Overview

About this Guide

This guide provides step-by-step instructions on how to physically install and power up the Cisco 3355 Mobility Services Engine.

Details on running the automatic installation script and the required information for that installation script are also provided.

After installation and power up is complete, refer to the following documents for additional information on the Cisco 3355 Mobility Services Engine:

- For detailed software configuration information, refer to the appropriate mobility services configuration guide.
- For detailed feature support and compatibility information, refer to the latest release notes for the Cisco 3300 Series Mobility Services Engine.

These documents are available on Cisco.com. Follow these steps to access these documents:

Step 1 Browse to http://www.cisco.com.

Step 2 Click **Support**. A new window appears.

Step 3 Click **Wireless** under Find Product Support. The Select Your Product or Technology page appears.

Step 4 Enter **Cisco 3300** in the Find field and click **Find**.

Step 5 Click the **Cisco 3300 Series Mobility Services Engine** link. The Cisco 3300 Series Mobility Services Engine Introduction page appears.

Step 6 Choose the appropriate link for the documentation you want to view or download.

Cisco 3355 Mobility Services Engine

This Getting Started Guide contains information and instructions for setting up your Cisco 3355 Mobility Services Engine and instructions for cabling and configuring the mobility services engine (MSE). For diagnostics and troubleshooting information, see diagnostics and troubleshooting tables, Table 2-1 on page 2-18 and Table 2-2 on page 2-23.

Figure 1-1   *Cisco 3355 Mobility Services Engine*
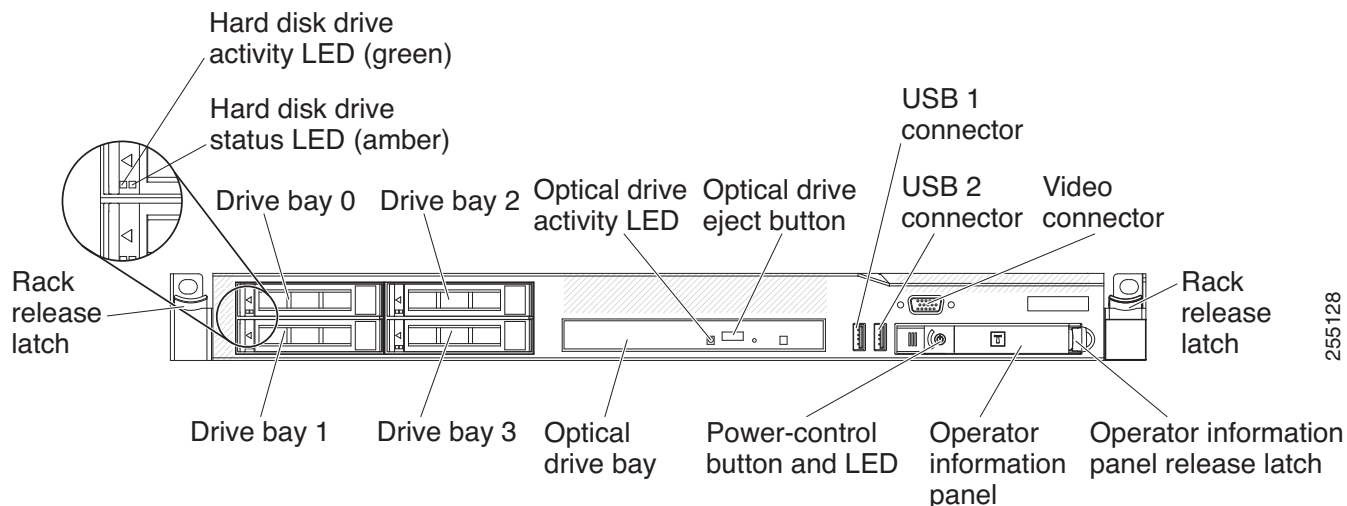
What is in the Cisco 3355 Mobility Services Engine

The following sections describe the features and technologies used by the Cisco 3355 Mobility Services Engine.

Integrated Management Module

The Integrated Management Module (IMM) combines service processor functions. The IMM provides advanced service-processor control, monitoring, and alerting function. If an environmental condition exceeds a threshold or if a system component fails, the IMM lights LEDs to help you diagnose the problem, records the error in the event log, and alerts you to the problem. The IMM provides remote server management through the following industry-standard interfaces:

- Simple Network Management Protocol (SNMP) version 3
- Web browser

For additional information, see the *Integrated Management Module User Guide*.

Light path diagnostics

Light path diagnostics provides LEDs to help you diagnose problems. For more information about the light path diagnostics, see Light Path Diagnostics Panel, page 2-16.

General Warnings, Regulatory and Safety

Conventions

Safety warnings appear throughout this guide in procedures that may harm you if performed incorrectly. A warning symbol precedes each warning statement. Specific warnings are included in the sections to which they apply.

Warning   **This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071 SAVE THESE INSTRUCTIONS**

Caution   Means reader be careful. In this situation, you might do something that could result in equipment damage or loss of data.

Warnings

The warnings below are general warnings that are applicable to the entire guide. Specific warnings are included in the sections to which they apply.

Warning   **There is the danger of explosion if the battery is replaced incorrectly. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions. Statement 1015**

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**

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

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

Warning   **Ultimate disposal of this product should be handled according to all national laws and regulations. Statement 1040**

Regulatory and Safety

Note   Refer to Appendix A for translated safety information for the Cisco 3355 Mobility Services Engine.

Note   Refer to Appendix A for regulatory information for the Cisco 3355 Mobility Services Engine.

C H A P T E R 2

Installation and Initial Configuration

This chapter describes how to initially install and configure your Cisco 3355 Mobility Services Engine.

This chapter contains these sections:

> **Note** For configuration details beyond initial installation, refer to the appropriate mobility services configuration guide at:
>
> http://www.cisco.com/en/US/products/ps9742/tsd_products_support_series_home.html

Required Tools and Information

This section lists the required hardware and other information that you need to install and setup the mobility services engine.

Required Hardware

You need this equipment to install a mobility services engine in an Electronics Industries Alliance (EIA) rack:

- A mobility services engine
- Network cables
- One rack unit (RU) free space in an EIA-standard rack
- Rack mounting kit (included with the Cisco 3355 Mobility Services Engine shipment)
- A serial console cable

Note If you are installing this unit in a threaded-hole rack, you must supply screws that fit the threaded-hole rack and the appropriate screwdriver or Torx driver for those screws.

CLI Console Requirements

You need this equipment to connect to the mobility services engine console:

- ANSI or VT-100 terminal emulator application on a laptop, desktop, or palmtop

Note Please refer to the latest *Release Notes for Cisco 3300 Series Mobility Services Engine* for compatibility by release between the mobility services engine and Cisco Prime Infrastructure and controller releases at: http://www.cisco.com/en/US/products/ps9742/prod_release_notes_list.html

System Configuration Parameters

Obtain these parameters from your network administrator:

- A host name for the mobility services engine
- A broadcast address for the mobility services engine
- An IP address for the Ethernet-0 (eth0) port (located on the mobility services engine chassis back panel)
- A net mask for the eth0 IP address
- An IP address for the eth0 default gateway
- An IP address for the Ethernet-1 (eth1) port (located on the mobility services engine chassis back panel) (This is optional.)
- A net mask for the eth1 IP address (only required if eth1 is configured and enabled)
- An IP address for the eth1 default gateway (only required if eth1 is configured and enabled)

Note Either the Ethernet-0 or Ethernet-1 port can be used to transmit location updates to Cisco Prime Infrastructure. However, the Ethernet-0 port is generally configured to communicate with Cisco Prime Infrastructure, and the Ethernet-1 port is generally used for out-of-band management. Both ports are configured as part of the installation script described in the "Configuring the Mobility Services Engine" section on page 2-29. Another approach, especially for high traffic networks, is to dedicate Ethernet-0 for communication with the Wireless LAN Controllers and use Ethernet-1 for communication with Prime Infrastructure and other applications.

Choosing a Physical Location for the Cisco 3355 Mobility Services Engine

For maximum safety and reliability, mount the mobility services engine using the following guidelines.

General Precautions

To reduce the risk of personal injury or damage to the mobility services engine:

- Place the product away from radiators, heat registers, stoves, amplifiers, or other products that produce heat.
- Never use the product in a wet location.
- Avoid inserting foreign objects through openings in the product.
- To reduce risk of injury from electric shock hazards, do not open the product enclosure.

Laser Devices

Laser devices are used within the DVD of the mobility services engine. The DVD has no defined use at the customer site.

To reduce the risk of exposure to hazardous radiation:

- Do not try to open the laser device enclosure. There are no user-serviceable components inside.
- Do not operate controls, make adjustments, or perform procedures to the laser device other than those specified herein.
- Allow only Cisco authorized service technicians to repair the laser device.

Space and Airflow Requirements

Install the mobility services engine in a EIA-standard rack. One rack unit is required for each mobility services engine.

Ensure that you can reach the mobility services engine and all cables.

- Ensure that the mobility services engine is within 328 ft (100 m) equivalent distance from any equipment connected to the 10/100/1000BASE-T ports.
- Ensure that the power cord can reach a 110 or 220 VAC grounded electrical outlet.

Ensure that there is sufficient room at the back of the mobility services engine for all cables and connectors.

- Leave a minimum clearance of 63.5 cm (25 in.) in front of the rack.
- Leave a minimum clearance of 76.2 cm (30 in.) behind the rack.
- Leave a minimum clearance of 121.9 cm (48 in.) from the back of the rack to the back of another rack or row of racks.

⚠
Caution   To prevent improper cooling and damage to the equipment, do not block the ventilation openings.

⚠
Caution   Always use blanking panels to fill empty vertical spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.

⚠
Caution   When selecting a rack to use, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment: (1)☐ Front and rear doors—If the 42U rack includes closing front and rear doors, you must allow 5,350 sq. cm (830 sq. in.) of holes evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation). (2) Side—The clearance between the installed rack component and the side panels of the rack must be a minimum of 7 cm (2.75 in.).

Temperature Requirements

To ensure continued safe and reliable equipment operation, install or position the system in a well ventilated, climate-controlled environment.

Ensure that the ambient operating temperature remains between 10 and 35° C (50 and 95° F), taking into account the elevated temperatures that occur when equipment is installed in a rack.

⚠
Caution   To reduce the risk of damage to the equipment when installing third-party options: (1) ☐ Do not permit optional equipment to impede airflow around the mobility services engine or to increase the internal rack temperature beyond the maximum allowable limits. (2) ☐ Do not exceed the manufacturer's maximum recommended ambient temperature (TMRA).

Power Requirements

Installation of this equipment must comply with local and regional electrical regulations governing the installation of information technology equipment by licensed electricians. This equipment is designed to operate in installations covered by NFPA 70, 1999 Edition (National Electric Code) and NFPA 75, 1992 (code for Protection of Electronic Computer/Data Processing Equipment). For electrical power ratings on options, refer to the product rating label or the user documentation supplied with that option.

⚠

Caution   Protect the mobility services engine from power fluctuations and temporary interruptions with a regulating uninterruptible power supply (UPS). This device protects the hardware from damage caused by power surges and voltage spikes and keeps the system in operation during a power failure.

When installing more than one mobility services engine, you may need to use additional power distribution devices (PDUs) to safely provide power to all devices. Observe the following guidelines:

- Balance the mobility services engine power load among available AC supply branch circuits.
- Do not allow the overall system AC current load to exceed 80 percent of the branch circuit AC current rating.
- Do not use common power outlet strips for this equipment.
- Provide a separate electrical circuit for the mobility services engine.

Power Supplies on the Mobility Services Engine

The mobility services engine has two power supplies.

⚠

Warning   **This unit might have more than one power supply connection. All connections must be removed to de-energize the unit. Statement 1028**

⚠

Caution   Verify that the external power source connected to the mobility services engine matches the type of power source indicated on the electrical ratings label. If you are not sure of the type of power source required, consult your Cisco authorized reseller or local power company.

Batteries

The mobility services engine might include a real-time clock battery or coin cell battery that might contain perchlorate and might require special handling when recycled or disposed of in California.

Refer to the following link for disposal information.

http://www.dtsc.ca.gov/hazardouswaste/perchlorate

⚠

Caution   Do not dispose of batteries with the general household waste. Recycle them using the public collection system.

Electrical Grounding Requirements

The mobility services engine must be grounded properly for proper operation and safety. In the United States, you must install the equipment in accordance with NFPA 70, 1999 Edition (National Electric Code), Article 250, as well as any local and regional building codes. In Canada, you must install the equipment in accordance with Canadian Standards Association, CSA C22.1, Canadian Electrical Code. In all other countries, you must install the equipment in accordance with any regional or national electrical wiring codes, such as the International Electrotechnical Commission (IEC) Code 364, parts 1 through 7.

Furthermore, you must verify that all power distribution devices used in the installation, such as branch wiring and receptacles, are listed or certified grounding-type devices. Because of the high ground-leakage currents associated with multiple systems connected to the same power source, Cisco recommends the use of a PDU that is either permanently wired to the building's branch circuit or includes a nondetachable cord that is wired to an industrial-style plug. NEMA locking-style plugs or those complying with IEC 60309 are considered suitable for this purpose. Using common power outlet strips for the mobility services engine is not recommended.

Rack Warnings

Warning   **To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety: (1) This unit should be mounted at the bottom of the rack if it is the only unit in the rack. (2) When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack. (3) If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack. Statement 1006**.

Caution   To reduce the risk of personal injury or equipment damage when unloading a rack, at least two people are needed to safely unload the rack from the pallet.

Caution   To prevent damage, ensure that water or excessive moisture cannot get into the mobility services engine.

Unpacking the Mobility Services Engine

Follow these steps to unpack the mobility services engine.

Step 1   Open the shipping container and carefully remove the contents.

Step 2   Return all packing materials to the shipping container and save it.

Step 3   Ensure that all items listed in the "Package Contents" section are included in the shipment.

Step 4   Check each item for damage. If any item is damaged or missing, notify your authorized Cisco sales representative.

Package Contents

Each mobility services engine package contains the following items:

- One Cisco 3355 Mobility Services Engine
- One rack mount kit
- Two power cords
- This guide, the *Cisco 3355 Mobility Services Engine Getting Started Guide*

Mounting the Cisco 3355 Mobility Services Engine in a Rack

⚠

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

⚠

Caution   The mobility services engine is heavy (35 lbs, 15.9 kgs).

To reduce the risk of personal injury or damage to the equipment:

- Observe local occupational health and safety requirements and guidelines for manual material handling.

- Get help to lift and stabilize the mobility services engine during installation or removal is recommended, especially when the system is not fastened to the rails.

- Use caution when installing the mobility services engine in or removing it from the rack; it is unstable when not fastened to the rails.

- Always plan the rack installation so that the heaviest item is on the bottom of the rack. Install the heaviest item first and continue to populate the rack from the bottom to the top.

The mobility services engine comes with a universal rack mount kit that can be installed in a square-hole rack, round-hole rack, or a threaded-hole rack. You can order replacement universal rack mount kits from Cisco. The replacement part PID is AIR-SRVR-URMK=.

✎

Note   You must provide the threaded-hole screws to secure the mounting rails to the rack. Threaded-hole screws are not shipped with the system.

Installing the Mobility Services Engine Into the Rack Cabinet Using Universal Rack Mount Kit

Review the documentation that comes with the rack cabinet for safety and cabling information. Before you install the mobility services engine in a rack cabinet, review the following guidelines:

- Two or more people are required to install devices 2U or larger in a rack cabinet.

- Make sure that the room air temperature is below 35° C (95° F).

- Do not block any air vents; usually 15 cm (6 in.) of space provides proper airflow.

- Do not leave open spaces above or below an installed mobility services engine in your rack cabinet. To help prevent damage to mobility services engine components, always install a blank filler panel to cover the open space and to help ensure proper air circulation.

- Install the mobility services engine only in a rack cabinet with perforated doors.

- Plan the device installation starting from the bottom of the rack cabinet.

- Install the heaviest device in the bottom of the rack cabinet.

- Do not extend more than one device out of the rack cabinet at the same time.

- Remove the rack doors and side panels to provide easier access during installation.

- Connect the mobility services engine to a properly grounded outlet.

- Do not overload the power outlet when you install multiple devices in the rack cabinet.
- Install the mobility services engine in a rack that meets the following requirement:
  - Minimum depth of 70 mm (2.76 in.) between the front mounting flange and inside of the front door.

⚠

Caution   Use safe practices when lifting.

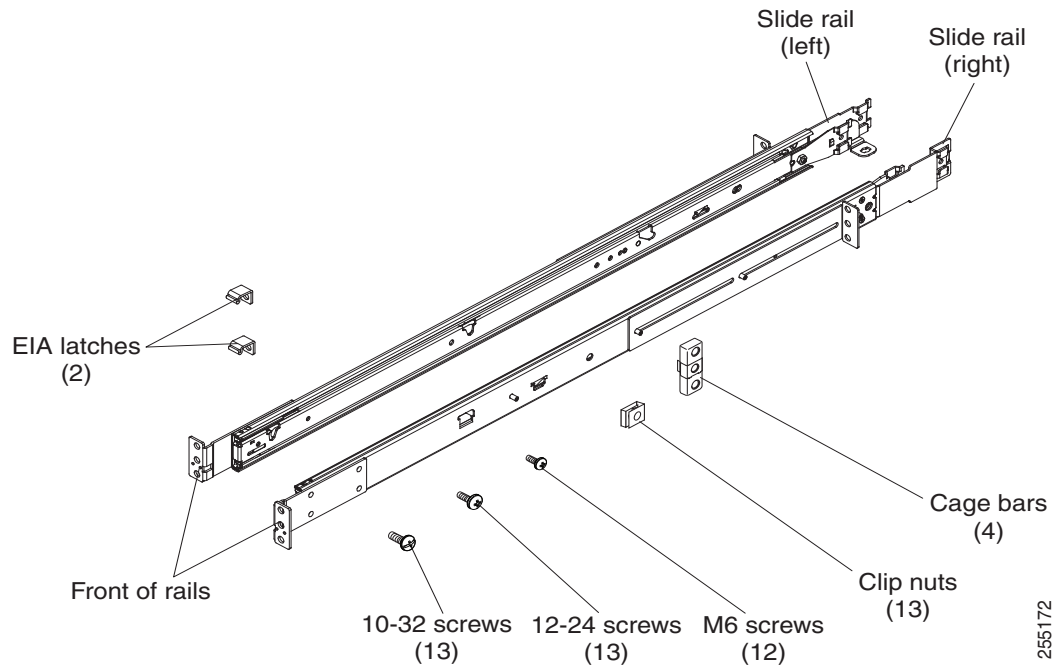≥ 18 kg (39.7 lb.)   ≥ 32 kg (70.5 lb.)   ≥ 55 kg (121.2 lb.)

⚠

Caution   Do not place any object on top of rack-mounted devices.

The following illustration shows the items that you need to install the mobility services engine in the rack cabinet. If any items are missing or damaged, contact your place of purchase.

Note   Some items come with the mobility services engine, not in the rack installation kit.

Slide rail
(left)

Slide rail
(right)

EIA latches
(2)

Cage bars
(4)

Front of rails

Clip nuts
(13)

10-32 screws   12-24 screws   M6 screws
(13)   (13)   (12)

255172

✎ **Note**   Use cage bars with square-holed racks, clip nuts with round-holed racks, and your own screws or the screws provided in this kit with threaded-hole racks.

✎ **Note**   If the slide rails in your rack installation kit came with shipping thumbscrews, remove them before you begin the following installation procedure.

Step 1   Select an available 1 U or 2 U space (depending on the mobility services engine you are installing) in your rack to install your mobility services engine. If you have either a round-holed or square-holed rack, install cage bars or clip nuts in the middle and the bottom (optional for the upper) holes of the lower U on each side of the front of the rack. Then, install cage bars or clip nuts in the upper and the bottom holes of the lower U on each side of the rear of the rack.
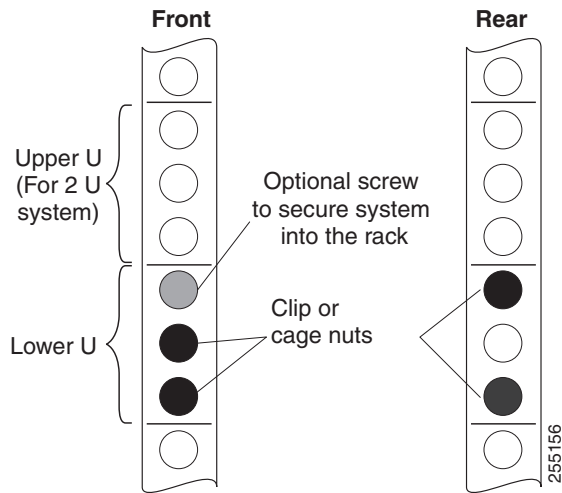
Step 2   Use a screwdriver to install the cage bars or the clip nuts on the inside of the mounting rail, as required for your rack, into the selected holes.
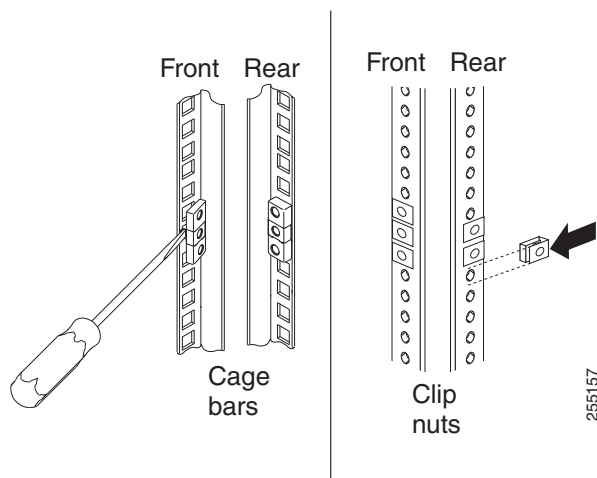
Step 3   The rail depth can be adjusted from 17 in (432 mm) to 31.25 in (794 mm). To adjust the depth, you can loosen the nuts on the posts and slide the bracket until the distance between the front and rear slide rail flanges matches the distance between the front and rear EIA rails of the rack cabinet. If you need further adjustment, remove the nuts, move the bracket to the appropriate set of posts (A, B, C, and D) to obtain the appropriate slide rail depth, then reinstall and tighten the nuts.

