



Installing Memory and Power Over Ethernet in Cisco 880 Series and Cisco 890 Series Integrated Services Routers

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Warning

Before working on a system that has an on/off switch, turn OFF the power and unplug the power cord. Statement 1

This document describes how to install memory and Power over Ethernet (PoE) in a Cisco 880 series and Cisco 890 series Integrated Services Routers (ISRs). It contains the following sections:

- [Safety Warnings](#)
- [Installing Main Memory](#)
- [Installing Power Over Ethernet](#)
- [Opening the Chassis](#)
- [Closing the Chassis](#)



Note

Memory and PoE are the only upgradable options in the Cisco 880 series and Cisco 890 series ISRs. Do not remove or install any other internal module.

Safety Warnings



Warning

This equipment must be grounded. Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available. Statement 1024



Americas Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

**Warning**

Do not work on the system or connect or disconnect cables during periods of lightning activity. Statement 1001

**Warning**

Read the installation instructions before connecting the system to the power source. Statement 1004

**Warning**

Before working on equipment that is connected to power lines, remove jewelry (including rings, necklaces, and watches). Metal objects will heat up when connected to power and ground and can cause serious burns or weld the metal object to the terminals. Statement 43

**Warning**

Hazardous network voltages are present in WAN ports regardless of whether power to the unit is OFF or ON. To avoid electric shock, use caution when working near WAN ports. When detaching cables, detach the end away from the unit first. Statement 1026

Installing Main Memory

This section contains the following information:

- [Items Shipped](#)
- [Installation Procedure](#)

Items Shipped

[Table 1](#) shows the items shipped with a DIMM unit.

Table 1 *Items and Their Quantities Shipped with a DIMM Unit*

Item	Quantity
Memory module	1
ESD wrist strap	1

Installation Procedure

**Warning**

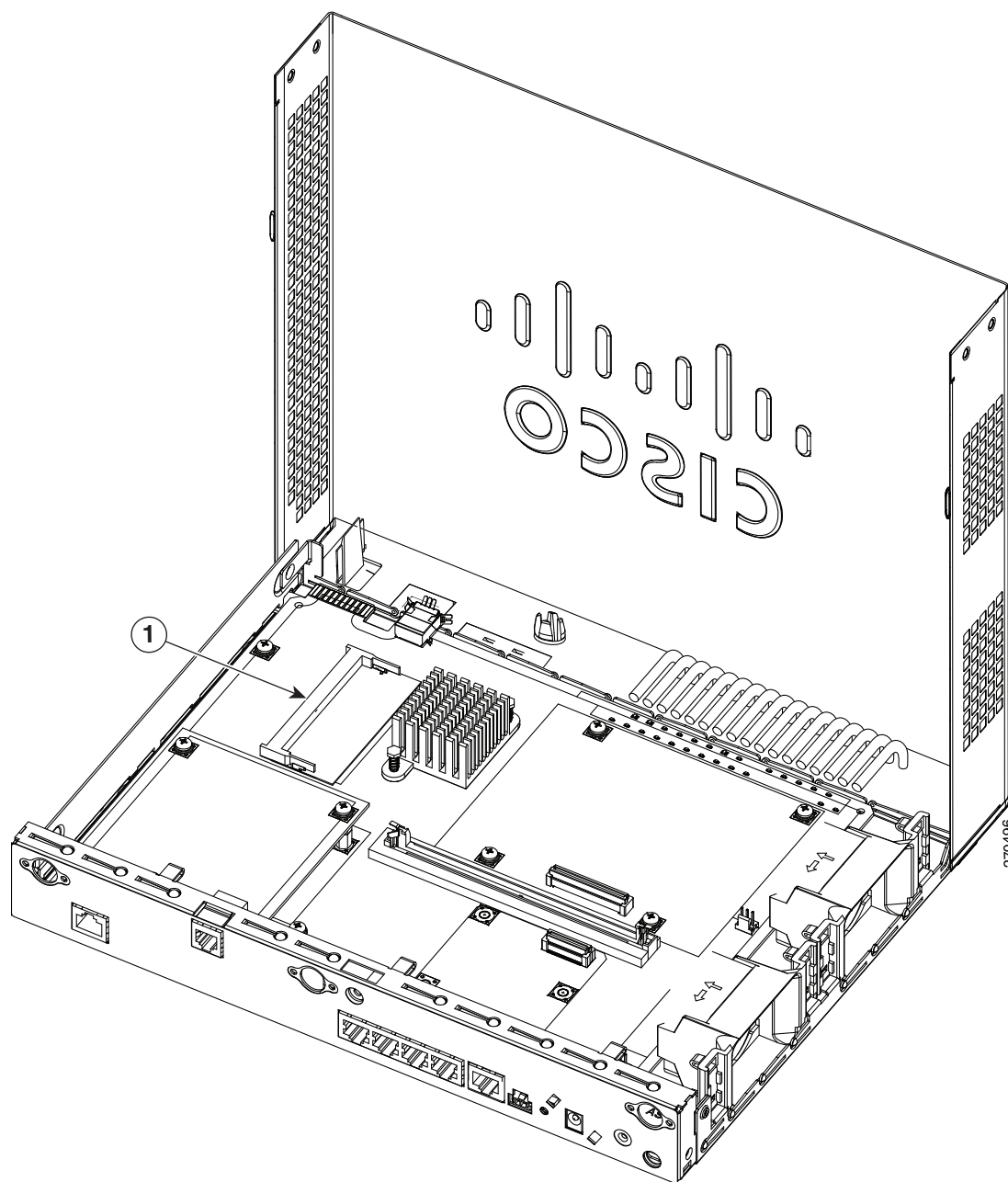
Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Statement 1030

