



## Removing and Replacing FRUs

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This chapter describes procedures for removing and replacing field-replaceable units (FRUs) from Cisco Catalyst 8500 Series Edge Platform.

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## Installing an SSD

### Before you begin



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**Note** The following section does not apply to the C8500-20X6C chassis. Do not remove the top cover of the C8500-20X6C chassis as it does not include any user serviceable parts.

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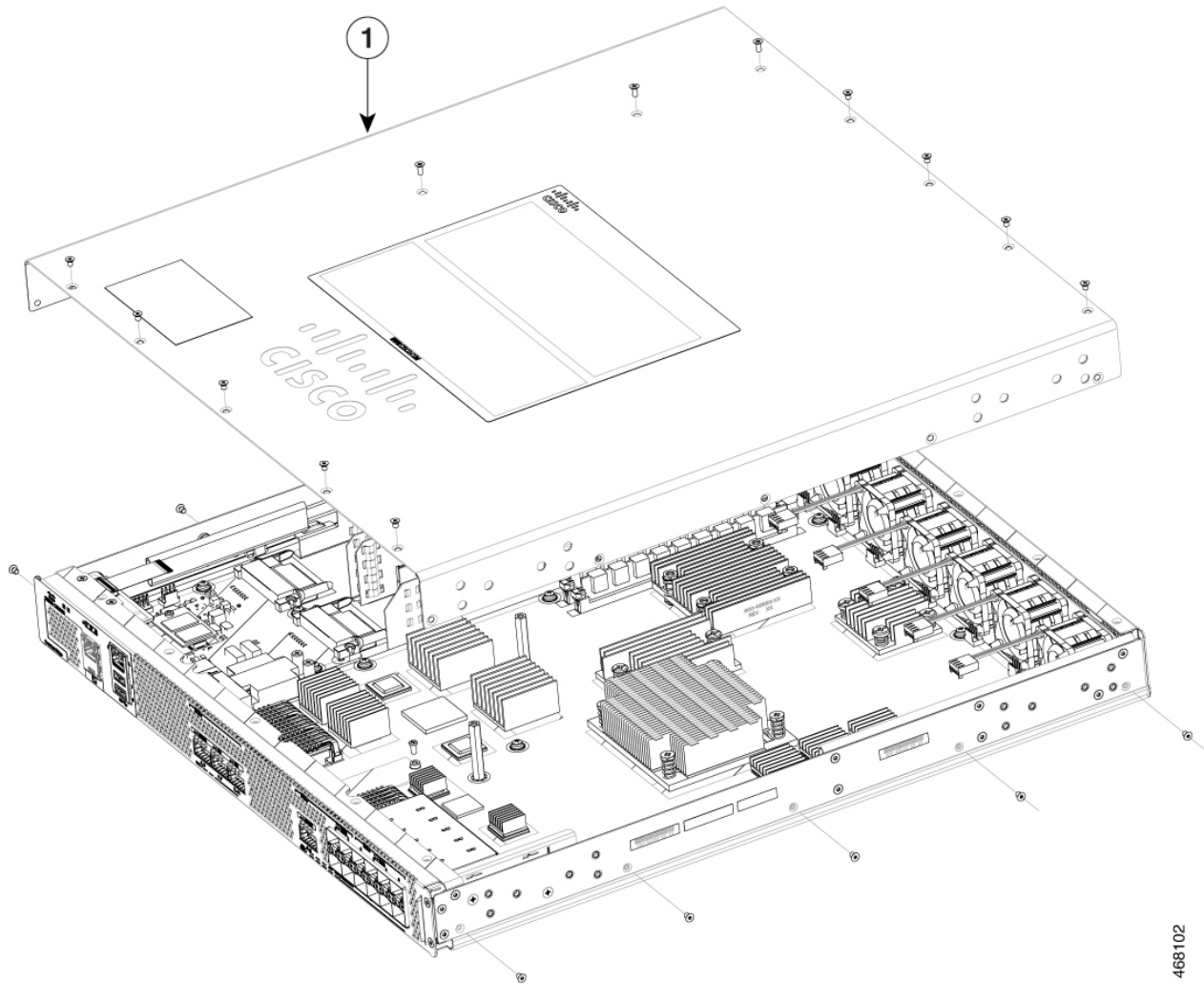
Ensure that you follow the guidelines in *Preventing Electrostatic Discharge Damage*

### Procedure

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- Step 1** Ensure the router is powered off and all the power supplies are removed from the chassis.
- Step 2** If the router is mounted on a rack, remove the screws from the rack mounting brackets. Remove all screws from the sides and top of the chassis that secure the cover. There are 12 screws on the top and 5 screws on

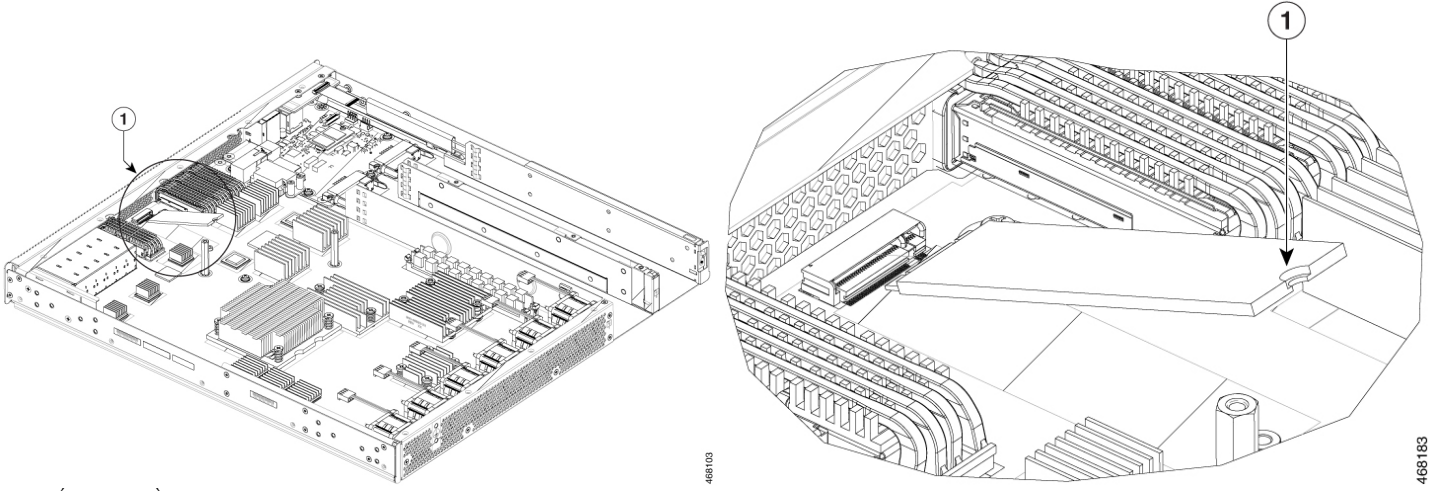
each side.