255158
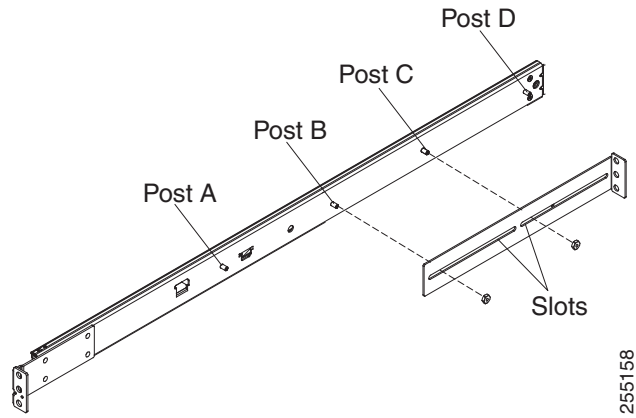
Step 4   To remove the support bracket, remove the screw (**1**) and remove the bracket (**2**) from the rear of the slide rail.

255160
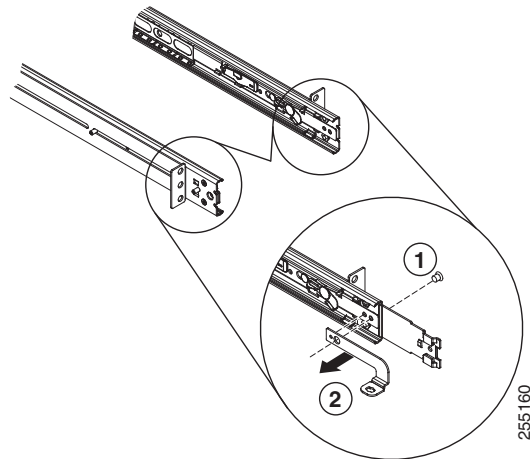
Step 5   To remove the mounting brackets, remove the screws (**1**) and (**3**). Slide out the brackets (**2**) and (**4**) from the rear of the slide rail.

255161
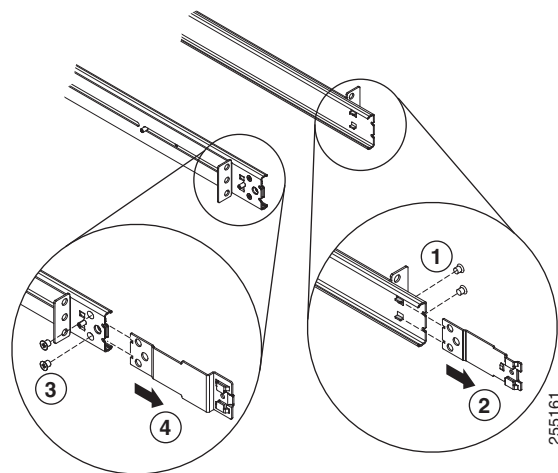
Step 6   Attach the front of the slide rail and EIA latch to the front of the rack cabinet by installing a screw in the bottom hole of the lower U; then, install another screw in the middle hole of the lower U to attach the front of the slide rail to the front of the rack cabinet.

> ✎
> **Note**   When you fasten the slides to the rack, ensure the screws are engaged but the flange can move slightly. You will use a screwdriver to fully tighten them in Step 9.

> ✎
> **Note**   Use 12-24 screws (not hex head M6 screws) on the front mounting bracket if you are installing this system into a rack with round or square holes (i.e., not threaded holes).
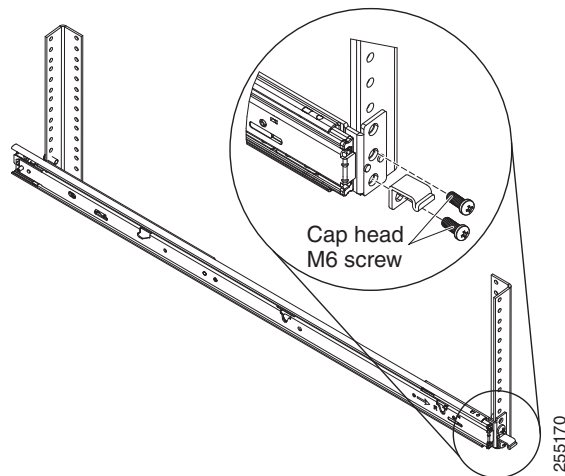
Step 7   Use two screws to attach the rear of the slide rail to the rear of the rack cabinet in the upper and the bottom holes of the lower U.

Repeat Step 3 through Step 7 to install the other slide rail into the rack.
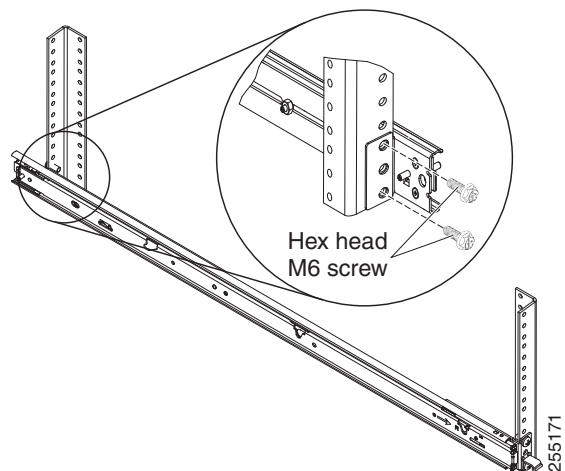
Step 8   Pull the slide rails forward (**1**) until they click, two times, into place. Carefully lift the mobility services engine and tilt it into position over the slide rails so that the rear nail heads (**2**) on the mobility services engine line up with the rear slots (**3**) on the slide rails. Slide the mobility services engine down until the

rear nail heads slip into the two rear slots, and then slowly lower the front of the mobility services engine
(**4**) until the other nail heads slip into the other slots on the slide rails. Make sure that the front latch (**5**)
slides over the nail heads.
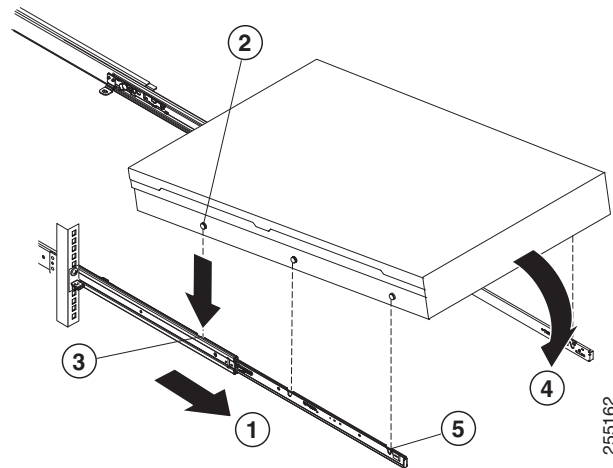
Step 9   Lift the locking levers (**1**) on the slide rails and push the mobility services engine (**2**) all the way into the
rack until it clicks into place.

Slide the system in and out twice to make sure the system slides correctly. Push the system inwards to
the rack as close as possible but able to access the screws with a screwdriver. Then tighten the screws
with a screwdriver.
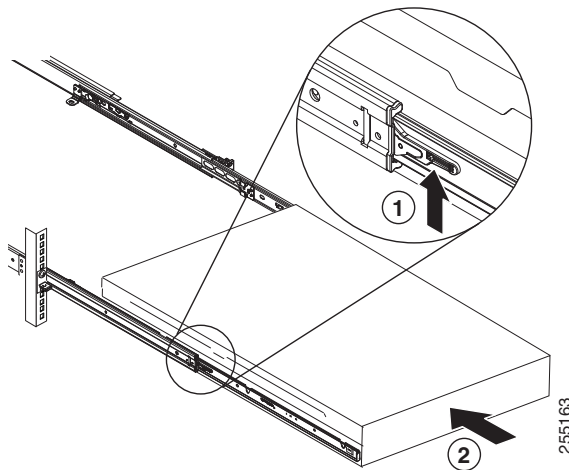
Step 10   Slide the mobility services engine into the rack until it snaps into place. To slide the mobility services
engine out of the rack, press on the release latches (**1**).

✎
Note   When you move the rack cabinet, or if you install the rack cabinet in a vibration-prone area, insert the
optional M6 screws (2) in the front of the mobility services engine.
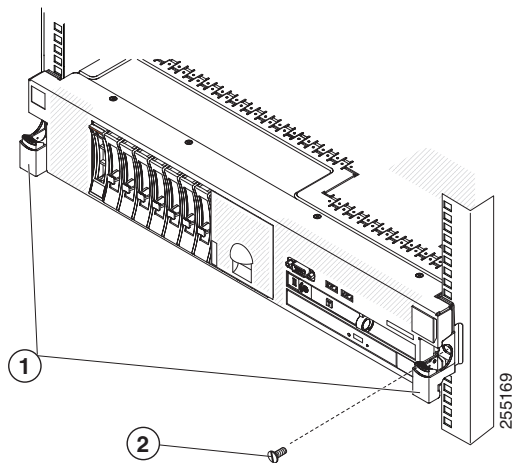
To remove the mobility services engine from the rack, reverse these instructions. Store this information with your mobility services engine documentation for future use.

Front and Rear Panel

This section describes the controls and light-emitting diodes (LEDs) and how to turn the Cisco 3355 Mobility Services Engine on and off.

Front Panel

Figure 2-1 shows the controls, LEDs, and connectors the front panel of the Cisco 3355 Mobility Services Engine.

Figure 2-2 shows a detailed view of the operator information panel.

Figure 2-1   Cisco 3355 Mobility Services Engine Front Panel
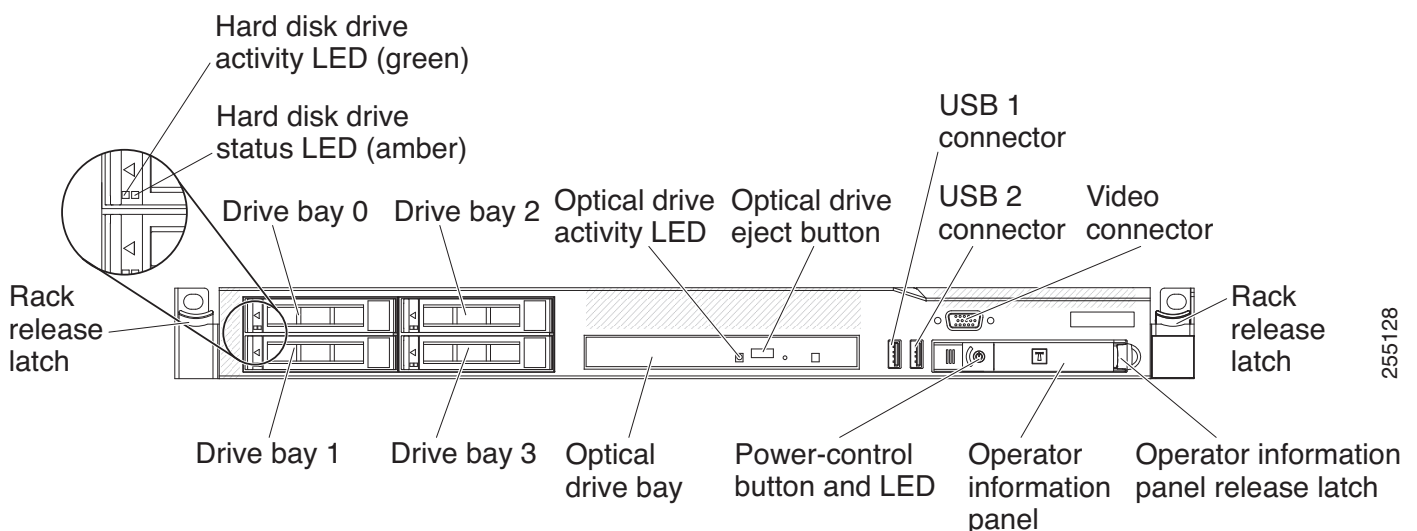
Front Panel Components

- **Rack release latches:** Press the latches on each front side of the mobility services engine to remove it from the rack.

- **Hard disk drive status LEDs:** This LED is used to indicate the status of the SAS hard disk drives. When this LED is lit, it indicates that the drive has failed. When this LED is flashing slowly (one flash per second), it indicates that the drive is being rebuilt. When the LED is flashing rapidly (three flashes per second), it indicates that the controller is identifying the drive.

- **Hard disk drive activity LED**s: Each hot-swap hard disk drive has an activity LED, and when this LED is flashing, it indicates that the drive is in use.

- **Optical drive eject button:** Press this button to release a DVD or CD from the DVD drive.

- **Optical drive activity LED:** When this LED is lit, it indicates that the DVD drive is in use.

- **Operator information panel:** This panel contains controls and LEDs that provide information about the status of the mobility services engine. For information about the controls and LEDs on the operator information panel, see Operator Information Panel, page 2-15.

- **Operator information panel release latch:** Slide the blue release latch to the left to pull out the light path diagnostics panel and view the light path diagnostics LEDs and buttons. See Light Path Diagnostics Panel, page 2-16 for more information about the light path diagnostics.

- **Video connector:** Connect a monitor to this connector. The video connectors on the front and rear of the mobility services engine can be used simultaneously.

> ✎
> **Note**   The maximum video resolution is 1600 x 1200 at 75 Hz.

- **USB connectors:** Connect a USB device, such as a USB mouse or keyboard, to any of these connectors.

Operator Information Panel

Figure 2-2 shows a detailed view of the controls and LEDs on the operator information panel.

Figure 2-2   Close Up of Cisco 3355 Operator Information Panel

Operator Information Panel Components

- **Power-control button and power-on LED:** Press this button to turn the mobility services engine on and off manually or to wake it from a reduced-power state. The states of the power-on LED are as follows:
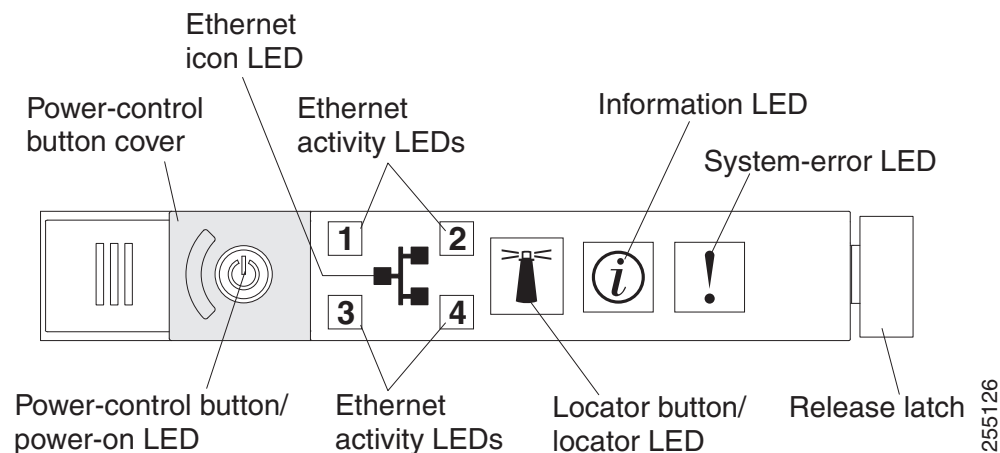
  - **Off:** Power is not present, or the power supply or the LED itself has failed.

  - **Flashing rapidly (4 times per second):** The mobility services engine is turned off and is not ready to be turned on. The power-control button is disabled. This will last approximately 20 to 40 seconds.

  - **Flashing slowly (once per second):** The mobility services engine is turned off and is ready to be turned on. You can press the power-control button to turn on the mobility services engine.

  - **Lit:** The mobility services engine is turned on.

  - **Fading on and off:** The mobility services engine is in a reduced-power state. To wake the mobility services engine, press the power-control button or use the IMM Web interface. See the *Integrated Management Module User's Guide* for information on logging on to the IMM Web interface.

- **Ethernet activity LEDs:** When any of these LEDs is lit, they indicate that the mobility services engine is transmitting to or receiving signals from the Ethernet LAN that is connected to the Ethernet port that corresponds to that LED.

- **System-locator button/LED:** Use this blue LED to visually locate the mobility services engine among other servers. This LED is also used as a presence detection button. This LED is controlled by the IMM. When you press the System-locator button, the LED will blink and it will continue to blink until you press it again to turn it off. The locator button is pressed to visually locate the mobility services engine among the other servers.

- **System-information LED:** When this amber LED is lit, it indicates that a noncritical event has occurred. The IMM can be used to diagnose and correct the problem.

- **System-error LED:** When this amber LED is lit, it indicates that a system error has occurred. A system-error LED is also on the rear of the mobility services engine. An LED on the light path diagnostics panel on the operator information panel is also lit to help isolate the error. This LED is controlled by the IMM.

Light Path Diagnostics Panel

The light path diagnostics panel is on the top of the operator information panel, as shown in Figure 2-3. For additional information about the LEDs on the light path diagnostics panel, see Table 2-1.

To access the light path diagnostics panel, slide the blue release button on the operator information panel to the left. Pull forward on the unit until the hinge of the operator panel is free of the chassis. Then pull down on the unit, so that you can view the light path diagnostics panel information.

Note   When you slide the light path diagnostics panel out of the mobility services engine to check the LEDs or checkpoint codes, do not run the mobility services engine continuously with the light path diagnostics panel outside of the mobility services engine. The panel should only be outside of the mobility services engine a short time. The light path diagnostics panel must remain in the mobility services engine when it is running to ensure proper cooling.

Figure 2-3 **Light Path Diagnostics Panel**
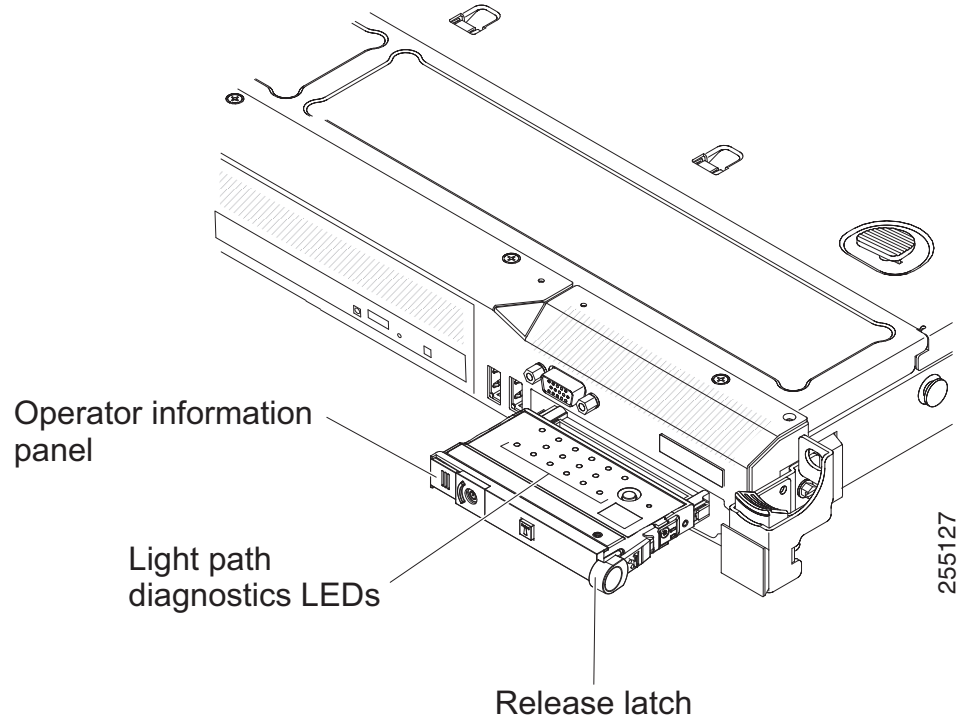
Figure 2-4 shows the LEDs and controls on the light path diagnostics panel.

Figure 2-4 **Light Path Diagnostics Panel Components**
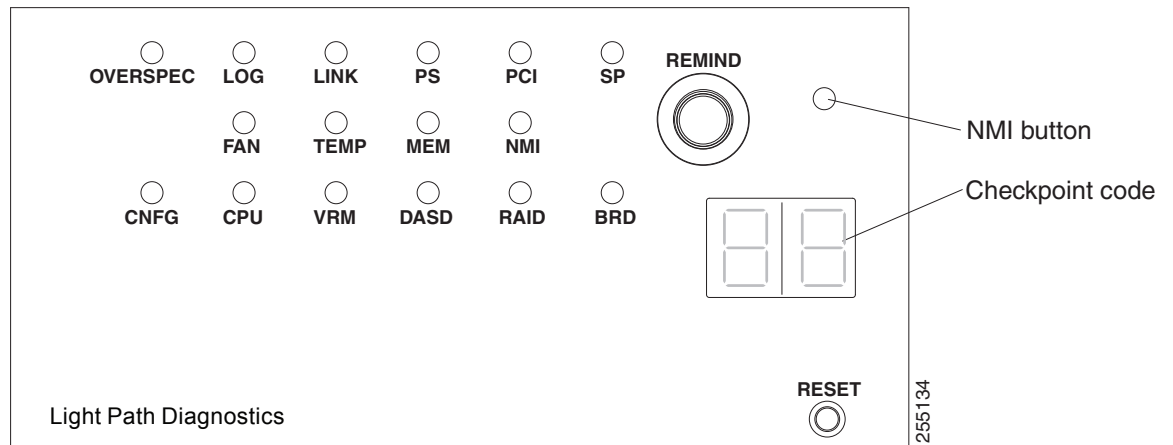
Light Path Diagnostics Panel Components

- **Remind button:** This button places the system-error LED on the front panel into Remind mode. In Remind mode, the system-error LED flashes once every 2 seconds until the problem is corrected, the mobility services engine is restarted, or a new problem occurs.