To install a DIMM, follow these steps:

- Step 1** Open the chassis according to the instructions in the [“Opening the Chassis” section on page 9](#)

Step 2 Locate the DIMM socket on the system board. See [Figure 1](#) for the location of the DIMM socket.

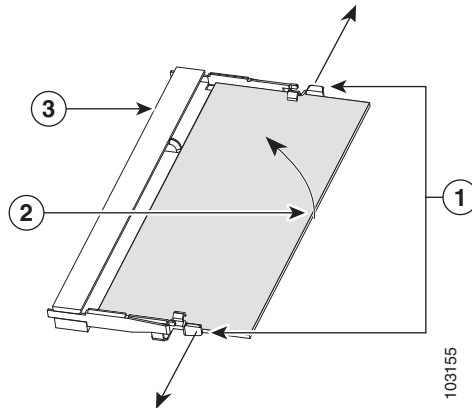
Figure 1 DIMM Socket Location



1	DIMM socket
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Step 3 Remove any existing DIMM by gently pulling the spring-loaded clips on the end of the socket far enough to release the DIMM, then gently pulling the DIMM up and away from the socket. See [Figure 2](#).

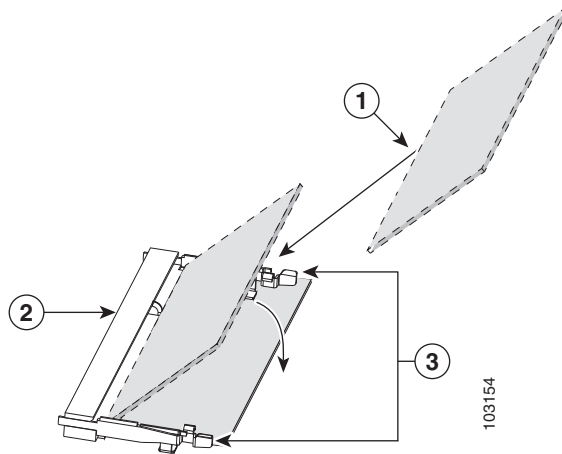
Figure 2 Removing a DIMM



1	Spring-loaded clips	3	DIMM socket
2	DIMM		

Step 4 Align the DIMM to the DIMM socket and insert the DIMM into the DIMM socket at a 45-degree angle, as shown in [Figure 3](#).

Figure 3 Installing a DIMM



1	DIMM	3	Spring-loaded clips
2	DIMM socket		

Step 5 Gently push the DIMM down toward the system board, as shown in [Figure 3](#), until it snaps into the spring-loaded clips.

