CHAPTER 2

Preparing for Installation

The information in this guide applies to the following Cisco ASA 5500 series Adaptive Security Appliance models: Cisco ASA 5510, Cisco ASA 5520, Cisco ASA 5540, and Cisco ASA 5550. In this guide, references to "Cisco ASA 5500 series Adaptive Security Appliance" and "adaptive security appliance" apply to all models unless specifically noted otherwise.

This chapter describes the steps to follow before installing new hardware or performing hardware upgrades, and includes the following sections:

Overview

The adaptive security appliance delivers unprecedented levels of defense against threats to the network with deeper web inspection and flow-specific analysis, improved secure connectivity via end-point security posture validation, and voice and video over VPN support. It also provides enhanced support for intelligent information networks through improved network integration, resiliency, and scalability.

The adaptive security appliance software combines firewall, VPN concentrator, and intrusion prevention software functionality into one software image. Previously, these functions were available in three separate devices, each with its own software and hardware. Combining the functionality into just one software image provides significant improvements in the available features.

Additionally, the Cisco ASA 5500 series Adaptive Security Appliance software supports Adaptive Security Device Manager. ASDM is a browser-based, Java applet used to configure and monitor the software on the adaptive security appliances. ASDM is loaded from the adaptive adaptive security appliance, then used to configure, monitor, and manage the device.

Installation Overview

To prepare for the installation of the chassis, perform the following steps:

Step 1 Review the safety precautions outlined in the *Regulatory Compliance and Safety Information for the Cisco ASA 5500 Series* document.

Step 2 Read the release notes for the respective software version.

Step 3 Unpack the chassis. An accessory kit ships with the chassis and includes the following items: documentation, a product CD, a power cord (AC models only), two RJ-45 Ethernet cables, one RJ-45 to DB-9 console cable, a rack-mounting kit, and four self-adhesive feet (for desktop mounting).

Step 4 Place the chassis on a stable work surface.

Safety Recommendations

Use the following guidelines and the information in the following sections to help ensure your safety and protect the adaptive security appliance. The list of guidelines may not address all potentially hazardous situations in your working environment, so be alert and exercise good judgement at all times.

Note If you need to remove the chassis cover to install a hardware component, such as additional memory or an interface card, doing so does not affect your Cisco warranty. Upgrading the adaptive security appliance does not require any special tools and does not create any radio frequency leaks.

The safety guidelines are as follows:

- Keep the chassis area clear and dust-free before, during and after installation.
- Keep tools away from walk areas where you and others could fall over them.
- Do not wear loose clothing or jewelry, such as earrings, bracelets, or chains, that could get caught in the chassis.
- Wear safety glasses if you are working under any conditions that might be hazardous to your eyes.
- Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.
- Never attempt to lift an object that is too heavy for one person to handle.

This section includes the following topics:

Maintaining Safety with Electricity

Warning **Before working on a chassis or working near power supplies, unplug the power cord on AC units; disconnect the power at the circuit breaker on DC units.** Statement 12

Follow these guidelines when working on equipment powered by electricity:

- Before beginning procedures that require access to the interior of the chassis, locate the emergency power-off switch for the room in which you are working. Then, if an electrical accident occurs, you can act quickly to turn off the power.
- Do not work alone if potentially hazardous conditions exist anywhere in your work space.
- Never assume that power is disconnected from a circuit; always check the circuit.

- Look carefully for possible hazards in your work area, such as moist floors, ungrounded power extension cables, frayed power cords, and missing safety grounds.
- If an electrical accident occurs, proceed as follows:
  - Use caution; do not become a victim yourself.
  - Disconnect power from the system.
  - If possible, send another person to get medical aid. Otherwise, assess the condition of the victim and then call for help.
  - Determine if the person needs rescue breathing or external cardiac compressions; then take appropriate action.
- Use the adaptive security appliance chassis within its marked electrical ratings and product usage instructions.
- Install the adaptive security appliance in compliance with local and national electrical codes as listed in the *Regulatory Compliance and Safety Information for the Cisco ASA 5500 Series* document.
- The adaptive security appliance models equipped with AC-input power supplies are shipped with a 3-wire electrical cord with a grounding-type plug that fits only a grounding-type power outlet. Do not circumvent this safety feature. Equipment grounding should comply with local and national electrical codes.
- The adaptive security appliance models equipped with DC-input power supplies must be terminated with the DC input wiring on a DC source capable of supplying at least 15 amps. A 15-amp circuit breaker is required at the 48 VDC facility power source. An easily accessible disconnect device should be incorporated into the facility wiring. Be sure to connect the grounding wire conduit to a solid earth ground. We recommend that you use a closed loop ring to terminate the ground conductor at the ground stud. The DC return connection to this system is to remain isolated from the system frame and chassis.