  By placing the system-error LED indicator in Remind mode, you acknowledge that you are aware of the last failure but will not take immediate action to correct the problem. The Remind function is controlled by the IMM.

- **NMI button:** This button is used to force a nonmaskable interrupt to the microprocessor. This button is not currently used by the Cisco 3355 Mobility Services Engine. Press this button only when directed by the Cisco TAC personnel.

- **Checkpoint code display:** This display provides a checkpoint code that indicates the point at which the system stopped during the boot block and POST. A checkpoint code is either a byte or a word value that is produced by UEFI. The display does not provide error codes or suggest components to be replaced.

- **Reset button:** Press this button to reset the mobility services engine and run the power-on self-test (POST). You might have to use a pen or the end of a straightened paper clip to press the button. The Reset button is in the lower-right corner of the light path diagnostics panel.

Table 2-1   Light path diagnostics panel LEDs

Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.

LED	Description	Action
None, but the system error LED is lit.	An error occurred and cannot be isolated. The error is not represented by a path.	Contact Cisco TAC for assistance.
OVER SPEC	The power supplies are using more power than their maximum rating.	Contact Cisco TAC for assistance.
LOG	An error occurred.	Check the IMM system event log and the system-error log for information about the error and then determine the next steps. If needed, contact Cisco TAC.
LINK	Reserved.	
PS	Power supply 1 or 2 has failed.	1. Check the power supply that has a lit amber LED (see Power-supply LEDs, page 2-22). 2. Make sure that the power supplies are seated correctly. 3. Remove one of the power supplies to isolate the failed power supply. 4. Replace the failed power supply.
PCI	An error has occurred on a PCI bus or on the system board. An additional LED is lit next to a failing PCI slot.	Contact Cisco TAC for assistance.
SP	A service processor error has been detected.	1. Shut down the system and remove the power cords from the mobility services engine; then, reconnect the mobility services engine to power and restart it. 2. If the problem does not go away, contact Cisco TAC for assistance.

Table 2-1   Light path diagnostics panel LEDs (continued)

Follow the suggested actions in the order in which they are listed in the Action column until the problem is solved.

LED	Description	Action
FAN	A fan has failed, is operating too slowly, or has been removed. The TEMP LED might also be lit.	Contact Cisco TAC to replace your Cisco 3355 Mobility Services Engine and for further assistance.
TEMP	The system temperature has exceeded a threshold level. A failing fan can cause the TEMP LED to be lit.	Contact Cisco TAC for assistance.
MEM	When only the MEM LED is lit, a memory error has occurred. When both the MEM and CNFG LEDs are lit, the memory configuration is invalid or the PCI Option ROM is out of resource.	Contact Cisco TAC for assistance.
NMI	A nonmaskable interrupt has occurred, or the NMI button was pressed.	Check the system-error log for information about the error. Contact Cisco TAC if further assistance is needed.
CNFG	A hardware configuration error has occurred.	Contact Cisco TAC for assistance.
CPU	An invalid microprocessor configuration or a microprocessor has failed (both the CPU LED and the CNFG LED might be lit).	Contact Cisco TAC for assistance.
VRM	Reserved.	
DASD	A hard disk drive has failed or is missing.	1. Check the LEDs on the hard disk drives for the drive with a lit status LED and reseat the hard disk drive. 2. If reseating the drive does not resolve the issue, then the failed hard disk drive must be replaced. Contact Cisco TAC for assistance.
RAID	Reserved.	
BRD	An error has occurred on the system board.	Contact Cisco TAC for assistance.

Rear Panel

Figure 2-5 shows details of the rear panel for the Cisco 3355 Mobility Services Engine.

Figure 2-6 shows the Cisco 3355 Mobility Services Engine back panel LEDs.

Figure 2-5   *Cisco 3355 Mobility Services Engine Rear Panel*
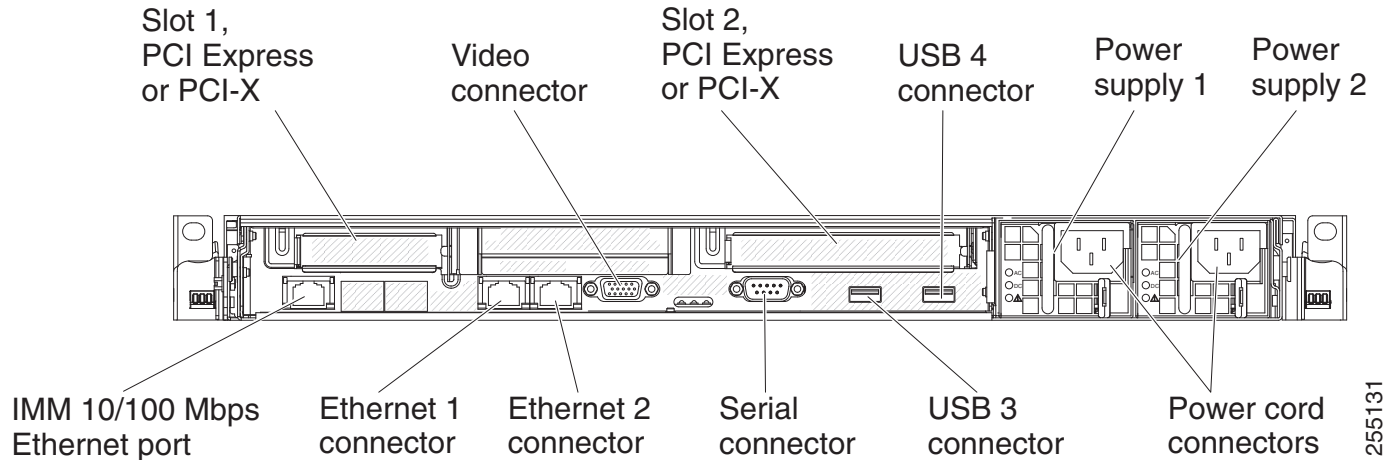
Rear Panel Components

- **PCI slot 1:** Cisco 3355 Mobility Services Engine does not use this slot.

- **PCI slot 2:** Cisco 3355 Mobility Services Engine does not use this slot.

- **Power connector:** Connect the power cord to this connector.

> ✎
>
> **Note**   Power supply 1 is the default/primary power supply. If power supply 1 fails, you must replace it immediately.

- **Video connector:** Connect a monitor to this connector. The video connectors on the front and rear of the mobility services engine can be used simultaneously.

> ✎
>
> **Note**   The maximum video resolution is 1600 x 1200 at 75 Hz.

- **Serial connector:** Connect the serial console cable to this connector.

- **USB connectors:** Connect a USB device, such as a USB mouse or keyboard to any of these connectors.

- **IMM 10/100 Mbps Ethernet port:** Use this port to manage the mobility services engine, using a dedicated management network. If you use this connector, the IMM cannot be accessed directly from production network. A dedicated management network provides additional security by physically separating the management network traffic from the production network. You can use the immconfig script provided with the mobility services engine to configure it to use a dedicated systems management network or a shared network.

- **Ethernet connectors:** Use either of these connectors to connect the mobility services engine to a network. When you use the Ethernet 1 connector, the network can be shared with the IMM through a single network cable. See additional notes about the IMM configuration and access for details.

Figure 2-6 shows the LEDs on the rear of the mobility services engine.

Figure 2-6   Cisco 3355 Mobility Services Engine Rear Panel LEDs

Ethernet
activity LED

Ethernet
link LED

Power-supply
error LED (amber)

DC LED (green)

AC LED (green)

Power LED
(green)

System-
locator
LED (blue)

System-error
LED (amber)
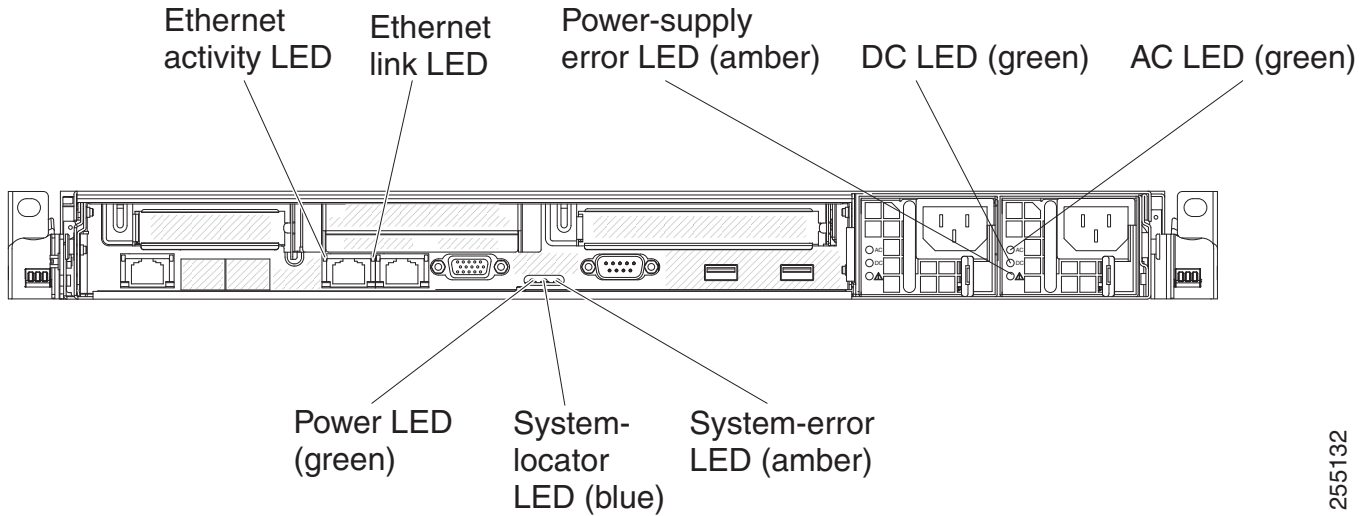
255132

[Figure 2-7](#) shows a detailed view of the LEDs on a dc power supply.

Figure 2-7   Close Up of Cisco 3355 Mobility Services Engine DC Power Supply LEDs

Power input LED

Power output LED

Power error LED

IN
OK

OUT
OK

-48V

-48V
RTN

-48V

Ground

-48V return
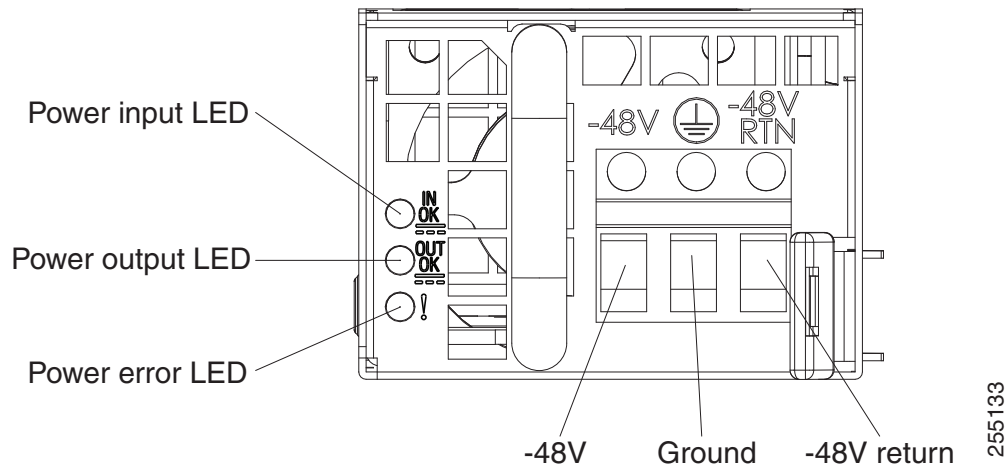
255133

- **Ethernet activity LEDs:** When these LEDs are lit, they indicate that the mobility services engine is transmitting to or receiving signals from the Ethernet LAN that is connected to the Ethernet port.

- **Ethernet link LEDs:** When these LEDs are lit, they indicate that there is an active link connection on the 10BASE-T, 100BASE-TX, or 1000BASE-TX interface for the Ethernet port.

- **AC power LED:** Each hot-swap power supply has an ac power LED and a dc power LED. When the ac power LED is lit, it indicates that sufficient power is coming into the power supply through the power cord. During typical operation, both the ac and dc power LEDs are lit.

- **IN OK power LED:** Each hot-swap dc power supply has an IN OK power LED and an OUT OK power LED. When the IN OK power LED is lit, it indicates that sufficient power is coming into the power supply through the power cord. During typical operation, both the IN OK and OUT OK power LEDs are lit.

- **DC power LED:** Each hot-swap power supply has a dc power LED and an ac power LED. When the dc power LED is lit, it indicates that the power supply is supplying adequate dc power to the system. During typical operation, both the ac and dc power LEDs are lit.

- **OUT OK power LED:** Each hot-swap dc power supply has an IN OK power LED and an OUT OK power LED. When the OUT OK power LED is lit, it indicates that the power supply is supplying adequate dc power to the system. During typical operation, both the IN OK and OUT OK power LEDs are lit.

- **System-error LED:** When this LED is lit, it indicates that a system error has occurred. An LED on the light path diagnostics panel is also lit to help isolate the error.

- **Power-on LED:** When this LED is lit and not flashing, it indicates that the mobility services engine is turned on. The states of the power-on LED are as follows:

  - **Off:** Power is not present, or the power supply or the LED itself has failed.

  - **Flashing rapidly (4 times per second):** The mobility services engine is turned off and is not ready to be turned on. The power-control button is disabled. This will last approximately 20 to 40 seconds.

  - **Flashing slowly (once per second):** The mobility services engine is turned off and is ready to be turned on. You can press the power-control button to turn on the mobility services engine.

  - **Lit:** The mobility services engine is turned on.

  - **Fading on and off:** The mobility services engine is in a reduced-power state. To wake the mobility services engine, press the power-control button or use the IMM Web interface. See the *Integrated Management Module User's Guide* for information on logging on to the IMM Web interface.

- **System-locator LED:** Use this LED to visually locate the mobility services engine among other servers. You can use the *Integrated Management Module User's Guide* to light this LED remotely.

Power-supply LEDs

Figure 2-8 shows the location of the power-supply LEDs on the rear of the Cisco 3355 Mobility Services Engine. See Table 2-2 for additional information about solving power-supply problems.

Figure 2-8   *Location of Cisco 3355 Mobility Services Engine Power Supply LEDs*

AC LED (green)

DC LED (green)

Power-supply
error LED (amber)
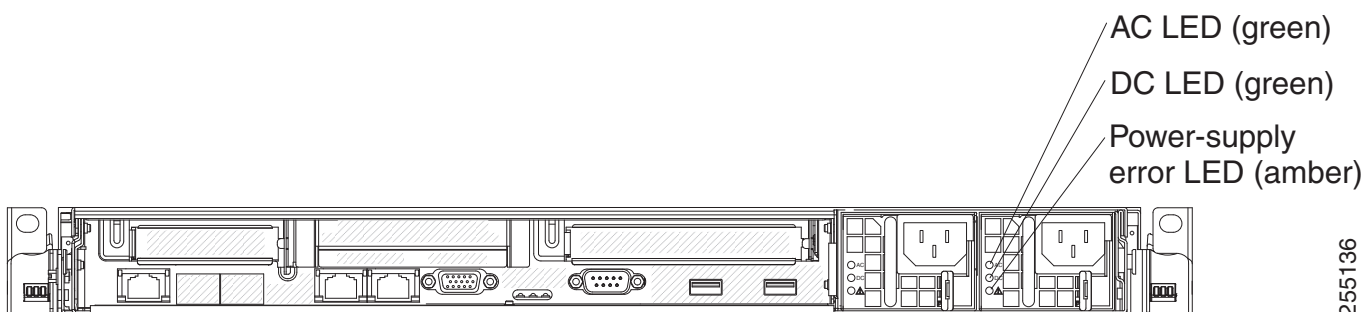
Table 2-2 describes the problems that are indicated by various combinations of the power-supply LEDs on an ac power supply and suggested actions to correct the detected problems.

Table 2-2   ***Cisco 3355 Mobility Services Engine AC Power Supply Troubleshooting***

AC power-supply LEDs					
AC	DC	Error (!)	Description	Action	Notes
On	On	Off	Normal operation		
Off	Off	Off	No AC power to the mobility services engine or a problem with the AC power source.	1. Check the AP power to the mobility services engine. 2. Make sure that the power cord is connected to a functioning power source. 3. Restart the mobility services engine. If the error remains, check the power supply LEDs. 4. Replace the power supply.	This is a normal condition when no AC power is present.
Off	Off	On	No AC power to the mobility services engine or a problem with the AC power source and the power supply had detected an internal problem.	1. Make sure that the power cord is connected to a functioning power source. 2. Replace the power supply.	This happens only when a second power supply is providing power to the mobility services engine.
Off	On	Off	Faulty power supply	Replace the power supply.	
Off	On	On	Faulty power supply	Replace the power supply.	
On	Off	Off	Power supply not fully seated, faulty system board, or faulty power supply	1. Reseat the power supply. 2. If this action does not resolve the problem, replace the power supply. If replacing the power supply does not resolve the issue, contact Cisco TAC for assistance.	Typically indicates a power supply is not fully seated.
On	Off	On	Faulty power supply	Replace the power supply.	
On	On	On	Power supply is faulty but still operational	Replace the power supply.	

Cisco 3355 Mobile Services Engine Power Features

Specific steps to power-on the Cisco 3355 Mobility Services Engine are provided in Powering On the Mobility Services Engine, page 2-28.

When the mobility services engine is connected to an ac power source but is not turned on, the operating system does not run, and all core logic except for the service processor (the Integrated Management Module) is shut down; however, the mobility services engine can respond to requests to the service processor, such as a remote request to turn on the mobility services engine. The power-on LED flashes to indicate that the mobility services engine is connected to power but is not turned on.

Turning on the Cisco 3355 Mobility Services Engine

Approximately 5 seconds after the mobility services engine is connected to power, one or more fans might start running to provide cooling while the system is connected to power, and the power-on button LED will blink quickly. Approximately 20 to 40 seconds after the mobility services engine is connected to power, the power-control button becomes active (the power-on LED will blink slowly), and one or more fans might start running to provide cooling while the mobility services engine is connected to power. You can turn on the mobility services engine by pressing the power-control button.

If a power failure occurs while the mobility services engine is turned on, the system will restart automatically when power is restored.

Turning off the Cisco 3355 Mobility Services Engine

When you turn off the mobility services engine and leave it connected to power, it can respond to requests to the service processor, such as a remote request to turn on the mobility services engine. While the mobility services engine remains connected to power, one or more fans might continue to run. To remove all power from the mobility services engine, you must disconnect it from the power source.

⚠

Caution   The power control button on the device and the power switch on the power supply do not turn off the electrical current supplied to the device. The device also might have more than one power cord. To remove all electrical current from the device, ensure that all power cords are disconnected from the power source.
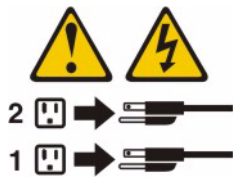
The integrated management module (IMM) can turn off the mobility services engine as an automatic response to a critical system failure.

Replacing a Failed Hot-Swap Hard Disk Drive

To replace a 2.5-inch hot-swap SAS hard disk drive, complete the following steps.

You can order replacement hard disk drives from Cisco. The replacement part PID is AIR-SRVR-146GB-HD=.
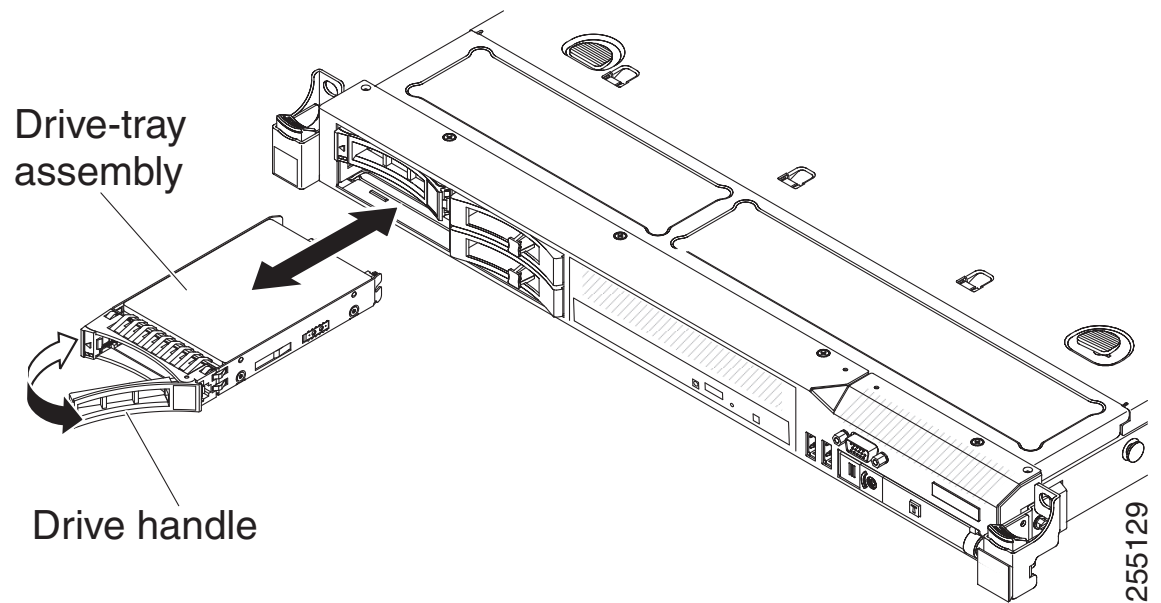
Step 1 Read the safety information in Safety Considerations and Translated Safety Warnings, page A-1.

Step 2 Touch the static-protective package that contains the drive to any unpainted metal surface on the mobility services engine; then, remove the drive from the package and place it on a static-protective surface.