Step 6 Close the chassis according to the instructions in [“Closing the Chassis” section on page 11](#).

Installing Power Over Ethernet

This section contains the following information:

- [Items Shipped](#)
- [Installation Procedure](#)

Items Shipped

The PoE option includes a PoE card, which must be installed inside the router, and an external power supply.

[Table 2](#) lists the items shipped with a PoE module.

Table 2 *Items and Their Quantities Shipped with a PoE Module*

Item	Quantity
PoE PCBA	1
48-V PoE power supply adapter	1
Power supply cable	1
Standoffs with two notches	2
Standoff with one notch	1
Screws	3
ESD wrist strap	1

Installation Procedure



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Statement 1030



Warning

Installation of the equipment must comply with local and national electrical codes. Statement 1074



Warning

Voltages that present a shock hazard may exist on Power over Ethernet (PoE) circuits if interconnections are made using uninsulated exposed metal contacts, conductors, or terminals. Avoid using such interconnection methods, unless the exposed metal parts are located within a restricted access location and users and service people who are authorized within the restricted access location are made aware of the hazard. A restricted access area can be accessed only through the use of a special tool, lock and key or other means of security. Statement 1072

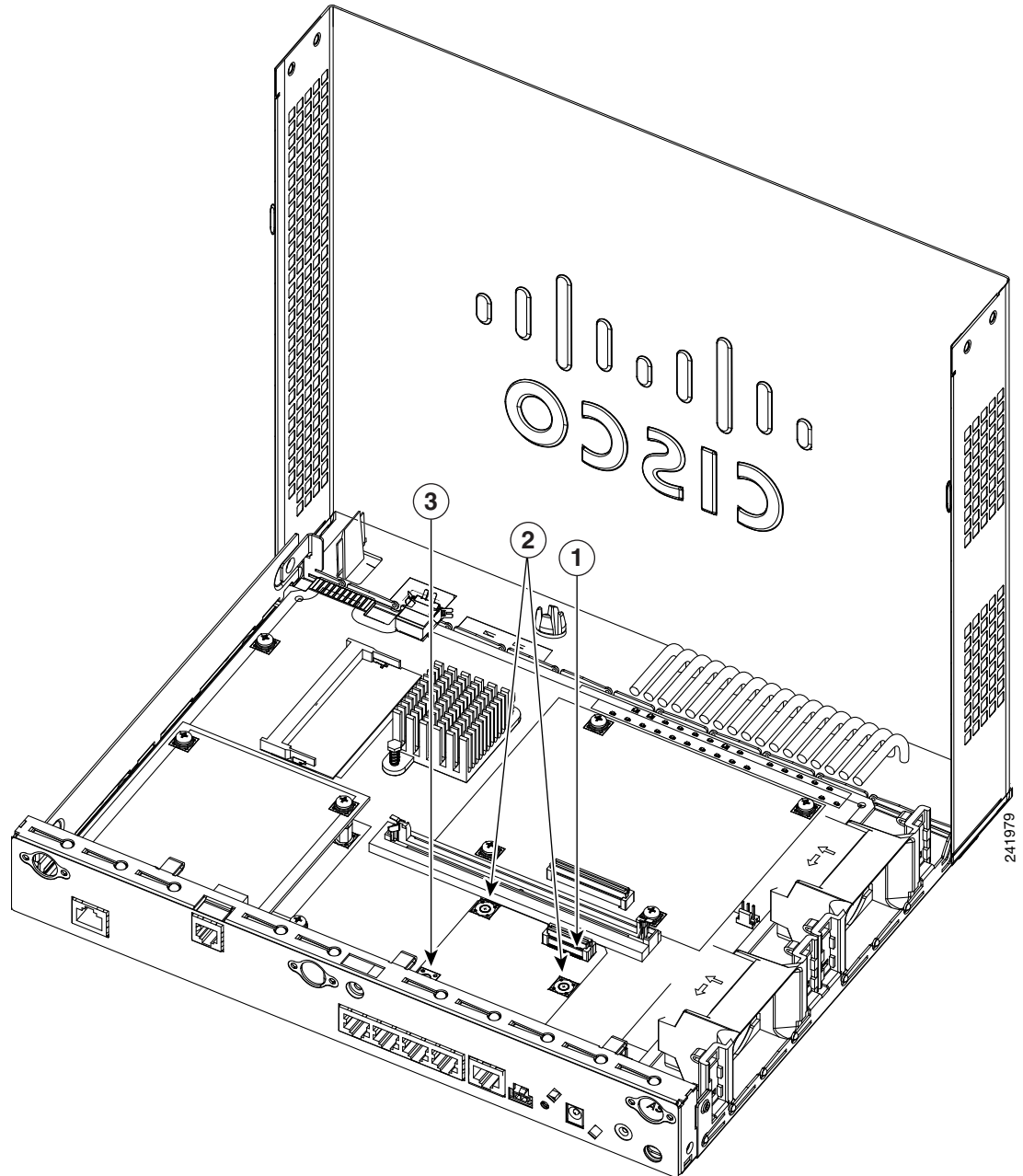
To install the power supply card, perform the following steps:

