



CHAPTER 2

Preparing to Install the MWAM

This chapter provides information about preparing your site for installation. It includes the following sections:

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Safety Guidelines

Before you begin the installation of the MWAM, review the safety guidelines in this chapter to avoid injuring yourself or damaging the MWAM.

Follow the “[Safety Recommendations](#)” section on page 3-2 for specific safety information when installing the MWAM in a Catalyst 6500/Cisco 7600 chassis.

In addition, before replacing, configuring, or maintaining the MWAM, review the safety warnings listed in the document *Regulatory Compliance and Safety Information for the Catalyst 6500 Series Switches and Cisco 7600 Series Routers* that you plan to install the MWAM into.

**Caution**

The MWAM does *NOT* support hot swapping. The MWAM must be shutdown first before removal (see the “[MWAM Shutdown](#)” section on page 1-4). All other modules, including the Supervisor Engine 2 (if you have redundant Supervisor Engine 2 modules), support hot swapping. You can add, replace, or remove modules without interrupting the system power or causing other software or interfaces to shut down. For more information about hot-swapping modules, refer to the *Catalyst 6500 Series Module Installation and Configuration Documentation*.

Safety with Equipment

The following guidelines will help ensure your safety and protect the equipment. This list is not all-inclusive of all potentially hazardous situations, so be *alert*.

**Warning**

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

- Always disconnect all power cords and interface cables before moving the system.
- Never assume that power is disconnected from a circuit; *always* check.
- Keep the chassis area clear and dust-free during, before, and after installation.
- Keep tools and assembly components away from walk areas where you or others could fall over them.
- Do not work alone if potentially hazardous conditions exist.
- Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.
- Carefully examine your work area for possible hazards, such as moist floors, ungrounded power extension cables, and missing safety grounds.
- Do not wear loose clothing that may get caught in the chassis.
- Wear safety glasses when working under conditions that may be hazardous to your eyes.

Safety with Electricity

**Warning**

Before performing any of the following procedures, ensure that power is removed from the DC circuit. Statement 1003

**Warning**

This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security.

Statement 1017

**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**

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

**Warning**

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

Statement 1001

Follow these guidelines when working on equipment powered by electricity:

- Locate the room's emergency power-off switch. Then, if an electrical accident occurs, you can quickly turn off the power.
- Before working on the system, turn off the DC main circuit breaker and disconnect the power terminal block cable.
- Disconnect all power before doing the following:
 - Working on or near power supplies
 - Installing or removing a router chassis or network processor module
 - Performing most hardware upgrades
- Never install equipment that appears damaged.
- Carefully examine your work area for possible hazards, such as moist floors, ungrounded power extension cables, and missing safety grounds.
- Never assume that power is disconnected from a circuit; *always* check.
- Never perform any action that creates a potential hazard to people or makes the equipment unsafe.
- If an electrical accident occurs, proceed as follows:
 - Use caution, and do not become a victim yourself.
 - Turn off power to the router.
 - If possible, send another person to get medical aid. Otherwise, determine the condition of the victim, and then call for help.
 - Determine whether the person needs rescue breathing or external cardiac compressions; then take appropriate action.

In addition, use the following guidelines when working with any equipment that is disconnected from a power source, but still connected to telephone wiring or network cabling:

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for it.

- Never touch un-insulated telephone wires or terminals unless the telephone line is disconnected at the network interface.
- Use caution when installing or modifying telephone lines.

Preventing Electrostatic Discharge Damage

Electrostatic discharge (ESD) can damage equipment and impair electrical circuitry. ESD can occur when electronic printed circuit cards are improperly handled and can cause complete or intermittent failures. Always follow ESD prevention procedures when removing and replacing modules:

- Ensure that the router chassis is electrically connected to earth ground.
- Wear an ESD-preventive wrist strap, ensuring that it makes good skin contact. Connect the clip to an unpainted surface of the chassis frame to channel unwanted ESD voltages safely to ground. To guard against ESD damage and shocks, the wrist strap and cord must operate effectively.
- If no wrist strap is available, ground yourself by touching a metal part of the chassis.