Step 3 Ensure that the drive you are replacing has failed before pulling it out of the drive slot. Press on the tray handle to unlock the drive. Pull on the tray handle to remove the drive.

Step 4 Install the hard disk drive in the drive bay:

   a. Make sure that the tray handle is in the open (unlocked) position.

   b. Align the drive assembly with the guide rails in the bay.

   c. Gently push the drive assembly into the bay until the drive stops.

   d. Rotate the tray handle to the closed (locked) position.

   e. Check the hard disk drive status LED to verify that the hard disk drive is operating correctly. If the amber hard disk drive status LED for a drive is lit continuously, that drive is faulty and must be replaced. If the green hard disk drive activity LED is flashing, the drive is being accessed.

Replacing a Hot-Swap AC Power Supply

The following section describes the type of ac power supply that the server supports and other information that you must consider when you replace a failed power supply:

- The Cisco 3355 Mobility Services Engine comes with two 675-watt hot-swap 12-volt output power supplies that connect to power supply bays 1 and 2. The input voltage is 110 V ac or 220 V ac auto-sensing.

- Power supply 1 is the default/primary power supply. If power supply 1 fails, you must replace the power supply immediately.

- You can order replacement power supplies from Cisco. The replacement part PID is AIR-SRVR-PWR=.

- These power supplies are designed for parallel operation. In the event of a power-supply failure, the redundant power supply continues to power the system.

⚠ **Caution**   The power control button on the device and the power switch on the power supply do not turn off the electrical current supplied to the device. The device also might have more than one power cord. To remove all electrical current from the device, ensure that all power cords are disconnected from the power source.
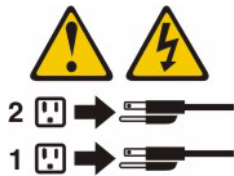

⚠ **Caution**   Never remove the cover on a power supply or any part that has the following label attached. Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a problem with one of these parts, contact a service technician.

To install a hot-swap power supply, complete the following steps.

Step 1   Read the safety information in Safety Considerations, page A-2.

Step 2   Touch the static-protective package that contains the hot-swap power supply to any unpainted metal surface on the mobility services engine; then, remove the power supply from the package and place it on a static-protective surface.

Step 3   Remove the failed power supply first. Grasp the handle on the rear of the power supply and slide the power supply out from the chassis.
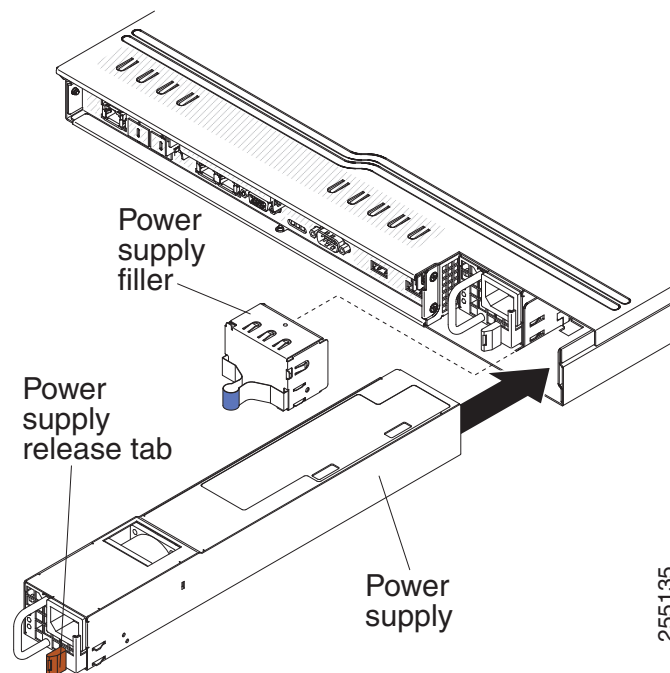
Step 4   Grasp the handle on the rear of the power supply and slide the power supply forward into the power-supply bay until it clicks. Make sure that the power supply connects firmly into the power-supply connector.

Step 5   Route the power cord through the handle so that it does not accidentally become unplugged.

Step 6   Connect the power cord for the new power supply to the power-cord connector on the power supply.

Step 7   Connect the other end of the power cord to a properly grounded electrical outlet.

Step 8   Make sure that the ac power LED and the dc power LED on the ac power supply are lit, indicating that the power supply is operating correctly. The two green LEDs are to the right of the power-cord connector.

Connecting the Cables

Figure 2-9 shows the locations of the input and output connectors on the front of the server.

Figure 2-9   *Front of Cisco 3355 Mobility Services Engine*
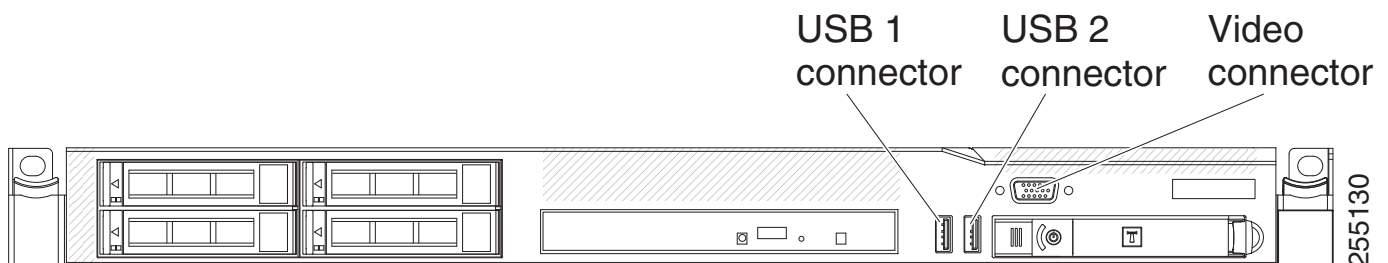
Figure 2-10 shows the locations of the input and output connectors on the rear of the server.

Figure 2-10   *Rear of Cisco 3355 Mobility Services Engine*
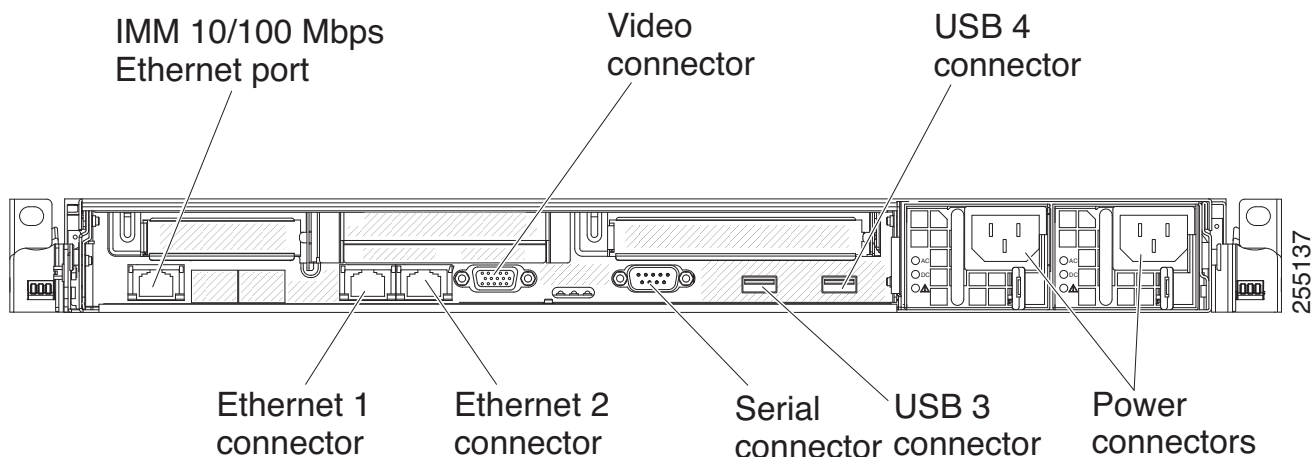
Connecting and Using the CLI Console

For initial system configuration, use the command-line interface (CLI) console. The CLI console connects to the mobility services engine back-panel DB9 console port. Figure 2-5 on page 2-20 shows the console port on the back panel of the mobility services engine. Back panel components are described in Rear Panel Components, page 2-20.

Use these terminal emulator settings for the CLI console session:

- 9600 baud
- 8 data bits
- no flow control
- 1 stop bit
- no parity

Powering On the Mobility Services Engine

When you apply AC power to a mobility services engine, the bootup script initializes the operating system and its stored configurations. You are prompted to enter a user ID and password and enter key configuration details.

Follow these steps to power up the mobility services engine.

Step 1   Plug an AC power cord into the back of the two power supplies (Figure 2-5 on page 2-20). If only one power supply is connected to a power source, the system will still function correctly but the monitoring components of the mobility services engine will detect the absence of the second power supply and send an alert to Prime Infrastructure. Connect the other end to a grounded 100 to 240 VAC 50/60 Hz electrical outlet.

The end of the power cord that plugs into the mobility services engine conforms with the IEC 320 standard.

Step 2   Use the front-panel Power On/Standby button, located in the operator information panel, to turn the mobility services engine on (Figure 2-2 on page 2-15).

Step 3   At the login prompt, enter the mobility services engine operating user ID and password. The default user ID is *root* and the default password is *password*.

The user ID and password are case sensitive.

You are now logged into the mobility services engine operating system.

Configuring the Mobility Services Engine

Minimal configuration is done for the mobility services engine as part of installation using the console. All configuration beyond the initial setup using the automatic installation is done with Cisco Prime Infrastructure. For details on automatic installation refer to the "Automatic Installation Script" section on page 2-29.

> **Note**   You must change the default root password during initial configuration of the mobility services engine to ensure optimum network security.

- You are prompted to change the password during the automatic setup script.
- You can also change the password using the Linux command, **passwd**.

Automatic Installation Script

> **Note**   It is highly recommended that all relevant items be configured during initial setup to ensure optimum operation of the mobility services engine in your network. The hostname and either the Ethernet-0 (eth0) or the Ethernet-1 (eth1) port *must* always be configured during the automatic installation.

> **Note**   You can rerun the automatic installation script at any time to add or change parameters. There is no need to re-enter values that you do not want changed during one of these updates.

> **Note**   If you do not want to configure an item, enter **skip** and you are prompted for the next configuration step. Any setting skipped is retained and not modified.

The automatic installation script that displays to the screen is shown below along with descriptive text.

```
Example text: Indicates the installation script that displays to the console.
```

Body text: Provides additional information to the user about steps within the script.

Enter the login *root*.

```
localhost.localdomain login:
```

Enter the password *password*.

```
Password:
```

Enter whether you would like to set up the initial parameters manually or via the setup wizard.

```
Setup parameters via Setup Wizard (yes/no) [yes]: yes
```

Enter **Yes** if you want to use the setup wizard or **No** if you want to manually set the parameters. Only experienced Linux system administrators should opt to configure the system using the setup script. The option in square brackets is the default. You can press **Enter** to choose that default.

When you enter **Yes,** the following displays on the console.

```
-------------------------------------------------------------
Welcome to the Cisco Mobility Services Engine Appliance setup.

You may exit the setup at any time by typing <Ctrl+C>.

-------------------------------------------------------------

Would you like to configure MSE using :

  1. Menu mode
  2. Wizard mode

   Choose 1 or 2 : 2

-------------------------------------------------------------

Mobility Services Engine Setup

Please select a configuration option below and enter the
requested information. You may exit the setup at any time
by typing <Ctrl+C>.

You will be prompted to choose whether you wish to configure a
parameter, skip it, or reset it to its initial default value.
Skipping a parameter will leave it unchanged from its current
value.

Please note that the following parameters are mandatory
and must be configured at least once.

        -> Hostname
        -> Network interface eth0
        -> Timezone settings
        -> Root password
        -> Prime Infrastructure Password

You must select option 24 to verify and apply any change made during this session.

-------------------------------------------------------------
Changes made will only be applied to the system once all the
information is entered and verified.
-------------------------------------------------------------
```

```
Current Hostname=[mse-vm42]
Configure Hostname?  (Y)es/(S)kip/(U)se default [Skip]: s

Current eth0 interface IP address=[172.19.28.97]
Current eth0 interface netmask=[255.255.254.0]
Current IPv4 gateway address=[172.19.28.3]
Configure eth0 interface parameters? (Y)es/(S)kip/(U)se default [Skip]: s

Current Timezone=[America/Los_Angeles]
Configure Timezone? (Y)es/(S)kip/(U)se default [Skip]: s

Root password has not been configured.
Configure root password? (Y)es/(S)kip/(U)se default [Skip]: s

Network Time Protocol (NTP) Setup.

If you choose to enable NTP, the system time will be
configured from NTP servers that you select.  Otherwise,
you will be prompted to enter the current date and time.

NTP is currently enabled.
Current NTP server 1=[172.19.28.250]
A second NTP server has not been defined.
Configure NTP related parameters? (Y)es/(S)kip/(U)se default [Skip]: s

Cisco Prime Infrastructure communication password has not been configured.
Configure Prime Infrastructure password? (Y)es/(S)kip/(U)se default [Skip]: s
Configuration of mandatory parameters is complete. Do you want to continue with remaining
parameters ? (Y)es/(N)o/(U)se default [no]: y

Current domain=[cisco.com]
Configure domain name? (Y)es/(S)kip/(U)se default [Skip]: s

Current High Availability role=[Primary]
Configure High Availability?  (Y)es/(S)kip/(U)se default [Skip]: s

The second network interface eth1 is currently disabled.
Configure eth1 interface parameters? (Y)es/(S)kip/(U)se default [Skip]: s

Domain Name Service (DNS) Setup
DNS is currently enabled.
Current DNS server 1=[171.70.168.183]
Configure DNS related parameters? (Y)es/(S)kip/(U)se default [Skip]: s

MSE can be configured to restart a year from now (or 6 months
under DoD mode) on a given day and time
Future Restart Time is configured, MSE will be restarted on Saturday,Aug,09,2014 at 2:00
Configure future MSE restart day and time? (Y)es/(S)kip [Skip]: s

A Remote Syslog Server has not been configured.
Configure Remote Syslog Server Configuration parameters? (Y)es/(S)kip/(U)se default
[Skip]: s

Host access control is currently not configured.
Configure Host access control settings? (Y)es/(S)kip [Skip]: s

Audit daemon reads audit data from the kernel and logs them to files.
Audit rules are not defined.
Configure audit rules and enable Audit daemon? (Y)es/(S)kip/(U)se default [Skip]: s

Current Login Banner = [Cisco Mobility Service Engine]
Configure Login Banner (Y)es/(S)kip/(U)se default [Skip]: s

System console is not restricted.
```

```
Configure system console restrictions? (Y)es/(S)kip/(U)se default [Skip]: s

SSH root access is currently enabled.
Configure SSH access for root? (Y)es/(S)kip/(U)se default [Skip]: s

Single user mode password check is currently disabled.
Configure single user mode password check (Y)es/(S)kip/(U)se default [Skip]: s

Login and password strength related parameter setup.
Maximum number of days a password may be used : 99999
Minimum number of days allowed between password changes : 0
Minimum acceptable password length : 7
Login delay after failed login : 5 seconds
Checking for strong passwords is currently enabled.
Configure login/password related parameters? (Y)es/(S)kip/(U)se default [Skip]: s

GRUB password is not currently configured.
Configure GRUB password (Y)es/(D)isable/(S)kip/(U)se default [Skip]: s

Enabling Root Access Control will
a) disable SSH access.
b) change root password to have it hidden from end user.
c) create an admin user for non-root access to MSE.
d) terminate all active SSH sessions, when changes are applied with "Verify and apply
changes" option.

Thus access will be restricted to admin user through serial console only.

*** IMPORTANT *** :
First 3 actions mentioned above will take effect immediately after enabling Root Access
Control, even before executing "Verify and Apply changes".

Configure Root Access Control? (Y)es/(S)kip/(U)se default [Skip]: s

Enabling this will start MSE service automatically whenever system boots up.
Current MSE Auto start setting:   enabled
Auto start MSE after boot up (Y)es/(D)isable/(S)kip/(U)se default [Skip]: s

Please verify the following setup information.

--------------------------BEGIN--------------------------

No changes were made to the existing setup. All setup parameters
will be left as they are.

---------------------------END---------------------------

You may enter "yes" to proceed with configuration, "no" to make
more changes, or "^" to go back to the previous step.

Is the above information correct (yes, no, or ^):

-----------------------------------------------------------------------------
```

Note If you want to make changes the parameters mentioned above, please choose Yes and enter Y. The default option is Skip (S).

Note See the mandatory parameters in the following section Mandatory Parameters.

New Installation of Mobility Services Engine

To install the Mobility Services Engine (MSE) in console mode, follow these steps:

Go to the installers directory by entering **cd /opt/installers**.

To show the list of all the installers files enter **ls**.

Choose the 8.0 installer file.

```
[root@mse-vm42 installers]# ./CISCO-MSE-L-K9-8-0-1-75-64bit.bin

Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...

Preparing CONSOLE Mode Installation...

===============================================================================
Cisco Mobility Services Engine    (created with InstallAnywhere by Macrovision)
-------------------------------------------------------------------------------


===============================================================================
Introduction
------------

InstallAnywhere will guide you through the installation of Cisco Mobility
Services Engine (MSE)

It is strongly recommended that you quit all programs and applications before
continuing with this installation.

Respond to each prompt to proceed to the next step in the installation.  If you
want to change something on a previous step, type 'back'.


PRESS <ENTER> TO CONTINUE:


===============================================================================


Installing MSE version: 8.0.1.75


===============================================================================


High Availability Role
----------------------

Select a high availability role for this server
```

```
      ->1- Primary
        2- Secondary

ENTER THE NUMBER FOR YOUR CHOICE, OR PRESS <ENTER> TO ACCEPT THE DEFAULT:
     : 1


================================================================================
Auto Startup
------------


The Cisco MSE is configured to startup automatically at system boot up.
You can modify this setting using setup.sh after installation is completed.



================================================================================
Installing...
-------------

  [=================|=================|=================|=================]
  [-----------------|-----------------|-----------------|-----------------]



================================================================================
Database Installation
--------------------


The installer will now install the database. This may take a long time
(up to 30 minutes). Do not cancel the installer during this step.

 Installing Database files

 Step 1/3 - Installing Database files
 Step 1/3 Completed
 Step 2/3 - Configuring Database
 Step 2/3 Completed
 Step 3/3 - Updating patches
 Step 3/3 Completed

 Installation of database completed




================================================================================
Post Installation
-----------------


 Running Post-install scripts

 Step 1/2 - Installing Packages
 Step 1/2 Completed
 Step 2/2 - Configuring System Settings
 Step 2/2 Completed

 Completed Post install scripts


================================================================================
Upgrade/Install Analytics Service
---------------------------------


This might take a while depending on the size of data on the system

 Running Analytics install scripts
```

```
 Step 1/2 - Installing Analytics server
 Step 1/2 Completed
 Step 2/2 - Applying System Settings
 Step 2/2 Completed
 Analytics Install completed


 ================================================================================
 Installation Complete
 --------------------

 Congratulations. Cisco Mobility Services Engine has been successfully installed
 at:

 /opt/mse

 !!!! IMPORTANT NOTE !!!!

 The system is minimally configured right now. It is strongly recommended that
 you run the setup script under /opt/mse/setup/setup.sh to configure all
 appliance related parameters immediately after installation is complete.

 PRESS <ENTER> TO EXIT THE INSTALLER: [root@mse-vm42 installers]#
```

Upgrade of Mobility Services Engine

Note   During Analytics Service Upgrade, the installer deletes the database backups from the flash recovery area using RMAN (Recovery Manager). Please copy the database backups to other location before the upgrade.

To upgrade the Mobility Services Engine (MSE) installation in console mode, follow these steps:

Go to the installers directory by entering **cd /opt/installers**.

To show the list of all the installers files, enter **ls**.