**Caution**

Ensure that the PoE power supply is not connected to the back of the router prior to installation of the PoE card. Failure to do so may result in damage to the PoE card or to the router.

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- Step 1** Open the chassis according to the instructions in [“Opening the Chassis” section on page 9](#).
- Step 2** Locate the three metal standoff holes on the system board. See [Figure 4](#) for the location of the PoE connector. Two standoff holes are identified by a star pattern surrounding the hole; the third hole has a screw attached to it.

Figure 4 PoE Connector



1	PoE connector	3	Standoff hole with screw
2	Standoff holes with star pattern		

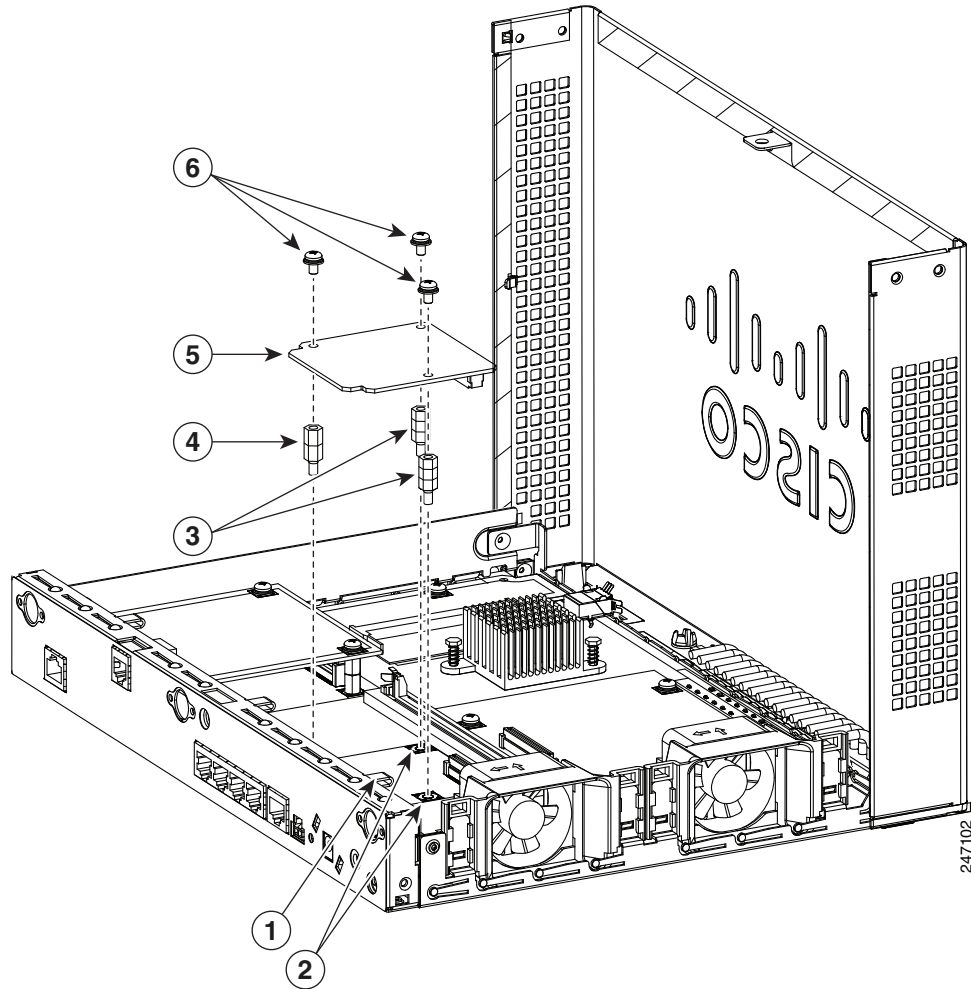
Step 3 Remove the screw from the third standoff hole.