  Other DC power guidelines are listed in the *Regulatory Compliance and Safety Information for the Cisco ASA 5500 Series* document.

Preventing Electrostatic Discharge Damage

Electrostatic discharge (ESD) can damage equipment and impair electrical circuitry. ESD damage occurs when electronic components are improperly handled and can result in complete or intermittent failures.

- Always follow ESD-prevention procedures when removing and replacing components. Ensure that the chassis is electrically connected to earth ground. Wear an ESD-preventive wrist strap, ensuring that it makes good skin contact. Connect the grounding clip to an unpainted surface of the chassis frame to safely ground ESD voltages. To properly guard against ESD damage and shocks, the wrist strap and cord must operate effectively. If no wrist strap is available, ground yourself by touching the metal part of the chassis.
- For safety, periodically check the resistance value of the antistatic strap, which should be between 1 and 10 megohms (Mohms).

General Site Requirements

The topics in this section describe the requirements your site must meet for safe installation and operation of your system. Ensure that your site is properly prepared before beginning installation.

This section includes the following topics:

Site Environment

Place the chassis on a desktop or mount it on a rack. The location of the chassis and the layout of the equipment rack or wiring room are extremely important for proper system operation. Equipment placed too close together, inadequate ventilation, and inaccessible panels can cause system malfunctions and shutdowns, and can make the chassis maintenance difficult.

For information on physical specifications, see table 7 at the following url:

http://www.cisco.com/en/US/prod/collateral/vpndevc/ps6032/ps6094/ps6120/product_data_sheet0900aecd802930c5.html.

When planning the site layout and equipment locations, keep in mind the precautions described in the next section "Preventive Site Configuration, page 2-4," to help avoid equipment failures and reduce the possibility of environmentally caused shutdowns. If you are currently experiencing shutdowns or unusually high error rates with your existing equipment, these precautions may help you isolate the cause of failures and prevent future problems.

Preventive Site Configuration

The following precautions will help plan an acceptable operating environment for the chassis and avoid environmentally caused equipment failures:

- Electrical equipment generates heat. Ambient air temperature might not be adequate to cool equipment to acceptable operating temperatures without adequate circulation. Ensure that the room in which you operate your system has adequate air circulation.
- Always follow the ESD-prevention procedures described previously to avoid damage to equipment. Damage from static discharge can cause immediate or intermittent equipment failure.
- Ensure that the chassis top panel is secure. The chassis is designed to allow cooling air to flow effectively within it. An open chassis allows air leaks, which may interrupt and redirect the flow of cooling air from the internal components.

Power Supply Considerations

For information on power supply considerations including environmental operating ranges and power requirements, see table 7 at the following url:

http://www.cisco.com/en/US/prod/collateral/vpndevc/ps6032/ps6094/ps6120/product_data_sheet0900aecd802930c5.html

The following chassis models can have either an AC or DC power supply: Cisco ASA 5510, Cisco ASA 5520, Cisco ASA 5540, and Cisco ASA 5550.

Observe the following considerations:

- Check the power at the site before installing the chassis to ensure that the power is “clean” (free of spikes and noise). Install a power conditioner if necessary, to ensure proper voltages and power levels in the source voltage.
- Install proper grounding for the site to avoid damage from lightning and power surges.
- In a chassis equipped with an AC-input power supply, use the following guidelines:
  - The chassis does not have a user-selectable operating range. Refer to the label on the chassis for the correct AC-input power requirement.
  - Several styles of AC-input power supply cords are available; make sure you have the correct style for your site.
  - Install an uninterruptible power source for your site, if possible.
  - Install proper site grounding facilities to guard against damage from lightning or power surges.
- In a chassis equipped with a DC-input power supply, use the following guidelines:
  - Each DC-input power supply requires dedicated 3-5 amp service.
  - For DC power cables, we recommend a minimum of 14 AWG wire cable.
  - The DC return connection to this system is to remain isolated from the system frame and chassis.