1	Top cover of the chassis after removing screws from the top and side
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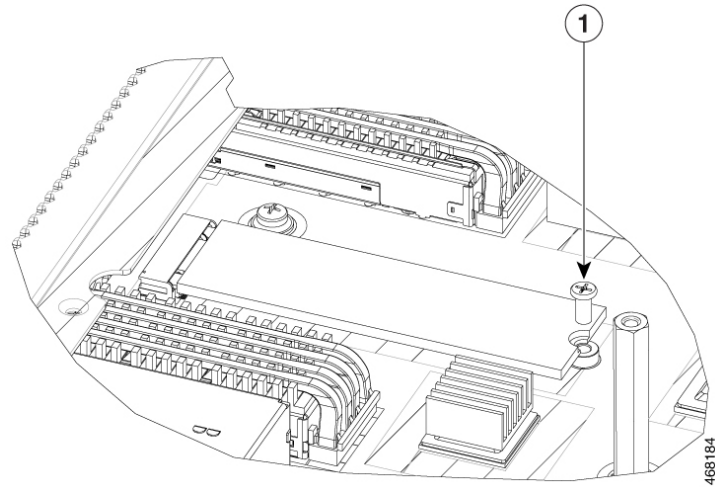
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**Step 3** Locate the SSD slot. Carefully insert the SSD at approximately a 30 degree angle to seat the card in the connector. Rotate the card downward until it rests on the small notch in the printed circuit



1	The SSD card inserted in the notch in the PCB
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**Step 4** Install the retention screw in the hole in the SSD and gently tighten to a torque to no greater than 5 in-lbs



**Step 5** Re-install the cover and replace all screws that were removed in step 1.

## Removing an SSD

### Before you begin

Ensure that you follow the guidelines in *Preventing ESD Damage*

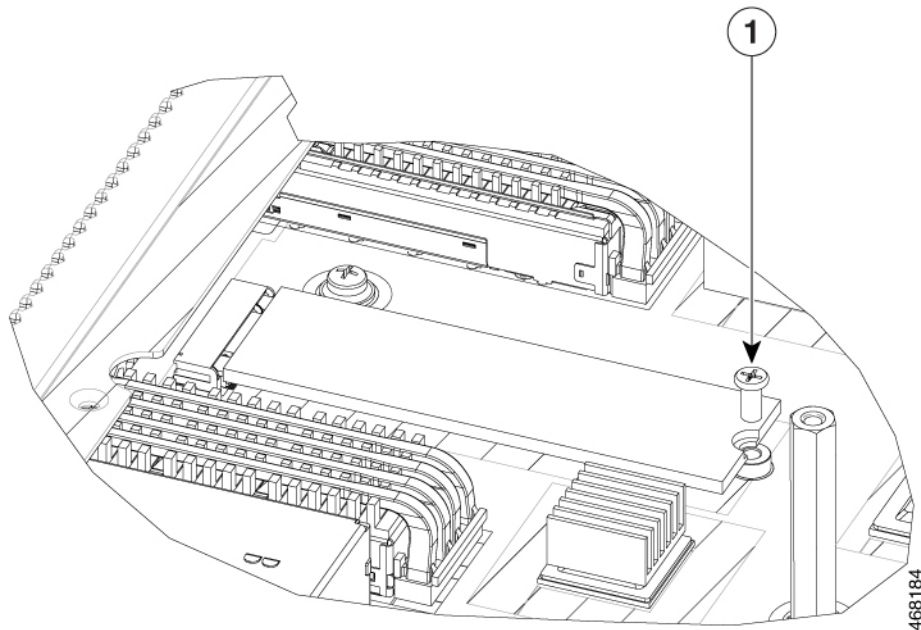


**Note** The following section does not apply to the C8500-20X6C chassis. Do not remove the top cover of the C8500-20X6C chassis as it does not include any user serviceable parts.

### Procedure

**Step 1** Ensure the router is powered off and all the power supplies are removed from the chassis.

**Step 2** Remove the screw retaining the SSD. Keep the screw for inserting a new SSD



module.

1	The screw retaining the SSD
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**Step 3** After the screw is removed, the SSD module will automatically spring up.

**Step 4** Remove the SSD from the socket.

## Installing AC Power Supplies



**Note** Do not install the power supplies with the chassis cover off.

### Procedure

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- Step 1** Ensure that the chassis power switch on the chassis is in the Standby position.
- Note** It is not required to place the chassis power switch in the Standby position if you want to hot-swap a single power supply.
- Step 2** Insert the power supply module into the appropriate slot(s), making sure that the retention latch is firmly placed. You can verify that the power supply module is firmly latched by gently pulling the power supply handle.
- Step 3** Insert the power supply cables firmly into the power supplies.
- Note** Ensure that both power supplies are inserted firmly and the power cords are in place.
- Step 4** If you have changed the chassis power switch to the Standby position in Step 1, press the power switch to the On position.  
The power supply LEDs are illuminated (green).
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## Removing AC Power Supplies

### Procedure

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- Step 1** Ensure that the chassis power switch is in the Standby position.
- Note** It is not required to place the chassis power switch in the Standby position if you want to hot-swap a single power supply.
- Step 2** Unplug the power cable from the power supply.
- Step 3** Press the retaining latch towards the pull handle, grasp the handle with one hand, and pull the power supply out of the slot while supporting the weight of the power supply with the other hand.
- Step 4** Repeat these steps if it is required to remove the other AC power supply.
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## Installing DC Input Power Supplies



**Warning** To reduce risk of electric shock, before performing any of the following procedures, ensure that power is removed from the system.