Choose the 8.0 installer file.

```
[root@mse-vm42 installers]# ./CISCO-MSE-L-K9-8-0-1-75-64bit.bin

Preparing to install...
Extracting the JRE from the installer archive...
Unpacking the JRE...
Extracting the installation resources from the installer archive...
Configuring the installer for this system's environment...

Launching installer...

Preparing CONSOLE Mode Installation...
```

```
================================================================================
Cisco Mobility Services Engine    (created with InstallAnywhere by Macrovision)
--------------------------------------------------------------------------------


================================================================================
Introduction
------------


InstallAnywhere will guide you through the installation of Cisco Mobility
Services Engine (MSE)

It is strongly recommended that you quit all programs and applications before
continuing with this installation.

Respond to each prompt to proceed to the next step in the installation.  If you
want to change something on a previous step, type 'back'.


PRESS <ENTER> TO CONTINUE:

================================================================================

Installing MSE version: 8.0.1.75


================================================================================
Installation Check
------------------


Cisco MSE upgrade procedure may take 30-50 minutes to complete, depending on
the amount of data on the system.
System reboot is required after upgrade is complete.

During the upgrade process, please ensure that the session to the MSE is not
terminated. User action is needed at the end of the installation process.

The system appears to have a Cisco Mobility Services Engine already installed.
If you choose "Continue", all  currently installed components will be removed
permanently (only database and license files will be preserved).

  ->1- Exit
    2- Continue

ENTER THE NUMBER OF THE DESIRED CHOICE, OR PRESS <ENTER> TO ACCEPT THE
    DEFAULT: 2

================================================================================
MSE backup
----------


It is strongly recommended to take a backup of the MSE before proceeding with
the upgrade.
Have you completed a successful MSE backup?

  ->1- Yes
    2- No

ENTER THE NUMBER OF THE DESIRED CHOICE, OR PRESS <ENTER> TO ACCEPT THE
    DEFAULT: 1


================================================================================
Aeroscout Check
```

```
--------------

The system appears to have Aeroscout Engine installed.
If you choose "Continue", the Aeroscout Engine and licenses will be removed.
Tags will continue to be tracked using the Cisco Tag Engine.


  ->1- Exit
    2- Continue

ENTER THE NUMBER OF THE DESIRED CHOICE, OR PRESS <ENTER> TO ACCEPT THE
   DEFAULT: 2

================================================================================
Current Role - Primary
---------------------

High Availability Role is set to Primary from previous installation.
To change role to Secondary or re-configure high availability settings, please
execute setup.sh after installation is completed.

================================================================================
Auto Startup
------------

The Cisco MSE is configured to startup automatically at system boot up.
You can modify this setting using setup.sh after installation is completed.


================================================================================
Installing...
-------------

  [================|================|================|================]
  [----------------|----------------|----------------|----------------]


================================================================================
Database Installation
--------------------

The installer will now install the database. This may take a long time
(up to 30 minutes). Do not cancel the installer during this step.

 Installing Database files

 Step 1/3 - Installing Database files
 Step 1/3 Completed
 Step 2/3 - Configuring Database
 Step 2/3 Completed
 Step 3/3 - Updating patches
 Step 3/3 Completed

 Installation of database completed

================================================================================
Post Installation
-----------------

 Running Post-install scripts

 Step 1/2 - Installing Packages
 Step 1/2 Completed
 Step 2/2 - Configuring System Settings
```

```
 Step 2/2 Completed

 Completed Post install scripts


================================================================================
Upgrade/Install Analytics Service
---------------------------------

This might take a while depending on the size of data on the system

 Step 1 - Installing 7_5 PATCH
 7_5 PATCH installed
 Step 2 - Installing LIQUIBASE PATCH
 LIQUIBASE PATCH installed
 Step 3 - Installing AGGREGATION PATCH
 Starting AGGREGATION PATCH at 22:57
 AGGREGATION PATCH completed at 22:59
 Analytics upgrade is Complete



================================================================================
Installation complete for upgrade
--------------------------------

Congratulations. Cisco Mobility Services Engine has been successfully installed
at:

/opt/mse

!!!! IMPORTANT NOTE !!!!

The system is minimally configured right now. It is strongly recommended that
you run the setup script under /opt/mse/setup/setup.sh to configure all
appliance related parameters immediately after installation is complete.
```

Reboot the system after the successful upgrade to the MSE.

```
System components have been updated during installation.
Do you want to reboot now or later?

  ->1- Now
    2- Later

ENTER THE NUMBER OF THE DESIRED CHOICE, OR PRESS <ENTER> TO ACCEPT THE
   DEFAULT: 1
Rebooting system now....

Broadcast message from root (Thu Jul 24 23:11:52 2014):

The system is going down for reboot NOW!
```

Mandatory Parameters

Configure the host name

```
Current hostname=[mse]
Configure hostname? (Y)es/(S)kip/(U)se default [Yes]:Y
```

The host name should be a unique name that can identify the device on the network. The hostname should start with a letter, end with a letter or number, and contain only letters, numbers, and dashes.

```
Enter a host name [mse]: mse-j05
```

Enter a domain name for the network domain to which this device belongs. The domain name should start with a letter, and it should end with a valid domain name suffix such as *.com*. It must contain only letters, numbers, dashes, and dots.

```
Current domain=[]
Configure domain name? (Y)es/(S)kip/(U)se default [Yes]: s

Current IP address=[1.1.1.10]
Current eth0 netmask=[255.255.255.0]
Current gateway address=[1.1.1.1]
Configure eth0 interface parameters? (Y)es/(S)kip/(U)se default [Yes]: Y
```

Enter **Yes** if you want to provide information for Ethernet-0 (eth0) interface.

✎

Note   A network administrator can provide you with the IP address, network mask, and default gateway address for the prompts that follow.

```
Enter an IP address for first ethernet interface of this machine.

Enter eth0 IP address [1.1.1.10]: 172.19.35.236

Enter the network mask for IP address 172.19.35.236.

Enter network mask [255.255.255.0]: 255.255.254.0

Enter a default gateway address for this machine.

Note that the default gateway must be reachable from the first ethernet interface.

Enter default gateway address [1.1.1.1]:172.19.34.1

The second ethernet interface is currently disabled for this machine.

Configure eth1 interface parameters? (Y)es/(S)kip/(U)se default [Yes]:s
```

Enter **Yes** if you want to provide information for a second ethernet (eth1) interface.

✎

Note   Entry of a second ethernet interface (eth1) can be skipped by entering **skip**.

Enter DNS information.

```
Domain Name Service (DNS) Setup
DNS is currently enabled.
No DNS servers currently defined
Configure DNS related parameters? (Y)es/(S)kip/(U)se default [Yes]: s
```

Enter time zone information.

✎

Note Communications between the mobility services engine, Cisco Prime Infrastructure, and the controller are in universal time code (UTC). Local time zones are configured on the mobility services engine to assist network operations center personnel in locating events within logs. Configuring NTP on each system provides devices with the UTC time.

```
Current timezone=[America/New_York]
Configure timezone? (Y)es/(S)kip/(U)se default [Yes]: y

Enter the current date and time.

Please identify a location so that time zone rules can be set correctly.
Please select a continent or ocean.
 1) Africa
 2) Americas
 3) Antarctica
 4) Arctic Ocean
 5) Asia
 6) Atlantic Ocean
 7) Australia
 8) Europe
 9) Indian Ocean
10) Pacific Ocean
11) UTC - I want to use Coordinated Universal Time.
12) Return to previous setup step (^).
#? 2
Please select a country.
 1) Anguilla                27) Honduras
 2) Antigua & Barbuda       28) Jamaica
 3) Argentina               29) Martinique
 4) Aruba                   30) Mexico
 5) Bahamas                 31) Montserrat
 6) Barbados                32) Netherlands Antilles
 7) Belize                  33) Nicaragua
 8) Bolivia                 34) Panama
 9) Brazil                  35) Paraguay
10) Canada                  36) Peru
11) Cayman Islands          37) Puerto Rico
12) Chile                   38) St Barthelemy
13) Colombia                39) St Kitts & Nevis
14) Costa Rica              40) St Lucia
15) Cuba                    41) St Martin (French part)
16) Dominica                42) St Pierre & Miquelon
17) Dominican Republic      43) St Vincent
18) Ecuador                 44) Suriname
19) El Salvador             45) Trinidad & Tobago
20) French Guiana           46) Turks & Caicos
21) Greenland               47) United States
22) Grenada                 48) Uruguay
23) Guadeloupe              49) Venezuela
24) Guatemala               50) Virgin Islands (UK)
25) Guyana                  51) Virgin Islands (US)
26) Haiti
#? 47
Please select one of the following time zone regions.
 1) Eastern Time
 2) Eastern Time - Michigan - most locations
 3) Eastern Time - Kentucky - Louisville area
 4) Eastern Time - Kentucky - Wayne County
 5) Eastern Time - Indiana - most locations
 6) Eastern Time - Indiana - Daviess, Dubois, Knox & Martin Counties
 7) Eastern Time - Indiana - Pulaski County
```

```
 8) Eastern Time - Indiana - Crawford County
 9) Eastern Time - Indiana - Pike County
10) Eastern Time - Indiana - Switzerland County
11) Central Time
12) Central Time - Indiana - Perry County
13) Central Time - Indiana - Starke County
14) Central Time - Michigan - Dickinson, Gogebic, Iron & Menominee Counties
15) Central Time - North Dakota - Oliver County
16) Central Time - North Dakota - Morton County
17) Mountain Time
18) Mountain Time - south Idaho & east Oregon
19) Mountain Time - Navajo
20) Mountain Standard Time - Arizona
21) Pacific Time
22) Alaska Time
23) Alaska Time - Alaska panhandle
24) Alaska Time - Alaska panhandle neck
25) Alaska Time - west Alaska
26) Aleutian Islands
27) Hawaii
#? 21

The following information has been given:

        United States
        Pacific Time

Therefore TZ='America/Los_Angeles' will be used.
Local time is now:      Fri Feb 25 13:22:18 PST 2011.
Universal Time is now:  Fri
Is the above information OK?
1) Yes
2) No
#? y
Please enter 1 for Yes, or 2 for No.
#? 1
```

Enter NTP server information.

Note   The mobility services engine and its associated controllers must be mapped to the same NTP server and the same Cisco Prime Infrastructure server. An NTP server is required to automatically synchronize time between the controller, Cisco Prime Infrastructure, and the mobility services engine.

```
Network Time Protocol (NTP) Setup.

If you choose to enable NTP, the system time will be
configured from NTP servers that you select. Otherwise,
you will be prompted to enter the current date and time.

NTP is currently disabled.
Configure NTP related parameters? (Y)es/(S)kip/(U)se default [Yes]: s

Current timeofday=[Fri Feb 25 13:22:29 PST 2011]
Configure time of day? (Y)es/(S)kip [Skip]: s

Enable NTP (yes/no) [no]: y
Default NTP server 1=[time.nist.gov]
Enter NTP server name or address:
NTP server address must be in the form #.#.#.3, where # is 0 to 255 hexadecimal :
separated v6 address.
```

```
Enter NTP server name or [time.nist.gov]:
Enter another NTP server IP address (or none) [none]:
Configure NTP Authentication ? (Y)es/(S)kip/(U)se default [Skip]: y
Enter NTP Auth key Number [1]:
Enter NTP Auth key Value (String) [Secret]:
Do you want to continue (yes/no) [no]: y
```

✎
Note   There is warning 'Server is already configured', if NTP server address given by you is reachable and then you enter the same address as NTP server 2.

✎
Note   If you enter the server name while configuring NTP settings and DNS is not configured, then there is warning 'Please configure DNS and then reconfigure NTP settings'. The configuration exits to the main menu list.

A login banner appears when a user logs in through the console or SSH. This example shows the default banner. You can change the text that appears in this banner in the steps below. The banner is usually used to warn users that they are entering a private system.

```
Current Login Banner = [Cisco Mobility Services Engine]
Configure login banner (Y)es/(S)kip/(U)se default [Yes]: s

System console is not restricted.
Configure system console restrictions? (Y)es/(S)kip/(U)se default [Yes]: s

SSH root access is currently enabled.
Configure ssh access for root (Y)es/(S)kip/(U)se default [Yes]: s

Single user mode password check is currently disabled.
Configure single user mode password check (Y)es/(S)kip/(U)se default [Yes]: s

Configure root password? (Y)es/(S)kip/(U)se default [Yes]: s
Changing password for user root.

You can now choose the new password.

A valid password should be a mix of upper and lower case letters,
digits, and other characters. You can use an 8 character long
password with characters from at least 3 of these 4 classes or a 7 character long password
containing characters from all the classes. An upper case letter that begins the password
and a digit that ends it do not count towards the number of character classes used.

Enter new password:
Re-type new password:
passwd: all authentication tokens updated successfully.

Login and password strength related parameter setup
Maximum number of days a password may be used : 99999
Minimum number of days allowed between password changes : 0
Minimum acceptable password length : 8
Login delay after failed login : 5
Checking for strong passwords is currently enabled.

Configure login/password related parameters? (Y)es/(S)kip/(U)se default [Yes]: s
```

You can also configure a *strong* (Grand Unified Bootloader [GRUB]) password. A strong password must have a minimum of nine characters and must include two lowercase letters, two digits and two special characters (such as $ and #). An error message displays if you enter an inadequate password.

⚠

Caution   If you forget the GRUB password, you cannot login and you will need to contact TAC to arrange for a Return Materials Authorization (RMA).

Note   If a *strong* password is not enabled, a password can be of any length.

Note   Passwords defined *before* a strong password is set are not affected by the *strong* password setting. Only those passwords that are set *after* the strong password is set are affected. For example, *strong* passwords will be required for passwords set later in this script, such as the Prime Infrastructure password (as noted in example below) and as passwords expire.

```
GRUB password is not currently configured.
Configure GRUB password (Y)es/(D)isable/(S)kip/(U)se default [Yes]: s

GRUB is the Linux bootloader. Setting a password for the GRUB loader means that each time
the appliance is powered up, you will be prompted for the GRUB password you configure
here.

************************************************
!! WARNING !!

If the GRUB password is forgotten, the appliance will be unusable as it cannot be booted
up successfully. Do not configure this option unless it is required.

************************************************
Enter GRUB Password:
Confirm GRUB Password:
```

You can configure the Prime Infrastructure Communication username and password using the mobility services engine setup.sh script file.

Scenarios that you might encounter while configuring the Prime Infrastructure username and password are as follows:

- If you configure a new Prime Infrastructure username and password, the password provided is applicable for the new Prime Infrastructure username created.

- If you configure only a Prime Infrastructure username without configuring the Prime Infrastructure password, then the default password *admin* is applied to the configured username.

- If you configure only a Prime Infrastructure password without configuring the Prime Infrastructure username, then the password for the admin user is changed.

- If you configure an existing user name for the Prime Infrastructure username and also configure the password, then the password for that existing user is changed.

> **Note**   These users are API users, and they do not have corresponding OS users on the mobility services engine appliance.

Enter **Y** to enable and define a *Prime Infrastructure password*.

> **Note**   This password does not define an individual user password for access to the Cisco Prime Infrastructure GUI. This password is used for SOAP/XML authentication between systems (such as mobility services engines) and Cisco Prime Infrastructure.

```
Configure Prime Infrastructure communication username? (Y)es/(S)kip/(U)se default [Yes]: s

Configure Prime Infrastructure communication password? (Y)es/(S)kip/(U)se default [Yes]: s
```

> **Note**   It is recommended that you set a BIOS password to prevent unauthorized BIOS access.

All of the information that was entered into the install script appears on the screen.

```
Please verify the following setup information.
--------------------------------------------------------------------------
Host name= mse-j05
Eth0 IP address=172.19.35.236, Eth0 network mask=255.255.254.0
Default gateway=171.19.34.1
Time zone=America/Los_Angeles
----------------------------------------------------------

You may enter "yes" to proceed with configuration, "no" to make
more changes, or "^" to go back to the previous step.
```

After the script configuration appears on the screen, you are asked to verify all the setup information you provided. You can enter **Yes** to proceed with the configuration, **No** to make more changes, or **^** to go back to the previous step.

```
Is the above information correct (yes, no, or ^):
```

If you enter **yes**, the configuration information is applied. Cisco recommends that you reboot the system when prompted to ensure that the changes are applied.

> **Note**   The message "***Configuration successful***" appears on the screen when the configuration is complete.

The next time you log in using *root*, only the Linux shell prompt appears and not the setup script. You can rerun the setup script at any time to change settings by logging in as *root* and running **/opt/mse/setup/setup.sh**.

The setup script generates a log file that can be found at **/opt/mse/setup/setup.log**.

Configuring an NTP Server

You can configure NTP servers to set up the time and date of the mobility services engine.

> **Note** You are automatically prompted to enable NTP and enter NTP server IP addresses as part of the automatic installation script. For more details on the automatic installation script, refer to the "Configuring the Mobility Services Engine" section on page 2-29.

> **Note** If you need to add or change an NTP server installation after a mobility services engine install, rerun the automatic installation script. You can configure the NTP server without adjusting the other values by tabbing through the script. To rerun the automatic script, log in as *root* and run **/opt/mse/setup/setup.sh**.

> **Note** For more information on the NTP configuration, consult the Linux configuration guide.

Launching the Mobility Services Engine

To configure a mobility services engine to automatically launch after bootup, enter:

```
[root@mse-server1]# chkconfig msed on
```

To start the image manually, enter: **/etc/init.d/msed start**

Verifying the Mobility Services Engine Software State

You can verify the mobility services engine software state at any time. In the mobility services engine CLI interface, enter: **/etc/init.d/msed status**.

If the mobility services engine is running, the command output looks like this example:

```
-------------
Server Config
-------------
Product name: Cisco Mobility Services Engine
Version: x.x.x.x
Hw Version: none
Hw Product Identifier: none
Hw Serial Number: none
Use HTTPS: true
HTTPS Port: 443
Use HTTP: false
HTTP Port: 80
Legacy HTTPS: false
Legacy Port: 8001
Session timeout in mins: 30
DB backup in days: 0

--------------
Server Monitor
--------------
Start time: Wed Sept 30 15:24:36 EDT 2008
Server current time: Fri May 30 19:08:15 EDT 2008
Server timezone: America/New_York
Server timezone offset: -18000000
--------------
Service Engine (1):
```

```
--------------
NAME: Location Service
VERSION: x.x.x.x
--------------
Location Service Monitor
--------------
Log Modules: 262143
Log Level: INFO
Days to keep events: 2
Keep absent data in mins: 1440
Restarts: 1
Used Memory (bytes): 129851856
Allocated Memory (bytes): 3087007744
Max Memory (bytes): 3087007744
DB virtual memory (kbytes): 0
DB virtual memory limit (bytes): 256000000
DB disk memory (bytes): 4128768
DB free size (kbytes): 2856
Active Elements: 0
Active Clients: 0
Active Tags: 0
Active Rogues: 0
Active Elements Limit: 18000
Active Sessions: 0
Clients Not Tracked due to the limiting: 0
Tags Not Tracked due to the limiting: 0
Rogues Not Tracked due to the limiting: 0
Total Elements Not Tracked due to the limiting: 0
```

If the mobility services engine is not running, the command output looks like this example:

```
MSE Platform is down
```

Manually Stopping Mobility Services Engine Software

The mobility services engine software automatically runs after initial configuration and after each reboot.

Follow these steps to manually stop and restart the software:

Step 1   To stop the software, enter **/etc/init.d/msed stop**.

Step 2   To check status, enter **/etc/init.d/msed status**.

Step 3   To start the software, enter **/etc/init.d/msed start**.

Manually Restarting a Running Mobility Services Engine

Step 1   To restart a running mobility services engine, enter **/etc/init.d/msed restart**.

Updating Mobility Services Engine Software

You can update the mobility services engine using the Cisco Prime Infrastructure or manually download the software using a console port connected to the mobility services engine.

> **Note**   If MSE is unreachable on Prime Infrastructure soon after an upgrade, you must reboot the MSE using this command as root user on the MSE: `run reboot linux`.

> **Note**   For the latest Cisco Prime Infrastructure and mobility services engine compatibility and installation notes for a given release, refer to the appropriate release note at the following link: http://www.cisco.com/en/US/products/ps9742/tsd_products_support_series_home.html

Before downloading and updating software on the mobility services engine, note the following:

- The mobility services engine (server) image is compressed. The software image automatically decompresses during its download from Cisco Prime Infrastructure.
- Approximately 5 minutes are required for the newly loaded mobility services engine software version to appear on the Cisco Prime Infrastructure **Services > Mobility Services** window (Figure 2-11). Cisco Prime Infrastructure queries for mobility services engine connectivity and database updates every 5 minutes by default.

Downloading Software Using Cisco Prime Infrastructure

To download software to a mobility services engine using Cisco Prime Infrastructure, follow these steps:

Step 1   Verify that you can ping the mobility services engine from Cisco Prime Infrastructure or an external FTP server, whichever you are going to use for the image download.

Step 2   In Cisco Prime Infrastructure, choose **Services > Mobility Services** (Figure 2-11).

Step 3   Click the name of the mobility services engine to which you want to download software.

Step 4   Choose **Maintenance** (left panel).

Step 5   Choose **Download Software**.

Figure 2-11   *Mobility Services Window*
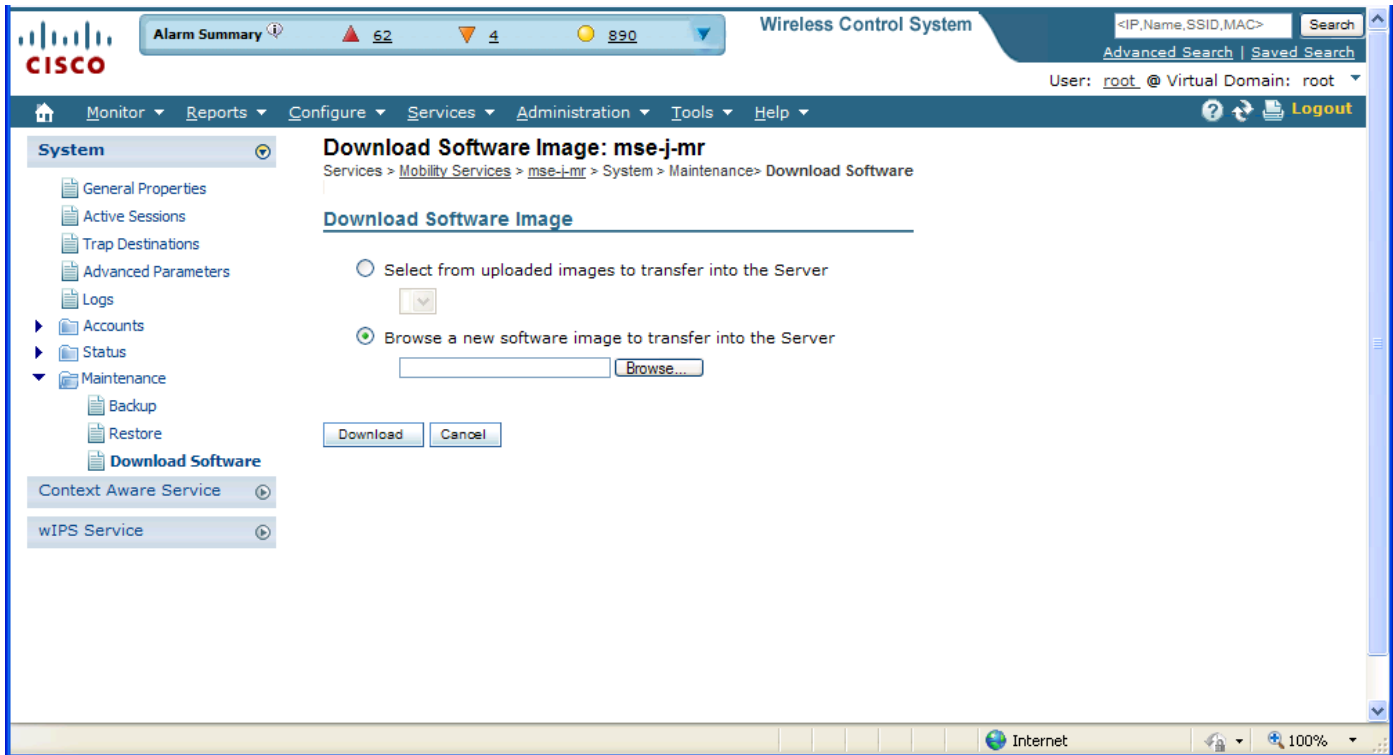
Step 6   To download software, do one of the following:

- To download software listed in the Cisco Prime Infrastructure directory, select **Select from uploaded images to transfer into the Server**. Then, choose a binary image from the drop-down menu.