Step 4 Install the metal standoffs provided in the accessory kit as shown in [Figure 5](#). Install the two metal standoff that have two notches into the two star patterned standoff holes. Install the metal standoff that has one notch into the third standoff hole. Use a 1/4-inch nut driver to tighten the standoff with one notch, and a 3/16-inch nut driver to tighten the standoffs with two notches.


Caution

Make sure that the standoffs are straight when installed. Tighten them gently but firmly. The shoulder of each standoff must be seated tightly against the system board.

Figure 5 *Installing the Power over Ethernet Card*



1	Standoff hole without star pattern	4	Metal standoff with one notch
2	Standoff holes with star pattern	5	PoE card
3	Metal standoffs with two notches	6	Screws


Caution

When installing the PoE card, ensure that the card is installed in the proper direction. Improper installation will damage the PoE card. Installation of the PoE card requires the installation of three metal standoffs, to which the card is then secured by using three screws. Be sure to use all three screws to ensure that the card is installed properly.

**Tip**

If the card is not installed in the correct direction, the three screw holes will not match up with the three metal standoffs.

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- Step 5** Place the PoE card on top of the three metal standoffs, lining up the screw holes in the PoE card with the metal standoffs.
- Step 6** Push the PoE card down towards the system board until it is firmly fixed into the PoE connector.
- Step 7** Insert the screws provided in the accessory kit through the PoE card and into the metal standoffs. See [Figure 5](#). Carefully tighten the screws with a Phillips screwdriver.
- Step 8** Close the router (see [Closing the Chassis, page 11](#)), and then connect the PoE power supply to an AC power outlet. To connect the PoE power supply to an AC power outlet, see the [Cisco 860 Series, Cisco 880 Series, and Cisco 890 Series Hardware Installation Guide, Connecting Power over Ethernet](#).
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Opening the Chassis

To open the chassis, you will need a number-2 Phillips screwdriver, a wrist strap, and an antistatic mat.