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**Warning** Only trained and qualified personnel should be allowed to install, replace, or service this equipment.



**Note** Do not install the power supplies with the chassis cover off.

This section describes how to install the DC power supply input power leads to the DC input power supply. Before you begin, read these important notices:

- The color coding of the DC input power supply leads depends on the color coding of the DC power source at your site. Ensure that the lead color coding you choose for the DC input power supply matches the lead color coding used at the DC power source and verify that the power source is connected to the negative (–) terminal and to the positive (+) terminal on the power supply.
- Ensure that the chassis ground is connected on the chassis before you begin installing the DC power supply. Follow the steps provided in the *Chassis Ground Connection* section.
- For DC input power cables, the wire gauge is based on the National Electrical Code (NEC) and local codes for 26 amp service at nominal DC input voltage (–40/–72 VDC). One pair of cable leads, source DC (–) and source DC return (+), are required for each power distribution unit (PDU). These cables are available from any commercial cable vendor. All DC input power cables for the chassis should be 10 gauge wire and cable lengths should match within 10 percent of deviation.

Each DC input power cable is terminated at the PDU by a cable lug, as shown in the following figure.



**Note** DC input power cables must be connected to the PDU terminal studs in the proper positive (+) and negative (–) polarity. In some cases, the DC cable leads are labeled, which is a relatively safe indication of the polarity. However, you must verify the polarity by measuring the voltage between the DC cable leads. When making the measurement, the positive (+) lead and the negative (–) lead must always match the (+) and (–) labels on the power distribution unit.

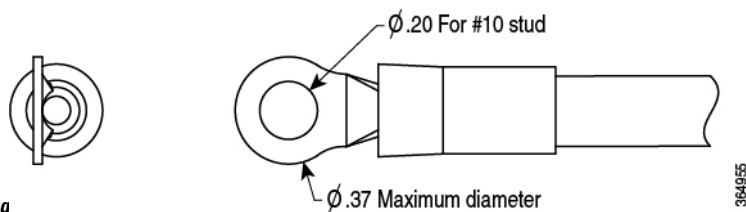


Figure 1: DC Input Power Cable Lug



**Note** To avoid hazardous conditions, all components in the area where DC input power is accessible must be properly insulated. Therefore, before installing the DC cable lugs, be sure to insulate the lugs according to the manufacturer's instructions.

## Wiring the DC Input Power Source



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**Warning** To reduce risk of electric shock, when installing or replacing the unit, the ground connection must always be made first and disconnected last.

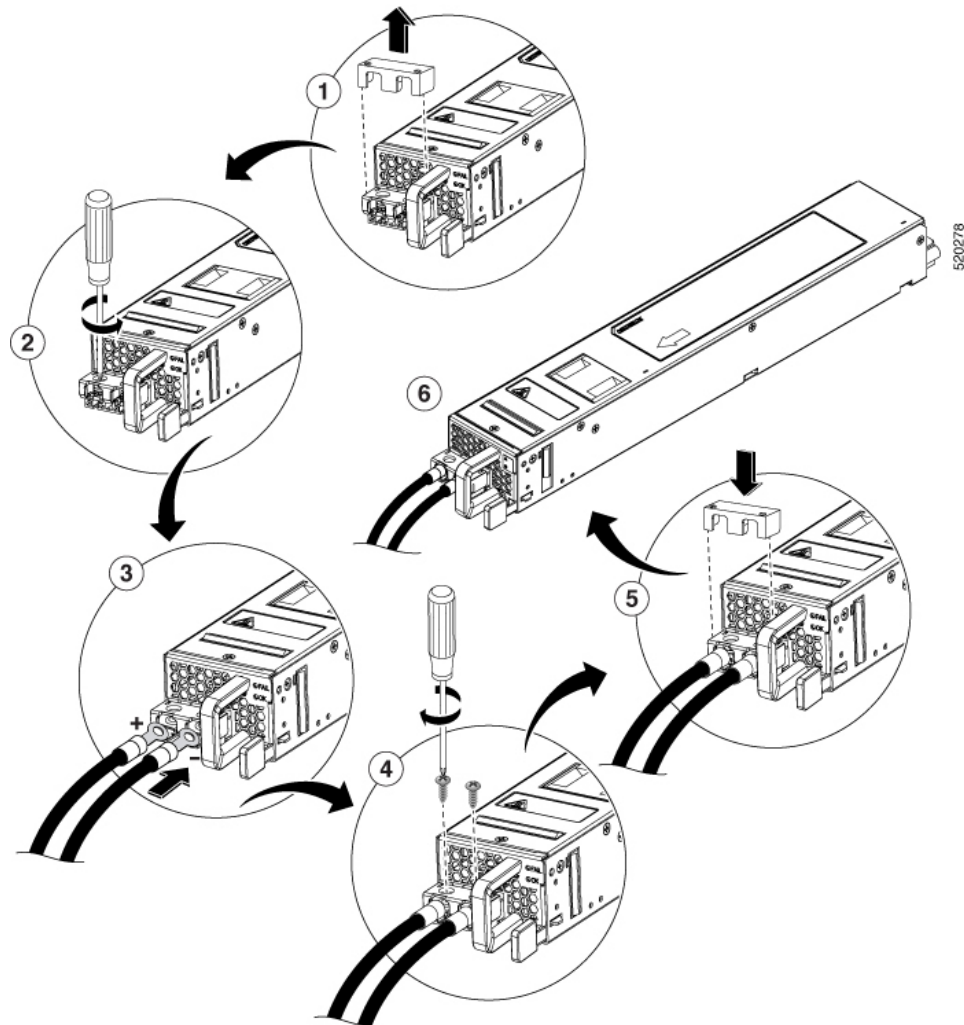
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### Procedure

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- Step 1** Turn off the circuit breaker from the power source.
- Step 2** Ensure that the chassis power switch is in the Standby position.
- Note** It is not required to place the power switch in the Standby position if you want to hot-swap a single power supply.
- Step 3** Use a wire-stripping tool to remove approximately 0.75 inch (19 mm) of the covering from the end of the wire.