    Cisco Prime Infrastructure downloads the binary images listed in the drop-down menu into the FTP server directory you have specified during the Cisco Prime Infrastructure installation.

- To use downloaded software available locally or over the network, select the **Browse a new software image to transfer into the Server** and click **Browse**. Locate the file and click **Open**.

Step 7   Click **Download** to send the software to the /opt/installers directory on the mobility services engine.

Step 8   After the image has been transferred to the mobility service engine, log in to the mobility services engine CLI and run the installer image from the /opt/installers directory by entering the **./image-name** command.

Step 9   To run the software, enter **/etc/init.d/msed start**.

Step 10   To stop the software, enter **/etc/init.d/msed stop** and to check status enter **/etc/init.d/msed status**.

Manually Downloading Software

If you do not want to automatically update the mobility services engine software using Cisco Prime Infrastructure, follow these steps to upgrade the software manually using a local (console) or remote (SSH) connection.

Step 1   Transfer the new mobility services engine image onto the hard drive.

    a.   Log in as root and use the binary setting to send the software image from an external FTP server root directory.

       An example software image file name is *CISCO-MSE-L-K9-x-x-x-x-64bit.bin.gz,* and it changes with each release.

       Note   The mobility services engine image is compressed at this point.

       Note   The default login name for the FTP server is *ftp-user*.

       Your entries should look like this example:

```
# cd /opt/installers
# ftp <FTP Server IP address>
Name: <login>
Password: <password>
binary
get CISCO-MSE-L-K9-x-x-x-x-64bit.bin.gz
<CTRL-Z>
#
```

    b.   Verify that the image (*CISCO-MSE-L-K9-x-x-x-x-64bit.bin.gz*) is in the mobility services engine /opt/installers directory.

    c.   To decompress (unzip) the image file enter:

       gunzip *CISCO-MSE-L-K9-x-x-x-x-64bit.bin.gz*

       The decompression yields a *bin* file.

    d.   Make sure that the *CISCO-MSE-L-K9-x-x-x-x.bin* file has execute permissions for the root user. If not, enter:

       chmod 755 *CISCO-MSE-L-K9-x-x-x-x.bin*

Step 2   To manually stop the mobility services engine, login as *root* and enter:

    /etc/init.d/msed stop

Step 3   To install the new mobility services engine image, enter:

    /opt/installers/*CISCO-MSE-L-K9-x-x-x-x.bin*

Step 4   To start the new mobility services software, by enter:

    /etc/init.d/msed start

Caution   Do not complete the next step, which uninstalls the script files, unless the system instructs you to do so. Removing the files unnecessarily erases your historical data.

Step 5   To uninstall the mobility services engine's script files, enter:

    /opt/mse/uninstall

Recovering a Lost Root Password

If you lose or forget the root password for a mobility services engine, follow these steps below.

Note The following steps must be done via a connection over the console port, not by connecting a keyboard, mouse and monitor to the unit.

Step 1 When the GRUB screen comes up, press **Esc** to enter the boot menu.

If you do not see the GRUB menu on your serial console, go to Step 4.

Caution If you forget the GRUB password, you cannot login and you will need to contact TAC to arrange for an RMA.

Step 2 Press **e** to edit.

Step 3 Navigate to the line beginning with "kernel," and press **e.**

If there is no "rhgb quiet console=ttys0,9600" string on the line, at the end of the line, enter a space and enter "rhgb quiet console=ttys0,9600". Then enter a space and the number one (1).

Press **Enter** to save this change.

Step 4 When you connect to the MSE via serial console and reboot, if the GRUB screen does not show up, complete the following steps:

a. Connect a monitor and keyboard to the MSE and reboot.

b. Once you see the GRUB screen on the attached monitor, press **Esc** to enter the boot menu.

c. Press **e** to edit

d. Navigate to the line beginning with "kernel," and press **e**.

Enter a space and the number one (1). The modified line should appear as follows:

```
/vmlinuz-2.6.18-53.el5 ro root=/dev/VolGroup00/LogVol00  1
```

Press **Enter** to save your changes. Continue your interaction using the monitor and keyboard.

Step 5 Press **b** to begin boot sequence.

At the end of the boot sequence, a shell prompt appears.

Note The shell prompt does not appear if you have set up a single user mode password.

Step 6 You can change the root password by entering the **passwd** command.

Step 7 Enter and confirm the new password.

Step 8 Restart the machine.

Safety Considerations and Translated Safety Warnings

This appendix lists safety notices for the Cisco 3355 Mobility Services Engine.

The following safety considerations and safety warnings appear in this appendix:

Safety Considerations

Keep these guidelines in mind when installing mobility services engine:

• Verify that the ambient temperature remains between 10 and 35° C (50 and 95° F), taking into account the elevated temperatures that occur when they are installed in a rack.

• When multiple mobility services engines are mounted in an equipment rack, be sure that the power source is sufficiently rated to safely run all of the equipment in the rack.

• Verify the integrity of the ground before installing mobility services engines in an equipment rack.

Warning Definition

Warning   IMPORTANT SAFETY INSTRUCTIONS

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device. Statement 1071

SAVE THESE INSTRUCTIONS

Waarschuwing   BELANGRIJKE VEILIGHEIDSINSTRUCTIES

Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van de standaard praktijken om ongelukken te voorkomen. Gebruik het nummer van de verklaring onderaan de waarschuwing als u een vertaling van de waarschuwing die bij het apparaat wordt geleverd, wilt raadplegen.

BEWAAR DEZE INSTRUCTIES

Varoitus   TÄRKEITÄ TURVALLISUUSOHJEITA

Tämä varoitusmerkki merkitsee vaaraa. Tilanne voi aiheuttaa ruumiillisia vammoja. Ennen kuin käsittelet laitteistoa, huomioi sähköpiirien käsittelemiseen liittyvät riskit ja tutustu onnettomuuksien yleisiin ehkäisytapoihin. Turvallisuusvaroitusten käännökset löytyvät laitteen mukana toimitettujen käännettyjen turvallisuusvaroitusten joukosta varoitusten lopussa näkyvien lausuntonumeroiden avulla.

SÄILYTÄ NÄMÄ OHJEET

Attention   **IMPORTANTES INFORMATIONS DE SÉCURITÉ**

Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant entraîner des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers liés aux circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions des avertissements figurant dans les consignes de sécurité traduites qui accompagnent cet appareil, référez-vous au numéro de l'instruction situé à la fin de chaque avertissement.

CONSERVEZ CES INFORMATIONS

Warnung   **WICHTIGE SICHERHEITSHINWEISE**

Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu Verletzungen führen kann. Machen Sie sich vor der Arbeit mit Geräten mit den Gefahren elektrischer Schaltungen und den üblichen Verfahren zur Vorbeugung vor Unfällen vertraut. Suchen Sie mit der am Ende jeder Warnung angegebenen Anweisungsnummer nach der jeweiligen Übersetzung in den übersetzten Sicherheitshinweisen, die zusammen mit diesem Gerät ausgeliefert wurden.

BEWAHREN SIE DIESE HINWEISE GUT AUF.

Avvertenza   **IMPORTANTI ISTRUZIONI SULLA SICUREZZA**

Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di intervenire su qualsiasi apparecchiatura, occorre essere al corrente dei pericoli relativi ai circuiti elettrici e conoscere le procedure standard per la prevenzione di incidenti. Utilizzare il numero di istruzione presente alla fine di ciascuna avvertenza per individuare le traduzioni delle avvertenze riportate in questo documento.

CONSERVARE QUESTE ISTRUZIONI

Advarsel   **VIKTIGE SIKKERHETSINSTRUKSJONER**

Dette advarselssymbolet betyr fare. Du er i en situasjon som kan føre til skade på person. Før du begynner å arbeide med noe av utstyret, må du være oppmerksom på farene forbundet med elektriske kretser, og kjenne til standardprosedyrer for å forhindre ulykker. Bruk nummeret i slutten av hver advarsel for å finne oversettelsen i de oversatte sikkerhetsadvarslene som fulgte med denne enheten.

TA VARE PÅ DISSE INSTRUKSJONENE

Aviso   **INSTRUÇÕES IMPORTANTES DE SEGURANÇA**

Este símbolo de aviso significa perigo. Você está em uma situação que poderá ser causadora de lesões corporais. Antes de iniciar a utilização de qualquer equipamento, tenha conhecimento dos perigos envolvidos no manuseio de circuitos elétricos e familiarize-se com as práticas habituais de prevenção de acidentes. Utilize o número da instrução fornecido ao final de cada aviso para localizar sua tradução nos avisos de segurança traduzidos que acompanham este dispositivo.

GUARDE ESTAS INSTRUÇÕES

■   **Warning Definition**

¡Advertencia!   INSTRUCCIONES IMPORTANTES DE SEGURIDAD

Este símbolo de aviso indica peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considere los riesgos de la corriente eléctrica y familiarícese con los procedimientos estándar de prevención de accidentes. Al final de cada advertencia encontrará el número que le ayudará a encontrar el texto traducido en el apartado de traducciones que acompaña a este dispositivo.

GUARDE ESTAS INSTRUCCIONES

Varning!   VIKTIGA SÄKERHETSANVISNINGAR

Denna varningssignal signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanliga förfaranden för att förebygga olyckor. Använd det nummer som finns i slutet av varje varning för att hitta dess översättning i de översatta säkerhetsvarningar som medföljer denna anordning.

SPARA DESSA ANVISNINGAR

Figyelem   FONTOS BIZTONSÁGI ELOÍRÁSOK

Ez a figyelmezeto jel veszélyre utal. Sérülésveszélyt rejto helyzetben van. Mielott bármely berendezésen munkát végezte, legyen figyelemmel az elektromos áramkörök okozta kockázatokra, és ismerkedjen meg a szokásos balesetvédelmi eljárásokkal. A kiadványban szereplo figyelmeztetések fordítása a készülékhez mellékelt biztonsági figyelmeztetések között található; a fordítás az egyes figyelmeztetések végén látható szám alapján keresheto meg.

ORIZZE MEG EZEKET AZ UTASÍTÁSOKAT!

Предупреждение   ВАЖНЫЕ ИНСТРУКЦИИ ПО СОБЛЮДЕНИЮ ТЕХНИКИ БЕЗОПАСНОСТИ

Этот символ предупреждения обозначает опасность. То есть имеет место ситуация, в которой следует опасаться телесных повреждений. Перед эксплуатацией оборудования выясните, каким опасностям может подвергаться пользователь при использовании электрических цепей, и ознакомьтесь с правилами техники безопасности для предотвращения возможных несчастных случаев. Воспользуйтесь номером заявления, приведенным в конце каждого предупреждения, чтобы найти его переведенный вариант в переводе предупреждений по безопасности, прилагаемом к данному устройству.

СОХРАНИТЕ ЭТИ ИНСТРУКЦИИ

警告   重要的安全性说明

此警告符号代表危险。您正处于可能受到严重伤害的工作环境中。在您使用设备开始工作之前，必须充分意识到触电的危险，并熟练掌握防止事故发生的标准工作程序。请根据每项警告结尾提供的声明号码来找到此设备的安全性警告说明的翻译文本。

请保存这些安全性说明

警告   安全上の重要な注意事項

「危険」の意味です。人身事故を予防するための注意事項が記述されています。装置の取り扱い作業を行うときは、電気回路の危険性に注意し、一般的な事故防止策に留意してください。警告の各国語版は、各注意事項の番号を基に、装置に付属の「Translated Safety Warnings」を参照してください。

これらの注意事項を保管しておいてください。

More Than One Power Supply

Warning   **This unit might have more than one power supply connection. All connections must be removed to de-energize the unit.** Statement 1028

Waarschuwing   **Deze eenheid kan meer dan één stroomtoevoeraansluiting bevatten. Alle aansluitingen dienen ontkoppeld te worden om de eenheid te ontkrachten.**

Varoitus   **Tässä laitteessa voi olla useampia kuin yksi virtakytkentä. Kaikki liitännät on irrotettava, jotta jännite poistetaan laitteesta.**

Attention   **Cette unité peut avoir plus d'une connexion d'alimentation. Pour supprimer toute tension et tout courant électrique de l'unité, toutes les connexions d'alimentation doivent être débranchées.**

Warnung   **Dieses Gerät kann mehr als eine Stromzufuhr haben. Um sicherzustellen, dass der Einheit kein Strom zugeführt wird, müssen alle Verbindungen entfernt werden.**

Avvertenza   **Questa unità può avere più di una connessione all'alimentazione elettrica. Tutte le connessioni devono essere staccate per togliere la corrente dall'unità.**

Advarsel   **Denne enheten kan ha mer enn én strømtilførselskobling. Alle koblinger må fjernes fra enheten for å utkoble all strøm.**

Aviso   **Esta unidade poderá ter mais de uma conexão de fonte de energia. Todas as conexões devem ser removidas para desligar a unidade.**

¡Advertencia!   **Puede que esta unidad tenga más de una conexión para fuentes de alimentación. Para cortar por completo el suministro de energía, deben desconectarse todas las conexiones.**

■ **More Than One Power Supply**

Varning! **Denna enhet har eventuellt mer än en strömförsörjningsanslutning. Alla anslutningar måste tas bort för att göra enheten strömlös.**

Előfordulhat, hogy a készülék többszörösen van csatlakoztatva az áramforráshoz. A készülék áramtalanításához mindegyik csatlakozást meg kell szüntetni.

Предупреждение В данном устройстве может использоваться несколько подключений к электросети. Чтобы обесточить устройство, необходимо отключить все эти подключения.

警告 此部件连接的电源可能不止一个。必须将所有电源断开才能停止给该部件供电。

警告 この装置には、複数の電源が接続されている場合があります。装置の電源を完全にオフにするには、すべての電源を切断する必要があります。

주의 본 장치에는 2개 이상의 전원 공급 연결 단자가 있을 수 있습니다. 이 장치의 전원을 차단하려면 모든 연결 단자를 제거해야 합니다.

Aviso **Esta unidade pode ter mais de uma conexão de fonte de alimentação. Todas as conexões devem ser removidas para interromper a alimentação da unidade.**

Advarsel **Denne enhed har muligvis mere end en strømforsyningstilslutning. Alle tilslutninger skal fjernes for at aflade strømmen fra enheden.**

تحذير **قد تتضمّن هذه الوحدة أكثر من اتصال بمورد الطاقة. يجب فصل كافة التوصيلات حتى يمكن إفراغ طاقة الوحدة.**

Upozorenje **Uređaj može imati više priključaka za izvore napajanja. Za potpuno isključivanje napajanja potrebno je iskopčati sve priključke.**

Upozornění **Toto zařízení může být připojeno k více než jednomu zdroji napájení. Aby se zařízení zcela odpojilo od proudu, musí být odpojeno od všech zdrojů napájení.**

Προειδοποίηση Αυτή η συσκευή ίσως να έχει περισσότερες συνδέσεις τροφοδοσίας.
Για να απενεργοποιηθεί η συσκευή, πρέπει να αφαιρεθούν όλες οι συνδέσεις.

אזהרה ייתכן שביחידה זו קיים יותר מחיבור אחד לספק כוח. יש להסיר את כל החיבורים כדי להפסיק את אספקת המתח ליחידה.

Уредот може да има повеќе од еден приклучок за напојување. Сите приклучоци мора да се извадат за да се прекине доводот на енергија во уредот.

Ostrzeżenie **To urządzenie może mieć podłączone więcej niż jedno źródło zasilania. Aby całkowicie odciąć dopływ energii do urządzenia, należy odłączyć wszystkie źródła zasilania.**

Upozornenie	Toto zariadenie môže byť pripojené k viac ako jednému zdroju napájania. Aby sa zariadenie odpojilo od prúdu, musí byť odpojené od všetkých zdrojov.

警告	本裝置可能有一個以上的供電連線。必須移除所有連線才能將裝置斷電。

Installation Instructions

Warning	Read the installation instructions before connecting the system to the power source. Statement 1004
Waarschuwing	Raadpleeg de installatie-instructies voordat u het systeem op de voedingsbron aansluit.
Varoitus	Lue asennusohjeet ennen järjestelmän yhdistämistä virtalähteeseen.
Attention	Avant de brancher le système sur la source d'alimentation, consulter les directives d'installation.
Warnung	Vor dem Anschließen des Systems an die Stromquelle die Installationsanweisungen lesen.
Avvertenza	Consultare le istruzioni di installazione prima di collegare il sistema all'alimentatore.
Advarsel	Les installasjonsinstruksjonene før systemet kobles til strømkilden.
Aviso	Leia as instruções de instalação antes de ligar o sistema à fonte de energia.
¡Advertencia!	Lea las instrucciones de instalación antes de conectar el sistema a la red de alimentación.
Varning!	Läs installationsanvisningarna innan du kopplar systemet till strömförsörjningsenheten.
Figyelem	Mielőtt áramforráshoz csatlakoztatná a rendszert, olvassa el az üzembe helyezési útmutatót!
Предупреждение	Перед подключением устройства к источнику электропитания ознакомьтесь с данной инструкцией по установке.
警告	在将系统与电源连接之前，请仔细阅读安装说明。
警告	必ず設置手順を読んでから、システムを電源に接続してください。
주의	시스템을 전원에 연결하기 전에 설치 지침을 읽으십시오.
Aviso	Leia as instruções de instalação antes de conectar o sistema à fonte de energia.

Upozornění	**Před připojením systému k elektrické síti si prostudujte pokyny k instalaci.**
אזהרה	יש לקרוא את הוראות ההתקנה לפני חיבור המערכת למקור המתח.
Ostrzeżenie	**Przed podłączeniem systemu do źródła zasilania należy przeczytać instrukcje dotyczące instalacji.**
Upozornenie	**Pred pripojením systému k napájaciemu zdroju si prečítajte inštalačné pokyny.**
Opozorilo	**Preden sistem priključite, preberite navodila za priključitev.**
警告	將系統連接供電系統前，請先閱讀安裝指南。
Figyelem	**Mielőtt áramforráshoz csatlakoztatná a rendszert, olvassa el az üzembe helyezési útmutatót!**
Предупреждение	Перед подключением устройства к источнику электропитания ознакомьтесь с данной инструкцией по установке.
警告	在将系统与电源连接之前，请仔细阅读安装说明。
警告	必ず設置手順を読んでから、システムを電源に接続してください。
주의	시스템을 전원에 연결하기 전에 설치 지침을 읽으십시오.
Aviso	Leia as instruções de instalação antes de conectar o sistema à fonte de energia.
Upozornění	**Před připojením systému k elektrické síti si prostudujte pokyny k instalaci.**
אזהרה	יש לקרוא את הוראות ההתקנה לפני חיבור המערכת למקור המתח.
Ostrzeżenie	**Przed podłączeniem systemu do źródła zasilania należy przeczytać instrukcje dotyczące instalacji.**
Upozornenie	**Pred pripojením systému k napájaciemu zdroju si prečítajte inštalačné pokyny.**

Opozorilo   **Preden sistem priključite, preberite navodila za priključitev.**

警告   將系統連接供電系統前，請先閱讀安裝指南。

Ground Conductor Warning

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

Waarschuwing   **Deze apparatuur dient geaard te zijn. De aardingsleiding mag nooit buiten werking worden gesteld en de apparatuur mag nooit bediend worden zonder dat er een op de juiste wijze geïnstalleerde aardingsleiding aanwezig is. Neem contact op met de bevoegde instantie voor elektrische inspecties of met een elektricien als u er niet zeker van bent dat er voor passende aarding gezorgd is.**

Varoitus   **Laitteiden on oltava maadoitettuja. Älä koskaan ohita maajohdinta tai käytä laitteita ilman oikein asennettua maajohdinta. Ota yhteys sähkötarkastusviranomaiseen tai sähköasentajaan, jos olet epävarma maadoituksen sopivuudesta.**

Attention   **Cet équipement doit être mis à la masse. Ne jamais rendre inopérant le conducteur de masse ni utiliser l'équipement sans un conducteur de masse adéquatement installé. En cas de doute sur la mise à la masse appropriée disponible, s'adresser à l'organisme responsable de la sécurité électrique ou à un électricien.**

Warnung   **Dieses Gerät muss geerdet sein. Auf keinen Fall den Erdungsleiter unwirksam machen oder das Gerät ohne einen sachgerecht installierten Erdungsleiter verwenden. Wenn Sie sich nicht sicher sind, ob eine sachgerechte Erdung vorhanden ist, wenden Sie sich an die zuständige Inspektionsbehörde oder einen Elektriker.**

Avvertenza   **Questa apparecchiatura deve essere dotata di messa a terra. Non escludere mai il conduttore di protezione né usare l'apparecchiatura in assenza di un conduttore di protezione installato in modo corretto. Se non si è certi della disponibilità di un adeguato collegamento di messa a terra, richiedere un controllo elettrico presso le autorità competenti o rivolgersi a un elettricista.**

Advarsel   **Dette utstyret må jordes. Omgå aldri jordingslederen og bruk aldri utstyret uten riktig montert jordingsleder. Ta kontakt med fagfolk innen elektrisk inspeksjon eller med en elektriker hvis du er usikker på om det finnes velegnet jordning.**

Aviso   **Este equipamento deve ser aterrado. Nunca anule o fio terra nem opere o equipamento sem um aterramento adequadamente instalado. Em caso de dúvida com relação ao sistema de aterramento disponível, entre em contato com os serviços locais de inspeção elétrica ou um eletricista qualificado.**

■ Ground Conductor Warning

¡Advertencia!	**Este equipo debe estar conectado a tierra. No inhabilite el conductor de tierra ni haga funcionar el equipo si no hay un conductor de tierra instalado correctamente. Póngase en contacto con la autoridad correspondiente de inspección eléctrica o con un electricista si no está seguro de que haya una conexión a tierra adecuada.**
Varning!	**Denna utrustning måste jordas. Koppla aldrig från jordledningen och använd aldrig utrustningen utan en på lämpligt sätt installerad jordledning. Om det föreligger osäkerhet huruvida lämplig jordning finns skall elektrisk besiktningsauktoritet eller elektriker kontaktas.**
Figyelem	**A berendezés csak megfelelő védőföldeléssel működtethető. Ne iktassa ki a földelés csatlakozóját, és ne üzemeltesse a berendezést szabályosan felszerelt földelő vezeték nélkül! Ha nem biztos benne, hogy megfelelő földelés áll rendelkezésbe, forduljon a helyi elektromos hatóságokhoz vagy egy villanyszerelőhöz.**
Предупреждение	Данное устройство должно быть заземлено. Никогда не отключайте провод заземления и не пользуйтесь оборудованием при отсутствии правильно подключенного провода заземления. За сведениями об имеющихся возможностях заземления обратитесь к соответствующим контролирующим организациям по энергоснабжению или к инженеру-электрику.
警告	此设备必须接地。切勿使接地导体失效，或者在没有正确安装接地导体的情况下操作该设备。如果您不能肯定接地导体是否正常发挥作用，请咨询有关电路检测方面的权威人士或电工。
警告	この装置はアース接続する必要があります。アース導体を破損しないよう注意し、アース導体を正しく取り付けないまま装置を稼働させないでください。アース接続が適正であるかどうか分からない場合には、電気検査機関または電気技術者に相談してください。

Figyelem	**A berendezés csak megfelelő védőföldeléssel működtethető. Ne iktassa ki a földelés csatlakozóját, és ne üzemeltesse a berendezést szabályosan felszerelt földelő vezeték nélkül! Ha nem biztos benne, hogy megfelelő földelés áll rendelkezésbe, forduljon a helyi elektromos hatóságokhoz vagy egy villanyszerelőhöz.**
Предупреждение	Данное устройство должно быть заземлено. Никогда не отключайте провод заземления и не пользуйтесь оборудованием при отсутствии правильно подключенного провода заземления. За сведениями об имеющихся возможностях заземления обратитесь к соответствующим контролирующим организациям по энергоснабжению или к инженеру-электрику.