**Caution**

For the safety of your equipment, periodically check the resistance value of the antistatic wrist strap. It should be between 1 and 10 Mohm.

Before You Begin

Before you install the MWAM:

- Determine the system requirements for the MWAM including hardware, software, and environmental
- Prepare the site (site requirements) and review the installation plans or method of procedures (MOPs)
- Unpack and inspect the MWAM
- Gather tools and test equipment required to properly install the MWAM

System Requirements

Before you install the MWAM into the Catalyst 6500/Cisco 7600 chassis, make sure that the switch meets the hardware, software, and environmental requirements.

Hardware Requirements

Before you can use the MWAM, you must have a Supervisor Engine 2 with a Multilayer Switch Feature Card 2 (MSFC2) and any module that has ports to connect server and client networks.

Software Requirements

To use the MWAM, you must have a Cisco IOS software image on the Supervisor Engine 2 that supports an application software image on the MWAM. You can use the Cisco Feature Navigator to assist you in selecting the appropriate Cisco IOS software. Cisco Feature Navigator is a web-based application that allows you to quickly match Cisco IOS Software releases to features to hardware.

The software requirements for specific applications implemented on the MWAM are contained in application release notes. See the following URLs for available releases:

GGSN Requirements

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios123/123reInt/cat6000/1232xb6k.htm>

PDSN/HA Requirements

http://www.cisco.com/en/US/products/sw/iosswrel/ps5012/prod_release_note09186a00801245b3.html

SSG Requirements

<http://www.cisco.com/univercd/cc/td/doc/product/lan/cat6000/reInotes/mwam/index.htm>

Site Requirements

Typically, you should have prepared the installation site beforehand. As described previously, part of your preparation includes reviewing installation plans or MOPs. An example of a MOP (pre-installation checklist of tasks and considerations that needs to be addressed and agreed upon before proceeding with the installation) is as follows:



Note

The example assumes that you are installing the Catalyst 6500/Cisco 7600 chassis as well as the MWAM at the same time. However, the example MOP can be simplified to accommodate just the MWAM.

1. Assign personnel.
2. Determine protection requirements for personnel, equipment, and tools.
3. Evaluate potential hazards that may affect service (Catalyst 6500/Cisco 7600 chassis).
4. Schedule time for installation.
5. Determine any space requirements (Catalyst 6500/Cisco 7600 chassis).
6. Determine any power requirements (Catalyst 6500/Cisco 7600 chassis).
7. Identify any required procedures or tests.
8. On an equipment plan, make a preliminary decision that locates each MWAM that you plan to install.
9. Read this *user guide*.
10. Modify the preliminary plan, if necessary.
11. Verify the list of replaceable parts for installation (screws, bolts, washers, and so on) so that the parts are identified (Catalyst 6500/Cisco 7600 chassis).
12. Check the required tools list to make sure the necessary tools and test equipment are available (see the following [Required Tools](#) section).

13. Perform installation.

Unpacking and Checking the Contents of your Shipment

The shipping package for the MWAM is designed to reduce the possibility of product damage associated with routine material handling experienced during shipment. To reduce the potential damage to the product, transport the MWAM in its Cisco-specified packaging. Failure to do so may result in damage to the MWAM. Also do not remove the MWAM from its shipping container until you are ready to install it.

**Note**

Do not discard the packaging materials used in shipping your MWAM. You will need the packaging materials in the future if you move or ship your MWAM.

Required Tools

This following tools are needed to install the MWAM.

**Warning**

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

**Note**

Before installing the MWAM, you must install the Catalyst 6500/Cisco 7600 chassis and at least one Supervisor Engine 2. For information on installing the switch chassis (see the [“Related Documentation”](#) section on page xviii).

These tools are required to install the MWAM into the Catalyst 6500/Cisco 7600 chassis:

- Flat-blade screwdriver
- Phillips-head screwdriver
- Wrist strap or other grounding device
- Antistatic mat or antistatic foam