Figure 2: DC Power Supply Terminal Block Ground Cable Lugs



- Step 4** Insert the stripped end of the wire into the open end of the lug.
- Step 5** Crimp the wire in the barrel of the lug. Verify that the wire is securely attached to the lug.
- Step 6** Place the wire against the terminal block, making sure there is solid metal to metal contact.
- Step 7** Secure the lug to the chassis with two M4 screws. Ensure that the lug and the wire will not interfere with other switch hardware or rack equipment.
- Step 8** Replace the snap on cover on the terminal block of the DC power supply.

## Removing DC Power Supplies

The DC power supply has a terminal block that is installed into the power supply terminal block header.



### Procedure

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- Step 1** Turn off the circuit breaker from the power source.
- Step 2** Ensure that the chassis power switch is in the Standby position.
- Note** It is not required to place the chassis power switch in the Standby position if you want to hot-swap a single power supply.
- Step 3** Remove the plastic cover from the terminal block.
- Step 4** Unscrew the two terminal block screws on the unit and remove the wires from the power supply.
- Step 5** Press the power supply retaining latch towards the pull handle, grasp the handle with one hand, and pull the power supply out of the slot while supporting the weight of the power supply with the other hand.
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## Removing and Replacing USB 3.0 Interface

The Cisco Catalyst 8500 Series Edge Platform contain one USB 3.0 interface to store configurations or Cisco IOS XE consolidated packages.

To remove and then replace a USB flash memory stick, follow these steps:

### Procedure

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- Step 1** Pull the flash memory stick from the USB port.
- Step 2** To replace a Cisco USB Flash memory stick, insert the module into USB port 0 or 1. The Flash memory stick can be inserted only in one way, and can be inserted or removed regardless of whether the router is powered up or not.
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## Removing and Replacing a DIMM



**Note** The following section does not apply to the C8500-20X6C chassis. Do not remove the top cover of the C8500-20X6C chassis as it does not include any user serviceable parts.

The Cisco Catalyst 8500 Series Edge Platform has two DIMM slots and supports 16-GB configuration by default.

*Table 1: Supported Slots for Inserting the DIMMs*

Memory PID Option	Memory Channel B	
	Slot 0 (U1DA0)	Slot 2 (U1DB0)

Memory PID Option	Memory Channel B	
MEM-C8500-16GB	8 GB	8 GB
MEM-C8500-32GB	16 GB	16 GB
MEM-C8500-64GB	32 GB	32 GB

## Removing a DIMM

### Before you begin

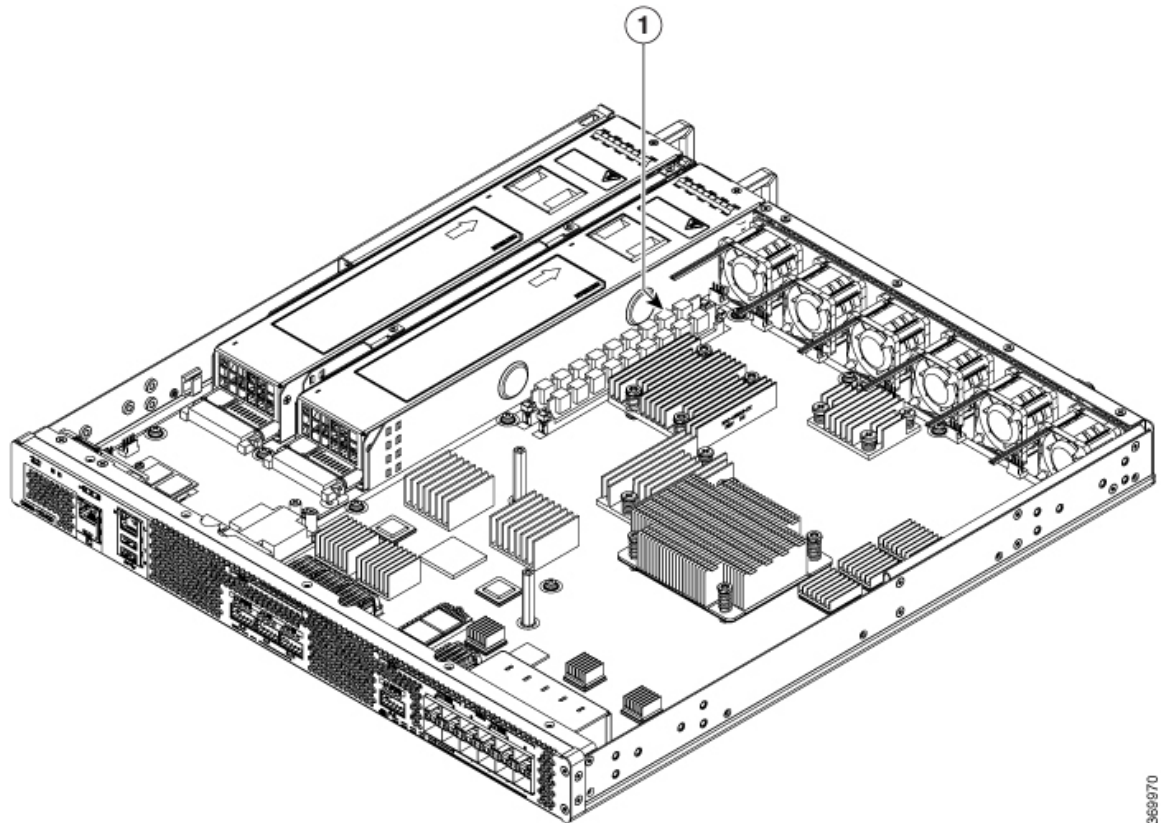
Perform the following steps before you begin the process of removing and replacing a DIMM from a Cisco Catalyst 8500 Series Edge Platform:

- Use an ESD-preventive wrist strap.
- Back up the data that you want to save.
- Remove the power supplies before you remove the chassis top cover.

