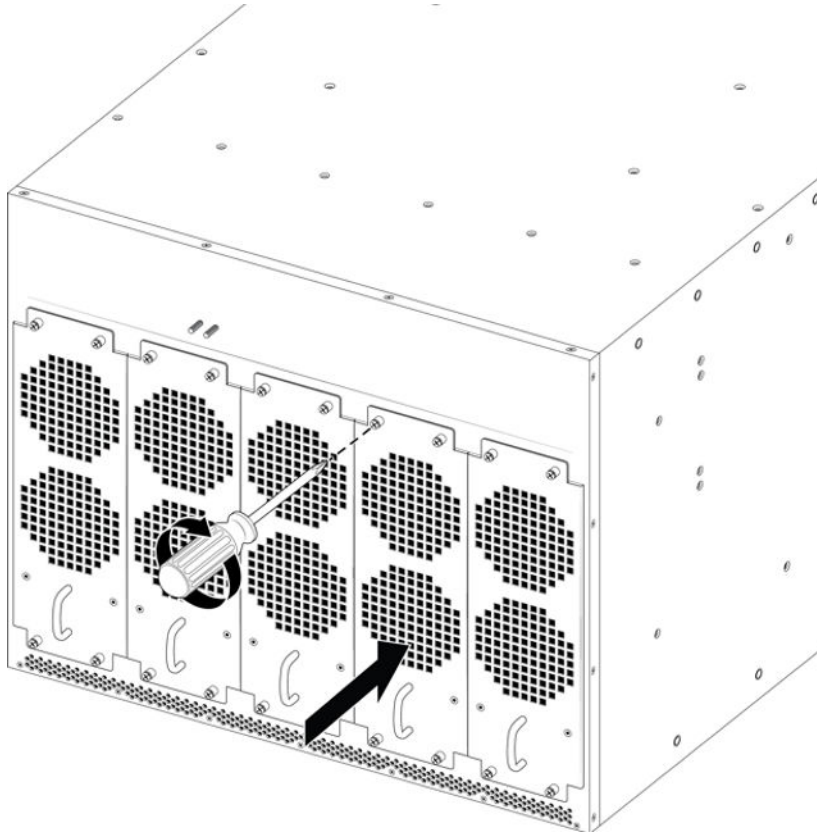
Do not operate a chassis for more than a few minutes with a missing cooling module. To ensure internal chassis air pressure is maintained and to avoid loss of traffic due to modules overheating and shutting down, leave a failed cooling module installed until you have a replacement.

Procedure

1. Locate the slot where you want to install the cooling module.
2. Slide the cooling module into the chassis, and apply light hand pressure until the connector at the rear connects with the backplane, as shown in the following figure.



3. Use the screwdriver to tighten the two captive screws on the top and bottom of the cooling module to secure the cooling module to the chassis, as shown in the following figure.



4. Repeat these steps for each cooling module.

Power calculator tool

Use the power supply calculator tool to help you determine the power requirement when configuring the chassis, input/output control (IOC) modules, switch fabric modules, optical transceivers, and power supplies. This tool can be used to calculate the available power from the power supplies and the power consumption for each IOC and each populated port. The results provide typical and maximum power consumption, which helps you to determine your power reserve (power margin) to ensure you do not exceed the maximum power allotted for all power supplies.

! Important:

You require a basic knowledge of the various transceiver types and quantities used with each line card. This tool does not alert you if port devices are incorrectly selected for a card or if incorrect quantities of port devices are selected.

Installing an AC power supply

The AC power supply does not ship installed and must be ordered separately.

Before you begin

- Ensure you have the correct power supply units for your system and country.
- Obtain AC power cords for each power supply that match the power service conventions for your country.

Danger:

Use AC power cords that have a ground wire (if applicable). If you use power cords without a ground wire, ensure the switch is properly grounded before powering on the unit. Without a proper ground, you are in danger of receiving an electrical shock. Lack of a grounding path to the switch can result in excessive emissions.

- Obtain a flat-blade screwdriver or Phillips #2 screwdriver, if needed to tighten the captive screw.
- Obtain the retention clip for use with a straight-ended power cord (supplied).

Electrostatic alert:

Electrostatic discharge (ESD) can damage electronic circuits. Do not touch electronic hardware unless you wear a grounding wrist strap or other static-dissipating device.

Caution:

Use the power calculator to determine if your AC power supply units (PSU) provide the correct power capacity for your chassis configuration. In situations when your switch is heavily populated, it is preferred that you connect to a 240-VAC power source to provide each AC PSU with up to 3,000 watts. Or, in situations when your switch is lightly populated, you can connect to a 120-VAC power source to provide each AC PSU with approximately 1,400 watts.

About this task

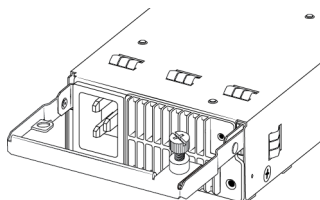
The chassis supports four 3,000 watt power supply units. Each power supply is self enclosed and vents directly to the rear of the chassis; therefore, empty power supply bays do not need a filler panel.