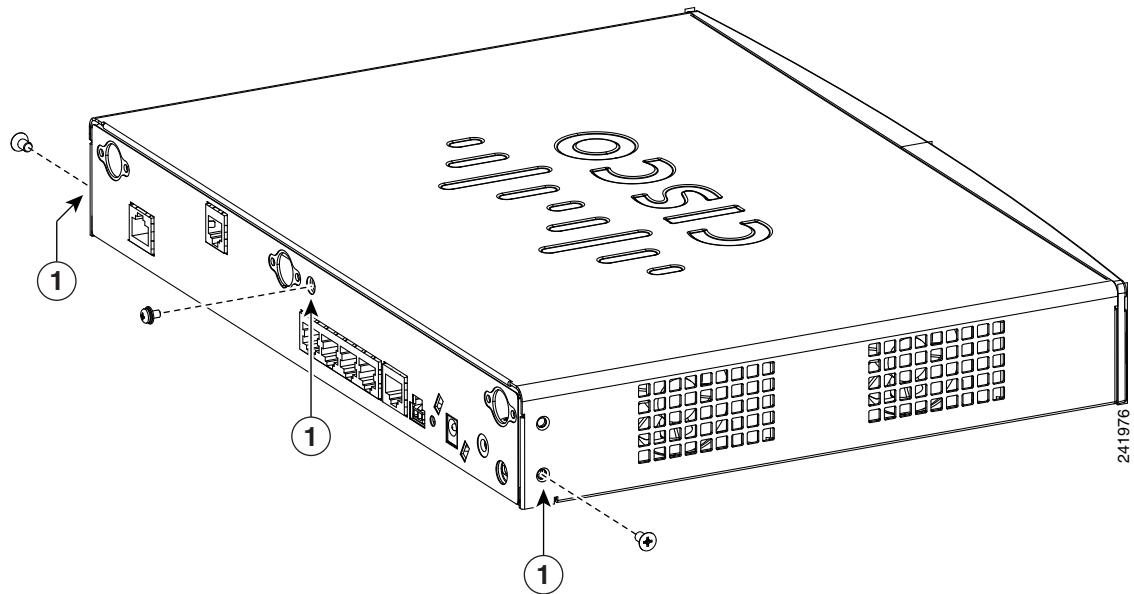
**Warning**

During this procedure, wear grounding wrist straps to avoid ESD damage to the card. Do not directly touch the backplane with your hand or any metal tool, or you could shock yourself. Statement 94

Follow these steps to open the chassis:

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- Step 1** Disconnect the power supply cable.
- Step 2** Disconnect all cables from the router back panel.
- Step 3** Use the number-2 Phillips screwdriver to remove the screws at the middle on the back panel, and at the sides of the router. [Figure 6](#) shows the location of the screws. The screws are in the same location on all Cisco 880 series ISRs.

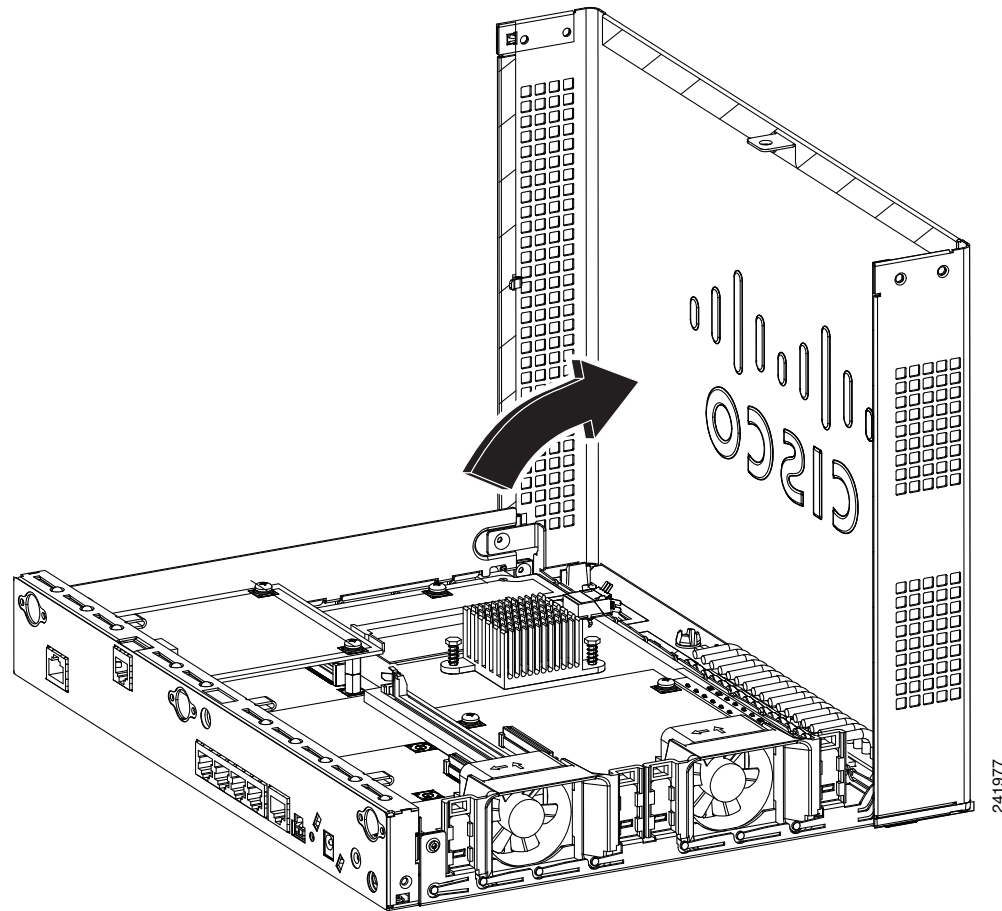
Figure 6 Chassis Screws Locations



1	Locations of the screws		
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- Step 4** Place your hand on both sides of the router where the screws were located. With your fingers gently pry the chassis cover outward and away from the router, and lift the chassis cover up. The front end of the chassis cover will remain attached to the chassis. [Figure 7](#) shows how to open the chassis.