### Procedure

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- Step 1** With an ESD wrist strap on, remove the power supplies from the chassis.
- Step 2** Remove the chassis top cover by performing the following steps:
- Remove the nine Torx screws on the top surface of the cover, along with the five Torx screws on each side of the cover, using a Torx T8 driver. Then, remove the remaining three screws on the top surface of the cover with a small Phillips screwdriver.
  - Remove the five screws from the left side of the chassis and five screws from the right side of the chassis.
  - After removing the screws, lift off the chassis cover.
- Step 3** Locate the DIMMs on the router.

Figure 3: DIMM Location in Cisco C8500 Series Catalyst Edge Router



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1	C8500 Series Catalyst Edge Router DIMM location slot
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- Step 4** Pull down the DIMM module spring latches to release the corresponding DIMM from the socket.
- Step 5** When both ends of the DIMM are released from the socket, grasp each end of the DIMM with your thumb and forefinger and pull the DIMM completely out of the socket. Handle only the edges of the DIMM; avoid touching the memory module, pins, and the metal traces (the metal fingers along the connector edge of the DIMM) along the socket edge.
- Step 6** Place the DIMM in an antistatic bag to protect it from ESD damage.

## Replacing a DIMM

### Procedure

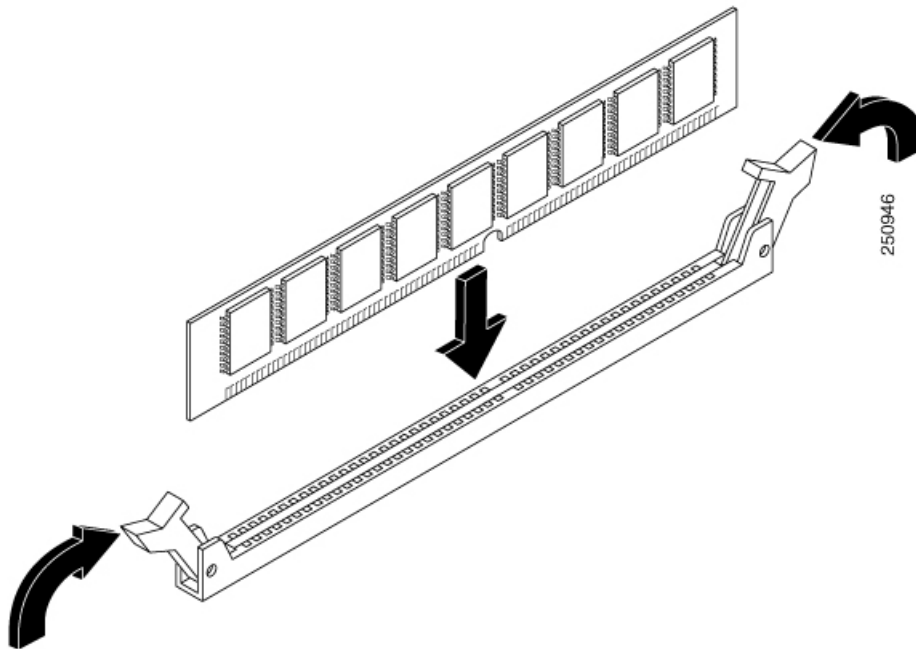
- Step 1** Place the DIMM on an antistatic mat or pad while wearing an antistatic device, such as a wrist strap.
- Caution** DIMMs are sensitive components that can be shorted by mishandling; they are susceptible to ESD damage. Handle the DIMM by the edges only, and avoid touching the pins.

- Step 2** Remove the new DIMM from the antistatic bag.
- Step 3** Locate the polarization notch and align the DIMM with the socket before inserting it.
- Step 4** Gently insert the new DIMM, taking care not to damage the pins on the edge of the DIMM. Press the top of the DIMM towards the socket, being careful to apply force only on the DIMM that is parallel with the plane of the DIMM.

**Caution** When inserting DIMMs, use firm but not excessive pressure. If you damage a socket, you will have to return the router to the factory for repair.

- Step 5** Use light insertion force and insert smoothly, but ensure that the DIMM is inserted straight. If necessary, rock the DIMM gently back and forth to seat it properly. The following figure shows how to install the DIMM in the socket.

**Figure 4: Installing a DIMM in the Socket**



- Step 6** After the DIMM is installed, check whether the release levers are flush against the sides of the DIMM socket. If they are not, the DIMM might not be seated properly. If the DIMM appears misaligned, carefully remove it according to the removal procedure and then reseat it in the socket. Push the DIMM firmly back into the socket until the release levers are flush against the sides of the DIMM socket.
- Step 7** Replace the chassis top cover. Install the top surface screws, side screws and tighten them slightly
- Step 8** Install the power supplies into the chassis and power up the router.