警告   此设备必须接地。切勿使接地导体失效，或者在没有正确安装接地导体的情况下操作该设备。如
        果您不能肯定接地导体是否正常发挥作用，请咨询有关电路检测方面的权威人士或电工。

警告   この装置はアース接続する必要があります。アース導体を破損しないよう注
        意し、アース導体を正しく取り付けないまま装置を稼働させないでください。
        アース接続が適正であるかどうか分からない場合には、電気検査機関または
        電気技術者に相談してください。

Chassis Warning for Rack-Mounting and Servicing

Warning   **To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:** Statement 1006

- **This unit should be mounted at the bottom of the rack if it is the only unit in the rack.**
- **When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.**
- **If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.**

Waarschuwing   **Om lichamelijk letsel te voorkomen wanneer u dit toestel in een rek monteert of het daar een servicebeurt geeft, moet u speciale voorzorgsmaatregelen nemen om ervoor te zorgen dat het toestel stabiel blijft. De onderstaande richtlijnen worden verstrekt om uw veiligheid te verzekeren:**

- **Dit toestel dient onderaan in het rek gemonteerd te worden als het toestel het enige in het rek is.**
- **Wanneer u dit toestel in een gedeeltelijk gevuld rek monteert, dient u het rek van onderen naar boven te laden met het zwaarste onderdeel onderaan in het rek.**
- **Als het rek voorzien is van stabiliseringshulpmiddelen, dient u de stabilisatoren te monteren voordat u het toestel in het rek monteert of het daar een servicebeurt geeft.**

Varoitus   **Kun laite asetetaan telineeseen tai huolletaan sen ollessa telineessä, on noudatettava erityisiä varotoimia järjestelmän vakavuuden säilyttämiseksi, jotta vältytään loukkaantumiselta. Noudata seuraavia turvallisuusohjeita:**

- **Jos telineessä ei ole muita laitteita, aseta laite telineen alaosaan.**
- **Jos laite asetetaan osaksi täytettyyn telineeseen, aloita kuormittaminen sen alaosasta kaikkein raskaimmalla esineellä ja siirry sitten sen yläosaan.**
- **Jos telinettä varten on vakaimet, asenna ne ennen laitteen asettamista telineeseen tai sen huoltamista siinä.**

Attention   Pour éviter toute blessure corporelle pendant les opérations de montage ou de réparation de cette unité en casier, il convient de prendre des précautions spéciales afin de maintenir la stabilité du système. Les directives ci-dessous sont destinées à assurer la protection du personnelþ:

- Si cette unité constitue la seule unité montée en casier, elle doit être placée dans le bas.
- Si cette unité est montée dans un casier partiellement rempli, charger le casier de bas en haut en plaçant l'élément le plus lourd dans le bas.
- Si le casier est équipé de dispositifs stabilisateurs, installer les stabilisateurs avant de monter ou de réparer l'unité en casier.

Warnung   Zur Vermeidung von Körperverletzung beim Anbringen oder Warten dieser Einheit in einem Gestell müssen Sie besondere Vorkehrungen treffen, um sicherzustellen, daß das System stabil bleibt. Die folgenden Richtlinien sollen zur Gewährleistung Ihrer Sicherheit dienen:

- Wenn diese Einheit die einzige im Gestell ist, sollte sie unten im Gestell angebracht werden.
- Bei Anbringung dieser Einheit in einem zum Teil gefüllten Gestell ist das Gestell von unten nach oben zu laden, wobei das schwerste Bauteil unten im Gestell anzubringen ist.
- Wird das Gestell mit Stabilisierungszubehör geliefert, sind zuerst die Stabilisatoren zu installieren, bevor Sie die Einheit im Gestell anbringen oder sie warten.

Avvertenza   Per evitare infortuni fisici durante il montaggio o la manutenzione di questa unità in un supporto, occorre osservare speciali precauzioni per garantire che il sistema rimanga stabile. Le seguenti direttive vengono fornite per garantire la sicurezza personale:

- Questa unità deve venire montata sul fondo del supporto, se si tratta dell'unica unità da montare nel supporto.
- Quando questa unità viene montata in un supporto parzialmente pieno, caricare il supporto dal basso all'alto, con il componente più pesante sistemato sul fondo del supporto.
- Se il supporto è dotato di dispositivi stabilizzanti, installare tali dispositivi prima di montare o di procedere alla manutenzione dell'unità nel supporto.

Advarsel   Unngå fysiske skader under montering eller reparasjonsarbeid på denne enheten når den befinner seg i et kabinett. Vær nøye med at systemet er stabilt. Følgende retningslinjer er gitt for å verne om sikkerheten:

- Denne enheten bør monteres nederst i kabinettet hvis dette er den eneste enheten i kabinettet.
- Ved montering av denne enheten i et kabinett som er delvis fylt, skal kabinettet lastes fra bunnen og opp med den tyngste komponenten nederst i kabinettet.
- Hvis kabinettet er utstyrt med stabiliseringsutstyr, skal stabilisatorene installeres før montering eller utføring av reparasjonsarbeid på enheten i kabinettet.

Aviso   Para se prevenir contra danos corporais ao montar ou reparar esta unidade numa estante, deverá tomar precauções especiais para se certificar de que o sistema possui um suporte estável. As seguintes directrizes ajudá-lo-ão a efectuar o seu trabalho com segurança:

- Esta unidade deverá ser montada na parte inferior da estante, caso seja esta a única unidade a ser montada.
- Ao montar esta unidade numa estante parcialmente ocupada, coloque os itens mais pesados na parte inferior da estante, arrumando-os de baixo para cima.
- Se a estante possuir um dispositivo de estabilização, instale-o antes de montar ou reparar a unidade.

¡Advertencia!   **Para evitar lesiones durante el montaje de este equipo sobre un bastidor, o posteriormente durante su mantenimiento, se debe poner mucho cuidado en que el sistema quede bien estable. Para garantizar su seguridad, proceda según las siguientes instrucciones:**

- **Colocar el equipo en la parte inferior del bastidor, cuando sea la única unidad en el mismo.**
- **Cuando este equipo se vaya a instalar en un bastidor parcialmente ocupado, comenzar la instalación desde la parte inferior hacia la superior colocando el equipo más pesado en la parte inferior.**
- **Si el bastidor dispone de dispositivos estabilizadores, instalar éstos antes de montar o proceder al mantenimiento del equipo instalado en el bastidor.**

Varning!   **För att undvika kroppsskada när du installerar eller utför underhållsarbete på denna enhet på en ställning måste du vidta särskilda försiktighetsåtgärder för att försäkra dig om att systemet står stadigt. Följande riktlinjer ges för att trygga din säkerhet:**

- **Om denna enhet är den enda enheten på ställningen skall den installeras längst ned på ställningen.**
- **Om denna enhet installeras på en delvis fylld ställning skall ställningen fyllas nedifrån och upp, med de tyngsta enheterna längst ned på ställningen.**
- **Om ställningen är försedd med stabiliseringsdon skall dessa monteras fast innan enheten installeras eller underhålls på ställningen.**

Figyelem   **A készülék rackbe történő beszerelése és karbantartása során bekövetkező sérülések elkerülése végett speciális óvintézkedésekkel meg kell őrizni a rendszer stabilitását. A személyes biztonsága érdekében tartsa be a következő szabályokat:**

- **Ha a rackben csak ez az egy készülék található, a rack aljába kell beszerelni.**
- **Ha nincs teljesen tele az a rack, amelybe beszerelik a készüléket, alulról fölfelé haladva töltse fel a racket úgy, hogy a legnehezebb készülék kerüljön a rack aljába.**
- **Ha stabilizáló eszközök is tartoznak a rackhez, szerelje fel a stabilizátorokat, mielőtt beszerelné az egységet a rackbe, vagy karbantartást végezne rajta.**

Предупреждение   Во избежание травм при монтаже и обслуживании устройства в стойке следует принять особые меры предосторожности, чтобы убедиться в устойчивости оборудования.
Для обеспечения безопасности работ необходимо соблюдать следующие правила.

- Если в стойке находится одно устройство, оно должно быть установлено в нижней части.
- При монтаже устройств в частично заполненную стойку устанавливайте оборудование снизу вверх, размещая наиболее тяжелые устройства в нижней части.
- Если стойка снабжена приспособлениями для стабилизации, их необходимо установить до начала монтажа или обслуживания оборудования.

警告   为避免在机架中安装或维修该部件时使身体受伤，您必须采取特殊的预防措施确保系统固定。以下是确保安全的原则：

- 如果此部件是机架中唯一的部件，应将其安装在机架的底部。
- 如果在部分装满的机架中安装此部件，请按从下往上的顺序安装各个部件，并且最重的组件应安装在机架的底部。
- 如果机架配有固定装置，请先装好固定装置，然后再在机架中安装或维修部件。

警告   この装置をラックに設置したり保守作業を行ったりするときは、人身事故を防ぐため、システムが安定しているかどうかを十分に確認する必要があります。次の注意事項に従ってください。

- ラックにこの装置を単独で設置する場合は、ラックの一番下に設置します。
- ラックに別の装置がすでに設置されている場合は、最も重量のある装置を一番下にして、重い順に下から上へ設置します。
- ラックに安定器具が付属している場合は、その安定器具を取り付けてから、装置をラックに設置するか、またはラック内の装置の保守作業を行ってください。

주의   이 장치를 랙에 장착하거나 서비스할 때 신체 부상을 방지하려면, 시스템이 안정된 상태를 유지하도록 특별히 주의해야 합니다. 사용자의 안전을 위해 다음 지침 사항을 준수하십시오.
- 이 장치가 랙에 장착되는 유일한 것일 경우, 랙의 맨 아래 부분에 장착되어야 합니다.
- 부분적으로 차 있는 랙에 이 장치를 장착할 경우, 가장 무거운 장치를 랙의 맨 아래 부분부터 차례로 장착하십시오.
- 안정기가 랙과 함께 제공되는 경우, 이 안정기를 설치한 후 이 장치를 랙에 장착하거나 서비스하십시오

Aviso   **Para evitar lesões corporais ao montar ou dar manutenção a esta unidade em um rack, é necessário tomar todas as precauções para garantir a estabilidade do sistema. As seguintes orientações são fornecidas para garantir a sua segurança:**

- **Se esta for a única unidade, ela deverá ser montada na parte inferior do rack.**
- **Ao montar esta unidade em um rack parcialmente preenchido, carregue-o de baixo para cima com o componente mais pesado em sua parte inferior.**
- **Se o rack contiver dispositivos estabilizadores, instale-os antes de montar ou dar manutenção à unidade existente.**

Advarsel   **For at forhindre legemesbeskadigelse ved montering eller service af denne enhed i et rack, skal du sikre at systemet står stabilt. Følgende retningslinjer er også for din sikkerheds skyld:**

- **Enheden skal monteres i bunden af dit rack, hvis det er den eneste enhed i racket.**
- **Ved montering af denne enhed i et delvist fyldt rack, skal enhederne installeres fra bunden og opad med den tungeste enhed nederst.**
- **Hvis racket leveres med stabiliseringsenheder, skal disse installeres for enheden monteres eller serviceres i racket.**

تحذير   لتجنب حدوث أي إصابات عند تركيب هذه الوحدة، يجب اتباع بعض الاحتياطات لضمان عمل النظام بشكل سليم. يتم ذكر الإرشادات التالية لضمان الأمان.

يجب تركيب هذه الوحدة في الجزء السفلي من الدولاب المتضمن قضبان إذا كانت هذه الوحدة هي الوحدة الوحيدة في الدولاب الذي يحتوي على قضبان.

عند تركيب هذه الوحدة في دولاب شبه ممتلئ، قم برفع الدولاب من الجزء السفلي لأعلى بحيث يكون الجزء الأثقل وزناً أسفل الدولاب.

إذا كان الدولاب المتضمن قضباناً يحتوي على أجهزة حفظ التوازن، قم بتثبيت هذه الأجهزة قبل تركيب الوحدة في الدولاب.

Upozorenje   **Kako ne bi došlo do tjelesnih ozljeda kod postavljanja ili servisiranja uređaja na polici, potrebno je poduzeti mjere predostrožnosti kako bi sustav uvijek bio stabilan. Sigurnost se može osigurati poštivanjem sljedećih smjernica:**
- **Ovaj uređaj treba ugraditi na dno police, ukoliko je to jedini uređaj na polici.**
- **Kod ugradnje uređaja u policu na kojoj se već nalaze drugi uređaji, policu treba opremati počevši od dna, te tako da se na dno stave najteži dijelovi.**
- **Ukoliko su na polici ugrađeni stabilizatori, njih montirajte prije ugradnje ili servisiranja uređaja na polici.**

Upozornění   **Abyste předešli poranění osob při montáži nebo opravě zařízení v montážním rámu, musíte dodržovat zvláštní preventivní opatření pro zajištění udržení stability systému. Pro zajištění bezpečnosti obsluhy jsou určeny následující zásady:**
- **Pokud je toto zařízení jedinou jednotkou v montážním rámu, musí být namontováno na nejnižší místo rámu.**
- **Pokud je toto zařízení montováno do částečně obsazeného montážního rámu, obsazujte montážní rám ve směru zdola nahoru tak, aby byla nejtěžší součást nejníže.**
- **Pokud je montážní rám vybaven stabilizačními zařízeními, nainstalujte stabilizátory ještě před montáží nebo opravou zařízení v montážním rámu.**

Προειδοποίηση   Για να αποφύγετε τον τραυματισμό κατά την τοποθέτηση ή τη συντήρηση αυτής της συσκευής σε αρθρωτό σύστημα, πρέπει να λάβετε ειδικές προφυλάξεις για να διασφαλίσετε τη σταθερότητα του συστήματος. Οι παρακάτω οδηγίες παρέχονται για να εξασφαλίσουν την ασφάλειά σας:
- Αυτή η συσκευή πρέπει να τοποθετείται στο κάτω μέρος του αρθρωτού συστήματος αν είναι η μοναδική συσκευή σε αυτό.
- Όταν τοποθετείτε αυτήν τη συσκευή σε εν μέρει γεμάτο αρθρωτό σύστημα, τοποθετήστε συσκευές στο αρθρωτό σύστημα από κάτω προς τα επάνω, με τη βαρύτερη συσκευή στο κάτω μέρος του συστήματος.
- Εάν το αρθρωτό σύστημα διαθέτει διατάξεις σταθεροποίησης, τοποθετήστε τους σταθεροποιητές πριν τοποθετήσετε ή συντηρήσετε τη συσκευή στο αρθρωτό σύστημα.

אזהרה   כדי למנוע פציעה בעת הרכבת יחידה זו במעמד או טיפול בה, עליך לנקוט באמצעי זהירות מיוחדים כדי להבטיח את יציבות המערכת. הקווים המנחים הבאים ניתנים על מנת להבטיח את ביטחונך:
- אם יחידה זו היא יחידה בודדת במעמד, יש להרכיב את היחידה בחלקו התחתון של המעמד.
- בעת הרכבת יחידה זו במעמד המלא בחלקו, טען את המעמד החל בחלק התחתון וכלפי מעלה כאשר הרכיב הכבד ביותר נמצא בחלקו התחתון של המעמד.
- אם המעמד מסופק עם התקני ייצוב, התקן את המייצבים לפני הרכבה היחידה במעמד או טיפול בה.

Opomena   За да се не повредите кога го монтирате или го сервисирате уредот на полица, мора да бидете особено претпазливи за да ја обезбедите стабилноста на системот. Следите напатствија се дадени за да ја осигураат Вашата безбедност:
- Уредот треба да се монтира најдолу на полицата ако е единствен уред на полицата.
- Кога го монтирате уредот на делумно пополнета полица, полнете ја полицата од дното кон врвот со најтешката компонента на дното на полицата.
- Ако полицата има стабилизаторски делови, наместете ги стабилизаторите пред да го монтирате или сервисирате уредот на полицата.

Ostrzeżenie   Aby zapobiec urazom podczas montażu lub serwisowania tego urządzenia w stojaku, należy zastosować szczególne środki ostrożności w celu zapewnienia stabilności układu. Poniżej przedstawiono wskazówki, których przestrzeganie zapewni bezpieczeństwo:
• Jeśli urządzenie to jest jedynym urządzeniem w stojaku, powinno być
  zamontowane na dole.
• W przypadku montażu urządzenia w częściowo zapełnionym stojaku
  należy instalować kolejne urządzenia od najniższego do najwyższego,
  przy czym element najcięższy powinien być zamontowany najniżej
  w stojaku.
• Jeśli stojak jest wyposażony w elementy stabilizujące, należy
  zamontować stabilizatory przed przystąpieniem do montażu lub
  serwisowania urządzeń w stojaku.

Upozornenie   Aby ste predišli poraneniu osôb pri montáži alebo oprave zariadenia v montážnom ráme, musíte dodržiavať zvláštne preventívne opatrenia na zaistenie udržania stability systému. Na zaistenie bezpečnosti obsluhy sú určené nasledujúce zásady:
• Pokiaľ je toto zariadenie jedinou jednotkou v montážnom ráme, musí byť namontované na
  najnižšie miesto v ráme.
• Pokiaľ je toto zariadenie montované do čiastočne obsadeného montážneho rámu,
  obsadzujte montážny rám v smere zdola nahor tak, aby bola najťažšia súčasť najnižšie.
• Pokiaľ je montážny rám vybavený stabilizačnými zariadeniami, nainštalujte stabilizátory ešte
  pred montážou alebo opravou zariadenia v montážnom ráme.

Figyelem   **A készülék rackbe történő beszerelése és karbantartása során bekövetkező sérülések elkerülése végett speciális óvintézkedésekkel meg kell őrizni a rendszer stabilitását. A személyes biztonsága érdekében tartsa be a következő szabályokat:**

- **Ha a rackben csak ez az egy készülék található, a rack aljába kell beszerelni.**

- **Ha nincs teljesen tele az a rack, amelybe beszerelik a készüléket, alulról fölfelé haladva töltse fel a racket úgy, hogy a legnehezebb készülék kerüljön a rack aljába.**

- **Ha stabilizáló eszközök is tartoznak a rackhez, szerelje fel a stabilizátorokat, mielőtt beszerelné az egységet a rackbe, vagy karbantartást végezne rajta.**

Предупреждение   Во избежание травм при монтаже и обслуживании устройства в стойке следует принять особые меры предосторожности, чтобы убедиться в устойчивости оборудования. Для обеспечения безопасности работ необходимо соблюдать следующие правила.
- Если в стойке находится одно устройство, оно должно быть установлено в нижней части.
- При монтаже устройств в частично заполненную стойку устанавливайте оборудование снизу вверх, размещая наиболее тяжелые устройства в нижней части.
- Если стойка снабжена приспособлениями для стабилизации, их необходимо установить до начала монтажа или обслуживания оборудования.