Tip:

If the chassis has more than one power supply installed, you can hot swap a power supply on an operational switch.

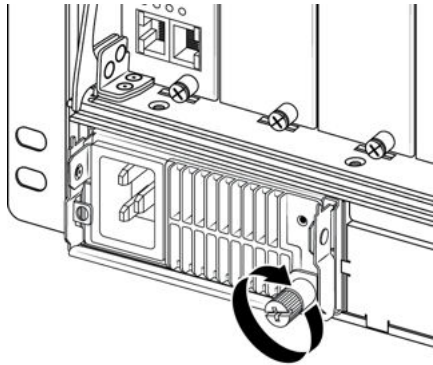
Procedure

1. Locate the bay where you want to install the power supply unit.
2. Pull up on the lever bar until it reaches straight out, and forms a 90° angle with the front of the power supply, as shown in the following figure.



3. Slide the power supply into the chassis, and apply light hand pressure until the connector at the rear of the power supply connects with the backplane.

4. Push down on the lever bar to latch the power supply into place.
5. Turn the captive screw to secure the power supply to the chassis, as shown in the following figure.



6. Use a retention clip to secure a straight-ended AC power cord to the power supply. For more information about installing a retention clip, see *Installing the Virtual Services Platform 8600, NN47229–300*.
7. Connect the AC power cord to the power supply, and then connect the other end of the cord to an AC power source.

! Important:

The chassis does not have an AC power switch. After you connect the power cord to an AC power outlet, the switch powers up immediately.

8. Repeat these steps for each power supply.

Result

Both LED lights for the AC power supply units show steady green when connected and operating normally.

Installing a DC power supply

The DC power supply does not ship installed and must be ordered separately. A DC power cord is also a separately ordered item.

Before you begin

- Obtain a flat-blade screwdriver or Phillips #2 screwdriver, if needed to tighten the captive screw.

⚠ Electrostatic alert:

Electrostatic discharge (ESD) can damage electronic circuits. Do not touch electronic hardware unless you wear a grounding wrist strap or other static-dissipating device.

About this task

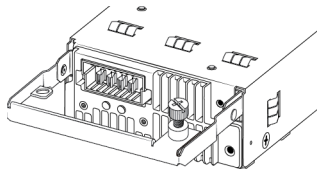
The chassis supports four 2,500 Watt power supplies. Each power supply is self enclosed and vents to the rear of the chassis; therefore, empty power supply bays do not need a filler panel.

+ Tip:

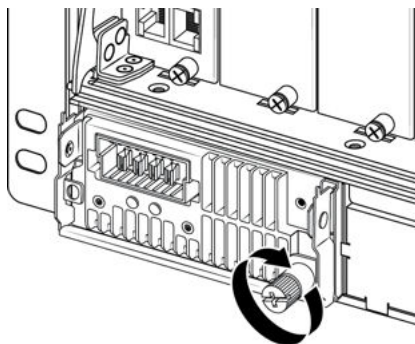
If the chassis has more than one power supply installed, you can hot swap a power supply on an operational switch.

Procedure

1. Locate the bay where you want to install the power supply.
2. Pull up on the lever bar until it forms a 90° angle with the front of the power supply, as shown in the following figure.



3. Slide the power supply into the chassis, and apply light hand pressure until the connector at the rear of the power supply connects with the backplane.
4. Push down on the lever bar to latch the power supply into place.
5. Use a screwdriver to tighten the captive screw to secure the power supply to the chassis, as shown in the following figure.

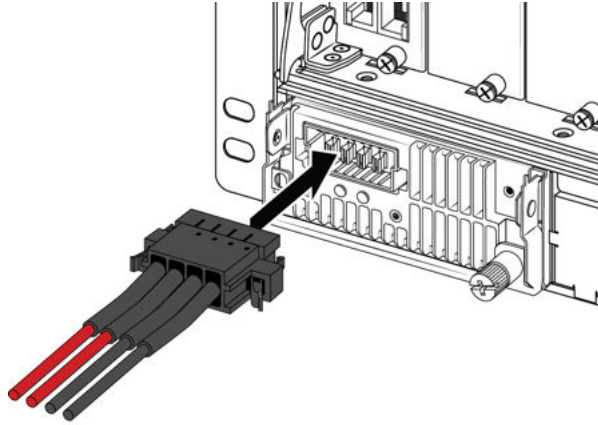


6. Establish a ground connection with the two ground posts at the rear of the chassis.
7. Use the following steps to connect the DC power cable to the power supply:

! Important:

The chassis does not have a power switch. When you connect the DC power source to the DC power supply, the switch powers up immediately.

- a. Position the DC power cable connector so that the red wires are connected to the left (positive) side of the DC outlet, as shown in the following figure.



- b. Push the connector until the clips lock into place.
- c. The installation electrician connects the other end of the power cord to the building power system.

Use the following for the building wire harness:

Pin1	Black	-DC
Pin2	Black	-DC
Pin3	Red	+DC
Pin4	Red	+DC

- 8. Repeat these steps for each power supply.

Result

Both LED lights for the DC power supply units show steady green when connected and operating normally.