# Removing and Replacing Fans

## Removing the Fans for C8500-12X4QC and C8500-12X

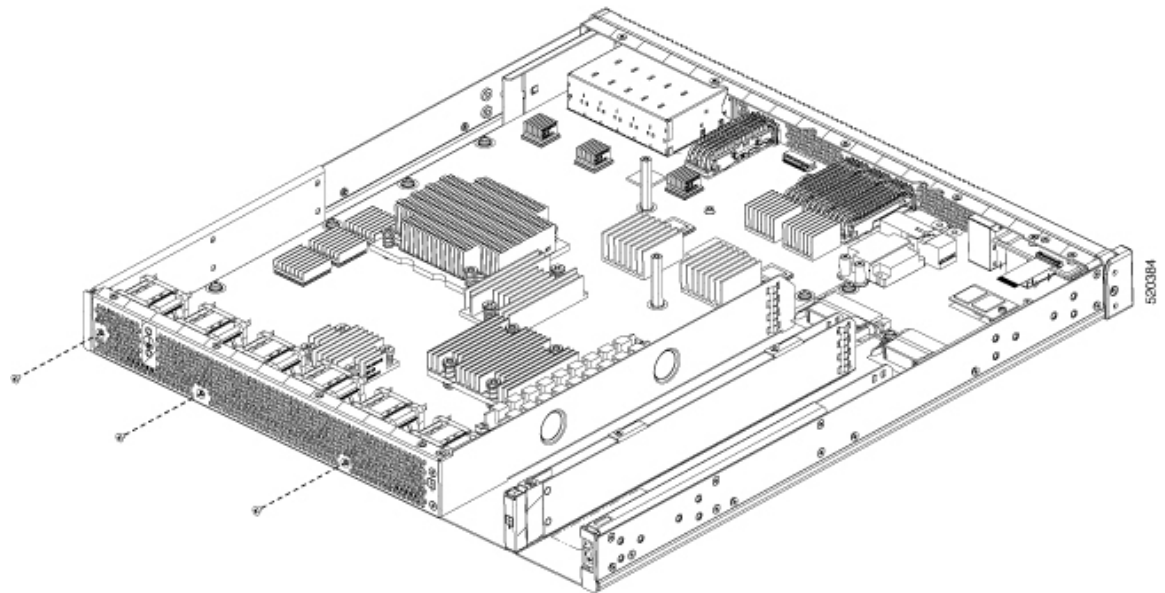
### Before you begin

Perform the following steps before you begin the process of removing the fans :

- Use an ESD-preventive wrist strap.
- Back up the data that you want to save.
- Remove the power supplies before you remove the chassis top cover.

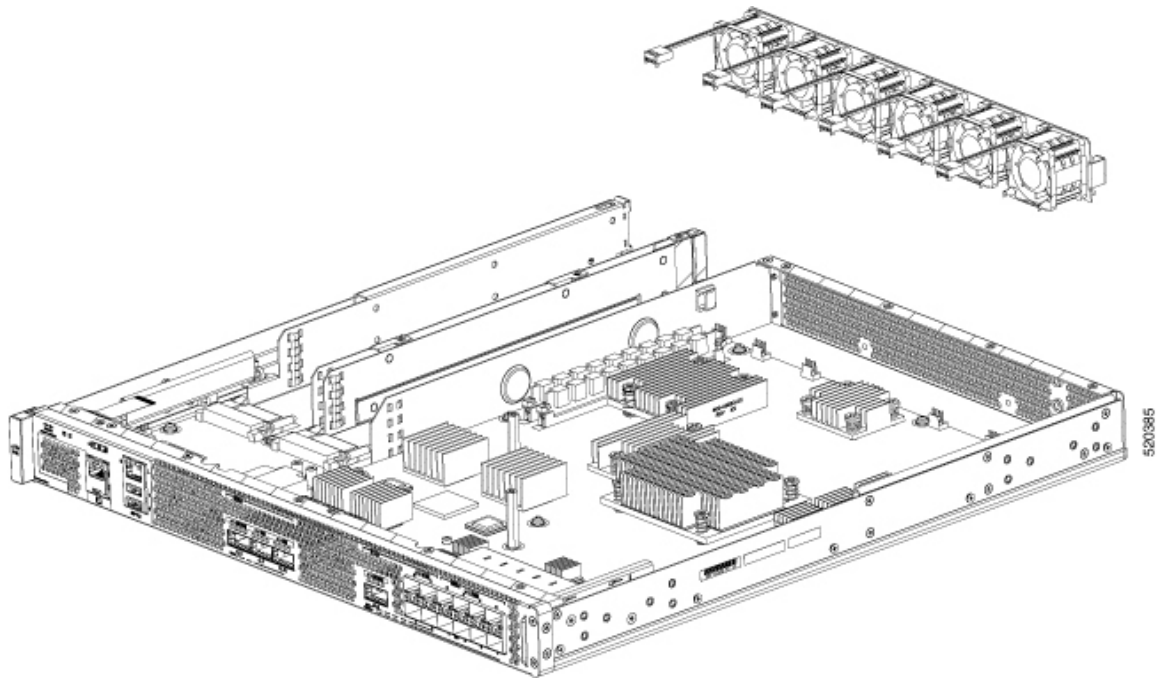
### Procedure

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- Step 1** Remove the chassis top cover by performing the following steps:
- a) Remove the twelve top surface screws on the chassis cover.
  - b) Remove the five screws from the left side of the chassis and five screws from the right side of the chassis.
  - c) Lift the chassis cover.
- Step 2** Position the chassis so that you have the most comfortable access to the chassis to remove the fans.  
The fans are located at the rear of the chassis.
- Step 3** Unplug the six fan connectors from the motherboard.
- Step 4** Remove the three screws from the rear of the chassis as shown in the following figure.



- Step 5** Rotate the fan tray slightly forward, and then lift it out of the chassis.

- Step 6** Reverse the order of fan removal to install the new fan tray. Ensure that all fans are connected and all screws for the fan tray and chassis cover are replaced prior to powering up the chassis.



## Removing the Fans for C8500-20X6C

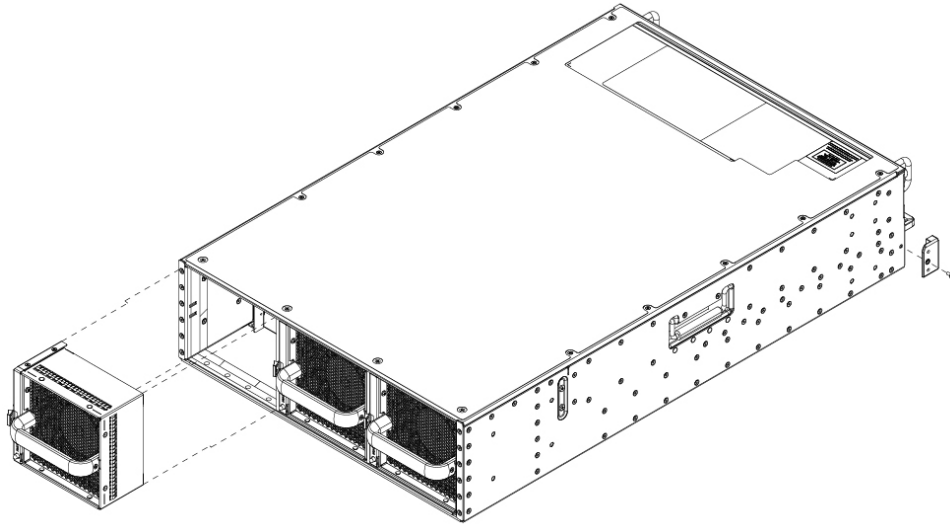
### Procedure

- Step 1** **Note** During fan removal and installation, keep fingers and all other objects away from the chassis opening.

