



Removing and Installing the VSA

This chapter describes how to remove the C7200 VSA (VPN Services Adapter) from the supported platforms and how to install a new or replacement VSA.

Before you begin installation, read [Chapter 2, “Preparing for Installation”](#) for a list of parts and tools required for installation.

This chapter contains the following sections:

- [Handling the VSA, page 3-1](#)
- [Online Insertion and Removal \(OIR\), page 3-2](#)
- [Warnings and Cautions, page 3-2](#)
- [VSA Removal and Installation, page 3-2](#)



Note

A system without an I/O controller or VSA, should have an empty slot to maintain the air flow.

The VSA circuit board is sensitive to ESD damage.

Handling the VSA

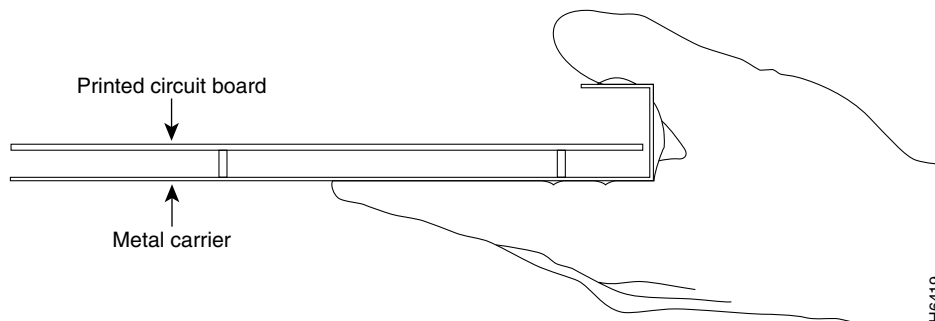
The VSA is a double-width circuit board mounted on a metal carrier. (see [Figure 3-1](#)).



Caution

Always handle the VSA by the carrier edges and handle; never touch the VSA components or connector pins. (See [Figure 3-1](#).)

Figure 3-1 Handling the VSA



Online Insertion and Removal (OIR)

The VSA plugs into the I/O controller slot of the Cisco 7200VXR series chassis. The VSA crypto card does not support OIR. The VSA boots up only during system initialization. The VSA will not work if it is inserted after the system is up and running. The VSA can be shut down by a disabling CLI command (see [“Enabling/Disabling the VSA” section on page 1-6](#)). The VSA is ready for removal after the disabling CLI command is executed.



Caution

You could damage the VSA, if you remove the VSA without entering the CLI command.

For more information on OIR, go to [“Enabling/Disabling the VSA” section on page 1-6](#).

Warnings and Cautions

Observe the following warnings and cautions when installing or removing the VSA.



Warning

Blank faceplates and cover panels serve three important functions: they prevent exposure to hazardous voltages and currents inside the chassis; they contain electromagnetic interference (EMI) that might disrupt other equipment; and they direct the flow of cooling air through the chassis. Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place.

The safety cover is an integral part of the product. Do not operate the unit without the safety cover installed. Operating the unit without the cover in place will invalidate the safety approvals and pose a risk of fire and electrical hazards.



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.

Keep hands and fingers out of the power supply bays. High voltage is present on the power backplane when the system is running.

VSA Removal and Installation

This section describes how to remove and install the VSA.



Warning

When performing the following procedures, wear a grounding wrist strap to avoid ESD damage to the card. Some platforms have an ESD connector for attaching the wrist strap. Do not directly touch the midplane or backplane with your hand or any metal tool, or you could shock yourself.



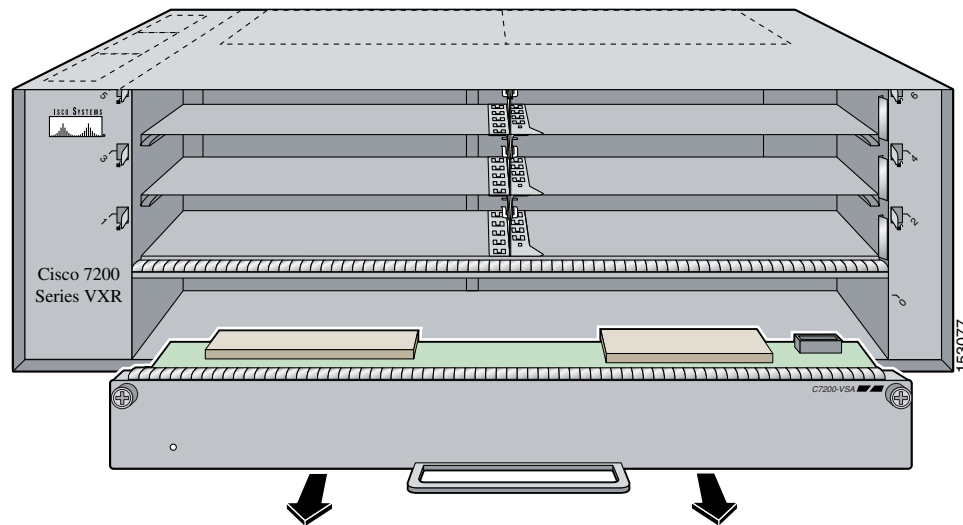
Note

After powering off the router, wait at least 30 seconds before powering it on again.

Follow these steps to remove and insert the VSA in the Cisco 7200VXR series routers:

- Step 1** Turn the power switch to the off position and then remove the power cable. (Optional on Cisco 7200VXR series routers; see [Warnings and Cautions, page 3-2](#), above.)
- Step 2** Attach an ESD wrist strap between you and an unpainted chassis surface.
- Step 3** Unscrew the screws holding the VSA in the slot.
- Step 4** Grasp the handle of the VSA and pull the VSA from the router (see [Figure 3-2](#)).

Figure 3-2 Cisco 7200VXR Chassis Shown - Removing VSA from I/O Controller Slot



- Step 5** Carefully align the new VSA carrier between the upper and the lower edges of the I/O controller slot.



Caution

To prevent jamming the carrier between the upper and the lower edges of the I/O controller slot, and to ensure that the edge connector at the rear of the VSA mates with the connection at the rear of the I/O controller slot, make certain that the carrier is positioned correctly, as shown in [Figure 3-2](#).

- Step 6** Slide the new VSA into the I/O controller slot until it is seated in the router midplane.



Caution

Do not allow the VSA components to come in contact with the system board or the VSA could be damaged.

If you are removing, but not replacing a VSA, insert a blank service adapter filler in the unoccupied I/O controller slot, to ensure the proper flow of cooling air across the internal components.

- Step 7** Reattach the power cable, and place the cable through any cable support brackets.
- Step 8** Power on the router by turning the power switch to the on position.

This completes the removal and installation procedure of the VSA from the Cisco 7200VXR series routers.