You will also need to provide power to the switch with the appropriate AC power cord for your location. Table 2-1 lists the power cords that are used with the AC power supply.

Table 2-1 AC-Input Power Cord Options

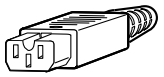
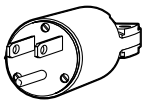
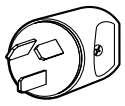
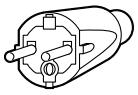
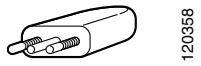
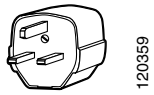
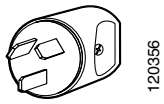
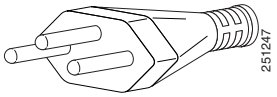
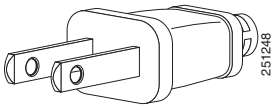
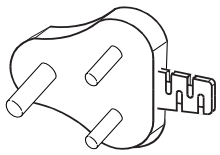
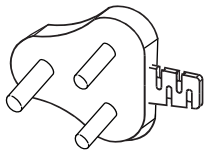
Locale	Part Number	Length	Plug Rating	Plug Type
300 W AC Power Supply			**Appliance Coupler**	 120352
North America	CAB-AC (72-0259)	8.2 ft (2.5 m)	125 VAC, 10 A	 120354
Australia,	CAB-ACA (72-0746-01)	8.2 ft (2.5 m)	250 VAC, 10 A	 120356
Europe (except Italy)	CAB-ACE (72-0460)	8.2 ft (2.5 m)	250 VAC, 10 A	 120357

Table 2-1 AC-Input Power Cord Options (continued)

Locale	Part Number	Length	Plug Rating	Plug Type
Italy	CAB-ACI 72-0556	8.2 ft (2.5 m)	250 VAC, 10 A	 120358
Singapore United Kingdom	CAB-ACU 72-0557	8.2 ft (2.5 m)	250 VAC, 10 A	 120359
Argentina	CAB-ACR (37-0995-01)	8.2 ft (2.5 m)	250 VAC, 10 A	 120356
Switzerland	CAB-ACS (72-1483-01)	8.2 ft (2.5 m)	250 VAC, 10 A	 251247
Japan	CAB-JPN (72-1925-01)	8.2 ft (2.5 m)	250 VAC, 10 A	 251248
India	CAB-IND-10A (37-0863-01)	8.2 ft (2.5 m)	250 VAC, 10 A	 331705
South Africa	AIR-PWR-CORD-SA (37-0346-01)	8.2 ft (2.5 m)	250 VAC, 10 A	 331706

Configuring Equipment Racks

For information on physical specifications, see table 7 at the following url:

http://www.cisco.com/en/US/prod/collateral/vpndevc/ps6032/ps6094/ps6120/product_data_sheet0900aecd802930c5.html.

The following tips help you plan an acceptable equipment rack configuration:

- Enclosed racks must have adequate ventilation. Ensure that the rack is not overly congested, because each chassis generates heat. An enclosed rack should have louvered sides and a fan to provide cooling air.
- When mounting a chassis in an open rack, ensure that the rack frame does not block the intake or exhaust ports. If the chassis is installed on slides, check the position of the chassis when it is seated all the way into the rack.
- In an enclosed rack with a ventilation fan in the top, excessive heat generated by equipment near the bottom of the rack can be drawn upward and into the intake ports of the equipment above it in the rack. Ensure that you provide adequate ventilation for equipment at the bottom of the rack.
- Baffles can help to isolate exhaust air from intake air, which also helps to draw cooling air through the chassis. The best placement of the baffles depends on the airflow patterns in the rack. Experiment with different arrangements to position the baffles effectively.