Position the chassis so that you have the most comfortable access to the chassis to remove the fans. The fans are located at the rear of the chassis.

- Step 2** Press the finger tab on the fan latch and pull the fan module straight out to remove the fan.

*Figure 5: Removing the Fans for C8500-20X6C*

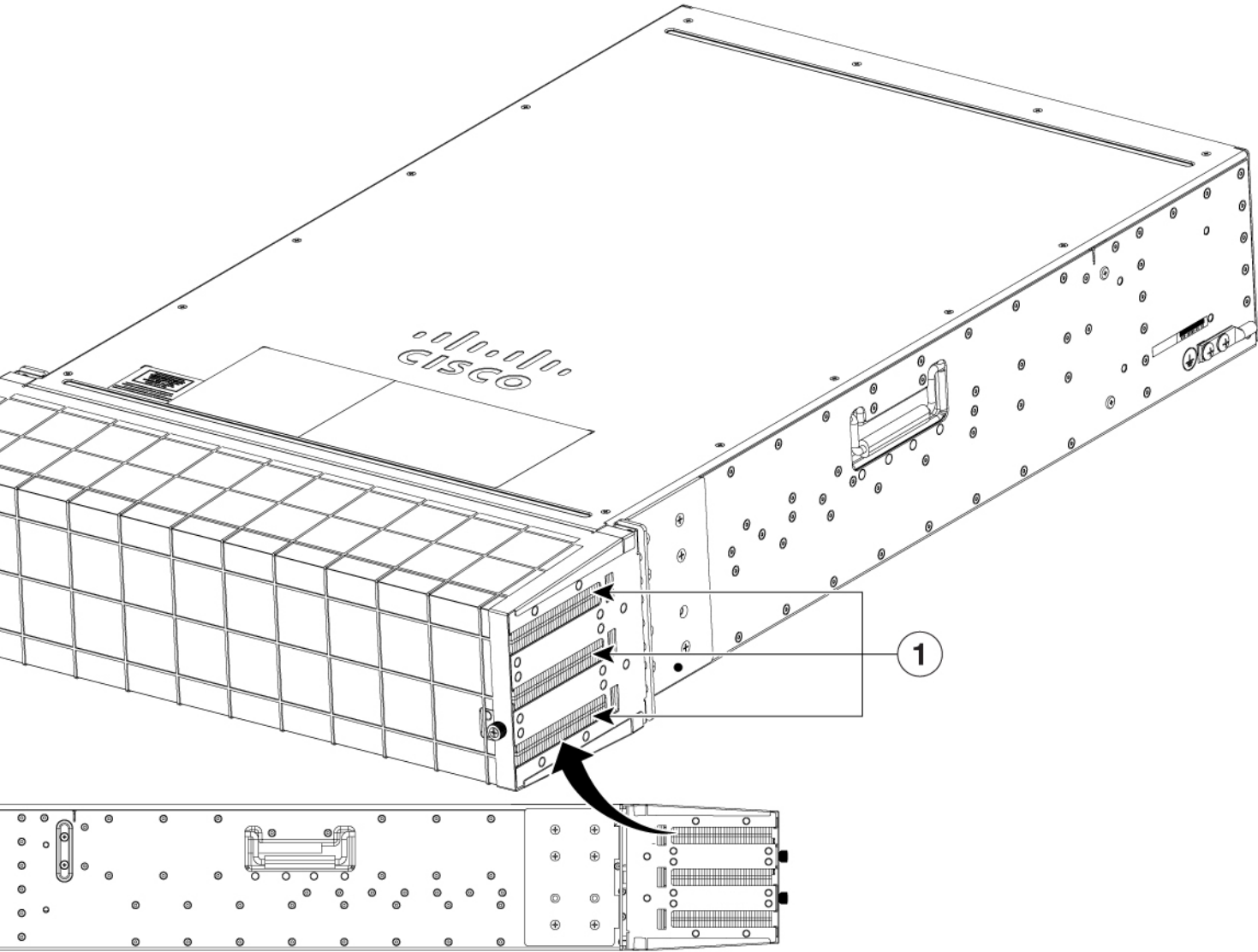


**Step 3** Replace the fan module within 3 minutes to maintain proper cooling of the chassis.

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# Installation and Removal of Air Filter

Figure 6: Side View and Front view of Chassis with Air Filter and Cable Management



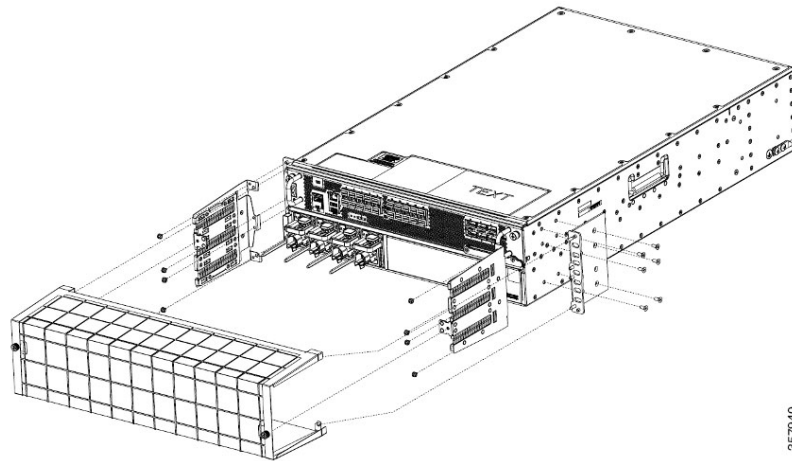
1	Cable Exit Areas
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## Installing the Air Filter