Figure 7 **Opening the Chassis**



Step 5 Place the router bottom on an antistatic mat.

Closing the Chassis

To close the chassis, you will need a number-2 Phillips screwdriver and a wrist strap.



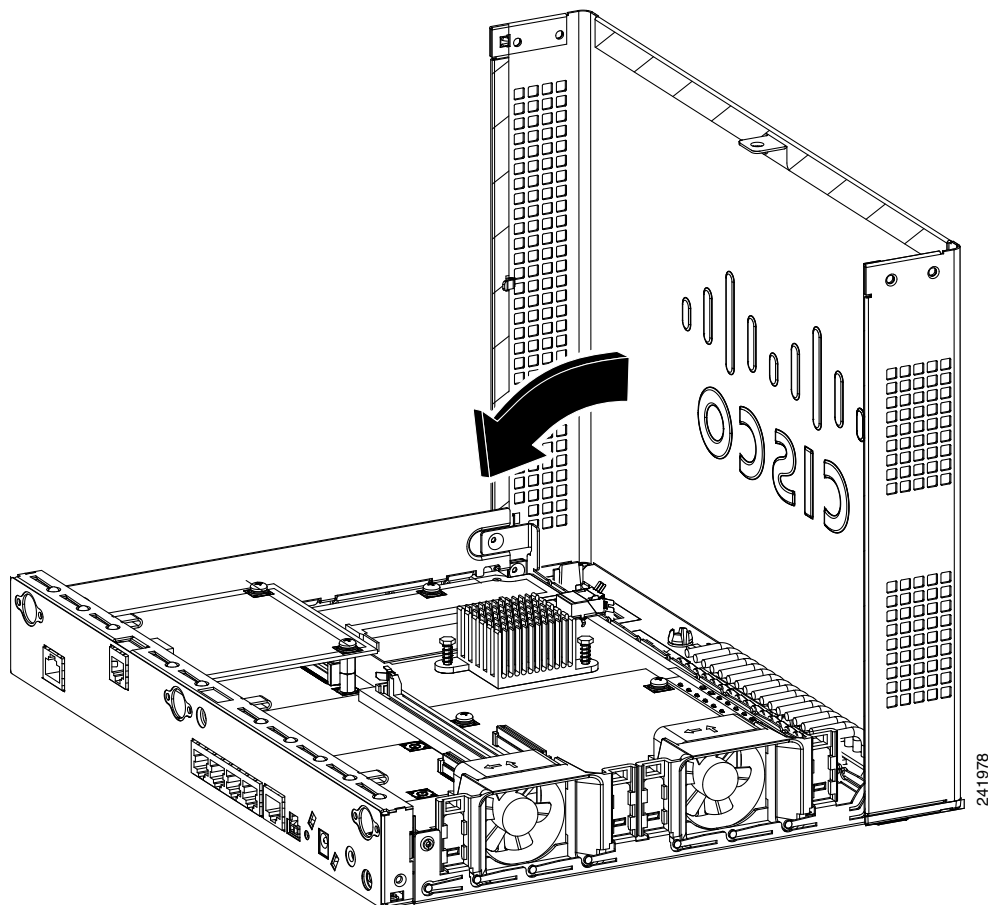
Warning

During this procedure, wear grounding wrist straps to avoid ESD damage to the card. Do not directly touch the backplane with your hand or any metal tool, or you could shock yourself. Statement 94

To close the chassis, follow these steps:

- Step 1** Flip the chassis cover down. The cover should snap shut. [Figure 8](#) shows how to close the chassis.

Figure 8 Closing the Chassis



- Step 2** Check that the screw holes are aligned.
- Step 3** Use the number-2 Phillips screwdriver to install the screws.

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