Figure 7: Exploded View of Air Filter Components

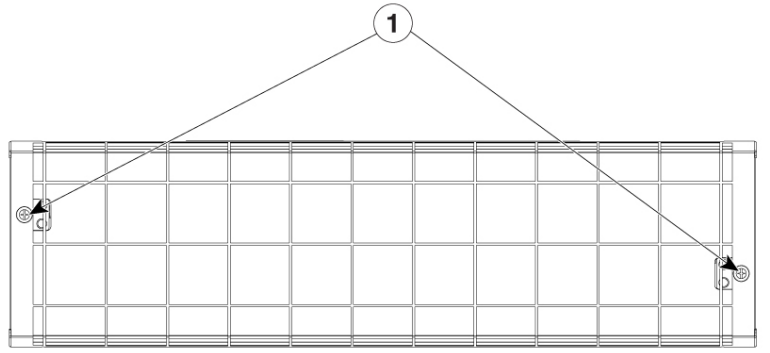


### Procedure

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- Step 1** If the chassis is installed without a filter, it must be powered down and removed from the rack.
  - Step 2** Install the rack mount brackets as shown in the above figure, using 6 screws per rack mount bracket to mount to the chassis.
  - Step 3** Align and install the air filter mounting brackets to the front rack mount brackets. Use 4 pan head screws per side.
  - Step 4** Route the power and data cables to the left and right, through the bristles in the air filter mounting brackets.
  - Step 5** Power on the chassis.
  - Step 6** Carefully slide the air filter over the mounting brackets and secure the air filter by tightening the thumb screws on the air filter to the mounting brackets.
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## Removing the Air Filter

Figure 8: The Air Filter

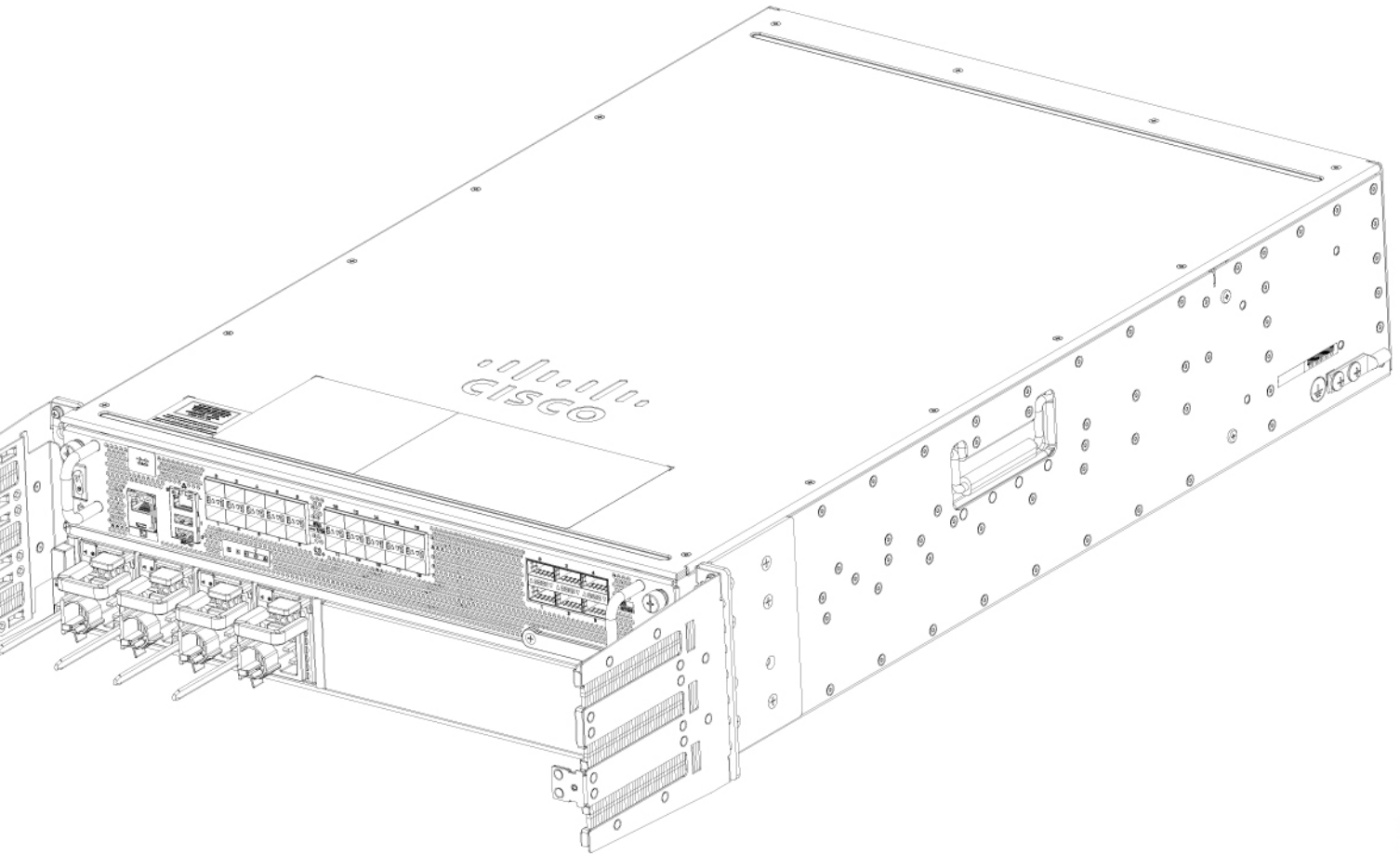


1	Air filter thumbscrews
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### Procedure

- Step 1** Fully loosen the two thumbscrews (as shown in the above figure) on the front of the filter by turning them counter clockwise.
- Step 2** Pull the air filter straight off the air filter mounting brackets.
- Step 3** Discard the used air filter.

Figure 9: Figure: Chassis With Air Filter



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## Repacking the Router

If your system is damaged, you must repack it for return shipment.

Before you return the router or move the router to a different location, repack the system using the original packaging material.