警告   为避免在机架中安装或维修该部件时使身体受伤，您必须采取特殊的预防措施确保系统固定。以下是确保安全的原则：
- 如果此部件是机架中唯一的部件，应将其安装在机架的底部。
- 如果在部分装满的机架中安装此部件，请按从下往上的顺序安装各个部件，并且最重的组件应安装在机架的底部。
- 如果机架配有固定装置，请先装好固定装置，然后再在机架中安装或维修部件。

警告   この装置をラックに設置したり保守作業を行ったりするときは、人身事故を防ぐため、システムが安定しているかどうかを十分に確認する必要があります。次の注意事項に従ってください。
- ラックにこの装置を単独で設置する場合は、ラックの一番下に設置します。
- ラックに別の装置がすでに設置されている場合は、最も重量のある装置を一番下にして、重い順に下から上へ設置します。
- ラックに安定器具が付属している場合は、その安定器具を取り付けてから、装置をラックに設置するか、またはラック内の装置の保守作業を行ってください。

주의 이 장치를 랙에 장착하거나 서비스할 때 신체 부상을 방지하려면, 시스템이 안
정된 상태를 유지하도록 특별히 주의해야 합니다. 사용자의 안전을 위해 다음
지침 사항을 준수하십시오.
• 이 장치가 랙에 장착되는 유일한 것일 경우, 랙의 맨 아래 부분에 장착되어야
  합니다.
• 부분적으로 차 있는 랙에 이 장치를 장착할 경우, 가장 무거운 장치를 랙의
  맨 아래 부분부터 차례로 장착하십시오.
• 안정기가 랙과 함께 제공되는 경우, 이 안정기를 설치한 후 이 장치를 랙에
  장착하거나 서비스하십시오

تحذير لتجنب حدوث أي إصابات عند تركيب هذه الوحدة، يجب اتباع بعض الاحتياطات لضمان عمل النظام

بشكل سليم. يتم ذكر الإرشادات التالية لضمان الأمان.

يجب تركيب هذه الوحدة في الجزء السفلي من الدولاب المتضمن قضبان إذا كانت هذه الوحدة هي الوحدة

الوحيدة في الدولاب الذي يحتوي على قضبان.

عند تركيب هذه الوحدة في دولاب شبه ممتلئ، قم برفع الدولاب من الجزء السفلي لأعلى بحيث يكون

الجزء الأثقل وزناً أسفل الدولاب.

إذا كان الدولاب المتضمن قضباناً يحتوي على أجهزة حفظ التوازن، قم بتثبيت هذه الأجهزة قبل تركيب

الوحدة في الدولاب.

Upozorenje Kako ne bi došlo do tjelesnih ozljeda kod postavljanja ili servisiranja
uređaja na polici, potrebno je poduzeti mjere predostrožnosti kako bi
sustav uvijek bio stabilan. Sigurnost se može osigurati poštivanjem
sljedećih smjernica:
• Ovaj uređaj treba ugraditi na dno police, ukoliko je to jedini
  uređaj na polici.
• Kod ugradnje uređaja u policu na kojoj se već nalaze drugi uređaji,
  policu treba opremati počevši od dna, te tako da se na dno stave
  najteži dijelovi.
• Ukoliko su na polici ugrađeni stabilizatori, njih montirajte prije ugradnje
  ili servisiranja uređaja na polici.

Upozornění Abyste předešli poranění osob při montáži nebo opravě zařízení
v montážním rámu, musíte dodržovat zvláštní preventivní opatření pro
zajištění udržení stability systému. Pro zajištění bezpečnosti obsluhy
jsou určeny následující zásady:
• Pokud je toto zařízení jedinou jednotkou v montážním rámu, musí být
  namontováno na nejnižší místo rámu.
• Pokud je toto zařízení montováno do částečně obsazeného montážního
  rámu, obsazujte montážní rám ve směru zdola nahoru tak, aby byla
  nejtěžší součást nejníže.
• Pokud je montážní rám vybaven stabilizačními zařízeními, nainstalujte
  stabilizátory ještě před montáží nebo opravou zařízení v montážním rámu.

Προειδοποίηση   Για να αποφύγετε τον τραυματισμό κατά την τοποθέτηση ή τη συντήρηση αυτής της συσκευής σε αρθρωτό σύστημα, πρέπει να λάβετε ειδικές προφυλάξεις για να διασφαλίσετε τη σταθερότητα του συστήματος. Οι παρακάτω οδηγίες παρέχονται για να εξασφαλίσουν την ασφάλειά σας:
• Αυτή η συσκευή πρέπει να τοποθετείται στο κάτω μέρος του αρθρωτού συστήματος αν είναι η μοναδική συσκευή σε αυτό.
• Όταν τοποθετείτε αυτήν τη συσκευή σε εν μέρει γεμάτο αρθρωτό σύστημα, τοποθετήστε συσκευές στο αρθρωτό σύστημα από κάτω προς τα επάνω, με τη βαρύτερη συσκευή στο κάτω μέρος του συστήματος.
• Εάν το αρθρωτό σύστημα διαθέτει διατάξεις σταθεροποίησης, τοποθετήστε τους σταθεροποιητές πριν τοποθετήσετε ή συντηρήσετε τη συσκευή στο αρθρωτό σύστημα.

אזהרה   כדי למנוע פציעה בעת הרכבת יחידה זו במעמד או טיפול בה, עליך לנקוט אמצעי זהירות מיוחדים כדי להבטיח את יציבות המערכת. הקווים המנחים הבאים ניתנים על מנת להבטיח את ביטחונך:
• אם יחידה זו היא יחידה בודדת במעמד, יש להרכיב את היחידה בחלקו התחתון של המעמד.
• בעת הרכבת יחידה זו במעמד המלא בחלקו, טען את המעמד החל בחלק התחתון וכלפי מעלה כאשר הרכיב הכבד ביותר נמצא בחלקו התחתון של המעמד.
• אם המעמד מסופק עם התקני ייצוב, התקן את המייצבים לפני הרכבה היחידה במעמד או טיפול בה.

Opomena   За да се не повредите кога го монтирате или го сервисирате уредот на полица, мора да бидете особено претпазливи за да ја обезбедите стабилноста на системот. Следите напатствија се дадени за да ја осигураат Вашата безбедност:
• Уредот треба да се монтира најдолу на полицата ако е единствен уред на полицата.
• Кога го монтирате уредот на делумно пополнета полица, полнете ја полицата од дното кон врвот со најтешката компонента на дното на полицата.
• Ако полицата има стабилизаторски делови, наместете ги стабилизаторите пред да го монтирате или сервисирате уредот на полицата.

Ostrzeżenie	Aby zapobiec urazom podczas montażu lub serwisowania tego urządzenia w stojaku, należy zastosować szczególne środki ostrożności w celu zapewnienia stabilności układu. Poniżej przedstawiono wskazówki, których przestrzeganie zapewni bezpieczeństwo: • Jeśli urządzenie to jest jedynym urządzeniem w stojaku, powinno być zamontowane na dole. • W przypadku montażu urządzenia w częściowo zapełnionym stojaku należy instalować kolejne urządzenia od najniższego do najwyższego, przy czym element najcięższy powinien być zamontowany najniżej w stojaku. • Jeśli stojak jest wyposażony w elementy stabilizujące, należy zamontować stabilizatory przed przystąpieniem do montażu lub serwisowania urządzeń w stojaku.
Upozornenie	Aby ste predišli poraneniu osôb pri montáži alebo oprave zariadenia v montážnom ráme, musíte dodržiavať zvláštne preventívne opatrenia na zaistenie udržania stability systému. Na zaistenie bezpečnosti obsluhy sú určené nasledujúce zásady: • Pokiaľ je toto zariadenie jedinou jednotkou v montážnom ráme, musí byť namontované na najnižšie miesto v ráme. • Pokiaľ je toto zariadenie montované do čiastočne obsadeného montážneho rámu, obsadzujte montážny rám v smere zdola nahor tak, aby bola najťažšia súčasť najnižšie. • Pokiaľ je montážny rám vybavený stabilizačnými zariadeniami, nainštalujte stabilizátory ešte pred montážou alebo opravou zariadenia v montážnom ráme.

Equipment Installation Warning

⚠ **Warning**	Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Statement 1030
Waarschuwing	Deze apparatuur mag alleen worden geïnstalleerd, vervangen of hersteld door bevoegd geschoold personeel.
Varoitus	Tämän laitteen saa asentaa, vaihtaa tai huoltaa ainoastaan koulutettu ja laitteen tunteva henkilökunta.
Attention	Il est vivement recommandé de confier l'installation, le remplacement et la maintenance de ces équipements à des personnels qualifiés et expérimentés.
Warnung	Das Installieren, Ersetzen oder Bedienen dieser Ausrüstung sollte nur geschultem, qualifiziertem Personal gestattet werden.

Avvertenza	**Questo apparato può essere installato, sostituito o mantenuto unicamente da un personale competente.**
Advarsel	**Bare opplært og kvalifisert personell skal foreta installasjoner, utskiftninger eller service på dette utstyret.**
Aviso	**Apenas pessoal treinado e qualificado deve ser autorizado a instalar, substituir ou fazer a revisão deste equipamento.**
¡Advertencia!	**Solamente el personal calificado debe instalar, reemplazar o utilizar este equipo.**
Varning!	**Endast utbildad och kvalificerad personal bör få tillåtelse att installera, byta ut eller reparera denna utrustning.**
Figyelem	**A berendezést csak szakképzett személyek helyezhetik üzembe, cserélhetik és tarthatják karban.**
Предупреждение	Установку, замену и обслуживание этого оборудования может осуществлять только специально обученный квалифицированный персонал.
警告	只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。
警告	この装置の設置、交換、保守は、訓練を受けた相応の資格のある人が行ってください。
주의	교육을 받고 자격을 갖춘 사람만 이 장비를 설치, 교체, 또는 서비스를 수행해야 합니다.
Aviso	**Somente uma equipe treinada e qualificada tem permissão para instalar, substituir ou dar manutenção a este equipamento.**
Advarsel	**Kun uddannede personer må installere, udskifte komponenter i eller servicere dette udstyr.**
تحذير	**يسمح للفنيين المتخصصين فقط بتركيب المعدة أو استبدالها أو إجراء الصيانة عليها.**
Upozorenje	**Uređaj smije ugrađivati, mijenjati i servisirati samo za to obučeno i osposobljeno servisno osoblje.**
Upozornění	**Instalaci, výměnu nebo opravu tohoto zařízení smějí provádět pouze proškolené a kvalifikované osoby.**
Προειδοποίηση	Η τοποθέτηση, η αντικατάσταση και η συντήρηση του εξοπλισμού επιτρέπεται να γίνονται μόνο από καταρτισμένο προσωπικό με τα κατάλληλα προσόντα.
אזהרה	

■ **Equipment Installation Warning**

Opomena | Местењето, заменувањето и сервисирањето на оваа опрема треба да му биде дозволено само на обучен и квалификуван персонал.

Ostrzeżenie | **Do instalacji, wymiany i serwisowania tych urządzeń mogą być dopuszczone wyłącznie osoby wykwalifikowane i przeszkolone.**

Upozornenie | **Inštaláciu, výmenu alebo opravu tohto zariadenia smú vykonávať iba vyškolené a kvalifikované osoby.**

Figyelem | **A berendezést csak szakképzett személyek helyezhetik üzembe, cserélhetik és tarthatják karban.**

Предупреждение | Установку, замену и обслуживание этого оборудования может осуществлять только специально обученный квалифицированный персонал.

警告 | 只有经过培训且具有资格的人员才能进行此设备的安装、更换和维修。

警告 | この装置の設置、交換、保守は、訓練を受けた相応の資格のある人が行ってください。

주의 | 교육을 받고 자격을 갖춘 사람만 이 장비를 설치, 교체, 또는 서비스를 수행해야 합니다.

تحذير | يسمح للفنيين المتخصصين فقط بتركيب المعدة أو استبدالها أو إجراء الصيانة عليها.

Upozorenje | **Uređaj smije ugrađivati, mijenjati i servisirati samo za to obučeno i osposobljeno servisno osoblje.**

Upozornění | **Instalaci, výměnu nebo opravu tohoto zařízení smějí provádět pouze proškolené a kvalifikované osoby.**

Προειδοποίηση | Η τοποθέτηση, η αντικατάσταση και η συντήρηση του εξοπλισμού επιτρέπεται να γίνονται μόνο από καταρτισμένο προσωπικό με τα κατάλληλα προσόντα.

אזהרה |

Opomena | Местењето, заменувањето и сервисирањето на оваа опрема треба да му биде дозволено само на обучен и квалификуван персонал.

Ostrzeżenie   Do instalacji, wymiany i serwisowania tych urządzeń mogą być dopuszczone wyłącznie osoby wykwalifikowane i przeszkolone.

Upozornenie   Inštaláciu, výmenu alebo opravu tohto zariadenia smú vykonávať iba vyškolené a kvalifikované osoby.

Battery Handling

Warning   There is the danger of explosion if the battery is replaced incorrectly. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions. Statement 1015

Waarschuwing   Er is ontploffingsgevaar als de batterij verkeerd vervangen wordt. Vervang de batterij slechts met hetzelfde of een equivalent type dat door de fabrikant aanbevolen is. Gebruikte batterijen dienen overeenkomstig fabrieksvoorschriften weggeworpen te worden.

Varoitus   Räjähdyksen vaara, jos akku on vaihdettu väärään akkuun. Käytä vaihtamiseen ainoastaan saman- tai vastaavantyyppistä akkua, joka on valmistajan suosittelema. Hävitä käytetyt akut valmistajan ohjeiden mukaan.

Attention   Danger d'explosion si la pile n'est pas remplacée correctement. Ne la remplacer que par une pile de type semblable ou équivalent, recommandée par le fabricant. Jeter les piles usagées conformément aux instructions du fabricant.

Warnung   Bei Einsetzen einer falschen Batterie besteht Explosionsgefahr. Ersetzen Sie die Batterie nur durch den gleichen oder vom Hersteller empfohlenen Batterietyp. Entsorgen Sie die benutzten Batterien nach den Anweisungen des Herstellers.

Avvertenza   Pericolo di esplosione se la batteria non è installata correttamente. Sostituire solo con una di tipo uguale o equivalente, consigliata dal produttore. Eliminare le batterie usate secondo le istruzioni del produttore.

Advarsel   Det kan være fare for eksplosjon hvis batteriet skiftes på feil måte. Skift kun med samme eller tilsvarende type som er anbefalt av produsenten. Kasser brukte batterier i henhold til produsentens instruksjoner.

Aviso   Existe perigo de explosão se a bateria for substituída incorrectamente. Substitua a bateria por uma bateria igual ou de um tipo equivalente recomendado pelo fabricante. Destrua as baterias usadas conforme as instruções do fabricante.

¡Advertencia!   Existe peligro de explosión si la batería se reemplaza de manera incorrecta. Reemplazar la batería exclusivamente con el mismo tipo o el equivalente recomendado por el fabricante. Desechar las baterías gastadas según las instrucciones del fabricante.

Varning!   **Explosionsfara vid felaktigt batteribyte. Ersätt endast batteriet med samma batterityp som rekommenderas av tillverkaren eller motsvarande. Följ tillverkarens anvisningar vid kassering av använda batterier.**

Figyelem   **Robbanásveszélyt idézhet elő, ha helytelenül cserélik ki az akkumulátort. Csak a gyártó által javasolttal megegyező vagy azzal egyenértékű típusúra cserélje ki az akkumulátort! A használt akkumulátorok kidobásakor tartsa be a gyártó előírásait!**

Предупреждение   При неправильной замене батареи возможен взрыв. Для замены следует использовать батарею того же или аналогичного типа, рекомендованного изготовителем. Утилизацию батареи необходимо производить в соответствии с указаниями изготовителя.

警告   电池更换不当会有爆炸危险。请只用同类电池或制造商推荐的功能相当的电池更换原有电池。请按制造商的说明处理废旧电池。

警告   不適切なバッテリに交換すると、爆発の危険性があります。製造元が推奨するものと同じまたは同等のバッテリだけを使用してください。使用済みのバッテリは、製造元が指示する方法に従って処分してください。

警告   電池替換錯誤可能會發生爆炸。僅限以製造商建議的同樣或同款電池替換，並遵照製造商的指示處理使用過的電池。

Figyelem   **Robbanásveszélyt idézhet elő, ha helytelenül cserélik ki az akkumulátort. Csak a gyártó által javasolttal megegyező vagy azzal egyenértékű típusúra cserélje ki az akkumulátort! A használt akkumulátorok kidobásakor tartsa be a gyártó előírásait!**

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Product Disposal

Warning	**Ultimate disposal of this product should be handled according to all national laws and regulations.** Statement 1040
Waarschuwing	**Het uiteindelijke wegruimen van dit product dient te geschieden in overeenstemming met alle nationale wetten en reglementen.**
Varoitus	**Tämä tuote on hävitettävä kansallisten lakien ja määräysten mukaisesti.**
Attention	**La mise au rebut ou le recyclage de ce produit sont généralement soumis à des lois et/ou directives de respect de l'environnement. Renseignez-vous auprès de l'organisme compétent.**
Warnung	**Die Entsorgung dieses Produkts sollte gemäß allen Bestimmungen und Gesetzen des Landes erfolgen.**
Avvertenza	**Lo smaltimento di questo prodotto deve essere eseguito secondo le leggi e regolazioni locali.**
Advarsel	**Endelig kassering av dette produktet skal være i henhold til alle relevante nasjonale lover og bestemmelser.**
Aviso	**Deitar fora este produto em conformidade com todas as leis e regulamentos nacionais.**
¡Advertencia!	**Al deshacerse por completo de este producto debe seguir todas las leyes y reglamentos nacionales.**
Varning!	**Vid deponering hanteras produkten enligt gällande lagar och bestämmelser.**
Figyelem	**A készülék végső elhelyezéséről az adott országban érvényes törvények és előírások szerint kell intézkedni.**
Предупреждение	Окончательная установка данного изделия должна выполняться в соответствии со всеми региональными и местными правилами и нормами.
警告	本产品的废弃处理应根据所有国家的法律和规章进行。
警告	この製品を廃棄処分する際は、各国の法律および規制に従って取り扱ってください。
주의	시스템을 전원에 연결하기 전에 설치 지침을 읽으십시오.
Aviso	**O descarte definitivo deste produto deve estar de acordo com todas as leis e regulamentações nacionais.**
Advarsel	**Endelig bortskaffelse af dette produkt skal ske i henhold til gældende love og regler.**

■   **Product Disposal**

تحذير   عند التخلص من المنتج يجب اتباع القوانين والتشريعات المحلية.

Upozorenje   **Zbrinjavanje ovoga proizvoda u otpad treba provesti u skladu s važećim zakonima i odredbama.**

Upozornění   **Upozornění: Likvidace tohoto výrobku musí být provedena podle platných zákonů a předpisů.**

Προειδοποίηση   Η τελική απόρριψη αυτού του προϊόντος πρέπει να γίνεται σύμφωνα με όλους τους εθνικούς νόμους και κανονισμούς.

אזהרה   סילוק סופי של מוצר זה חייב להיות בהתאם להנחיות ולחוקי המדינה.

Opomena   Крајното фрлање на овој производ треба да се изврши во согласност со сите национални закони и прописи.

Ostrzeżenie   **Ostateczna likwidacja tego urządzenia po jego wycofaniu z eksploatacji powinna odbywać się zgodnie z przepisami krajowymi.**

Upozornenie   **Upozornenie Likvidácia tohto výrobku musí byť vykonaná podľa platných zákonov a predpisov.**

Opozorilo   **Uničenje izdelka, ki ni več uporaben, mora potekati po državnih zakonih in predpisih.**

警告   本產品的最終處理必須遵照國家/地區的所有法律與法規。

Figyelem   **A készülék végső elhelyezéséről az adott országban érvényes törvények és előírások szerint kell intézkedni.**

Предупреждение   Окончательная установка данного изделия должна выполняться в соответствии со всеми региональными и местными правилами и нормами.

警告   本产品的废弃处理应根据所有国家的法律和规章进行。

警告   この製品を廃棄処分する際は、各国の法律および規制に従って取り扱ってください。

주의   해당 국가의 관련 법규 및 규정에 따라 이 장치를 폐기해야 합니다.

<table>
<tr><td>تحذير</td><td dir="rtl">عند التخلص من المنتج يجب اتباع القوانين والتشريعات المحلية.</td></tr>
<tr><td>Upozorenje</td><td>Zbrinjavanje ovoga proizvoda u otpad treba provesti u skladu s važećim zakonima i odredbama.</td></tr>
<tr><td>Upozornění</td><td>Upozornění: Likvidace tohoto výrobku musí být provedena podle platných zákonů a předpisů.</td></tr>
<tr><td>Προειδοποίηση</td><td>Η τελική απόρριψη αυτού του προϊόντος πρέπει να γίνεται σύμφωνα με όλους τους εθνικούς νόμους και κανονισμούς.</td></tr>
<tr><td>אזהרה</td><td dir="rtl">סילוק סופי של מוצר זה חייב להיות בהתאם להנחיות ולחוקי המדינה.</td></tr>
<tr><td>Opomena</td><td>Крајното фрлање на овој производ треба да се изврши во согласност со сите национални закони и прописи.</td></tr>
<tr><td>Ostrzeżenie</td><td>Ostateczna likwidacja tego urządzenia po jego wycofaniu z eksploatacji powinna odbywać się zgodnie z przepisami krajowymi.</td></tr>
<tr><td>Upozornenie</td><td>Upozornenie Likvidácia tohto výrobku musí byť vykonaná podľa platných zákonov a predpisov.</td></tr>
<tr><td>Opozorilo</td><td>Uničenje izdelka, ki ni več uporaben, mora potekati po državnih zakonih in predpisih.</td></tr>
<tr><td>警告</td><td>本產品的最終處理必須遵照國家/地區的所有法律與法規。</td></tr>
</table>

Power Cable and AC Adapter

接続ケーブル、電源コード、ACアダプタなどの部品は、必ず添付品または指定品をご使用ください。添付品・指定品以外の部品をご使用になると故障や動作不良、火災の原因となります。また、電気用品安全法により、当該法の認定（PSEとコードに表記）でなくUL認定（ULとコードに表記）の電源ケーブルは弊社が指定する製品以外の電気機器には使用できないためご注意ください。

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APPENDIX A

Regulatory Information

This appendix provides regulatory information for the Cisco 3355 Mobility Services Engine.

FCC Statement for Cisco 3355 Series Mobility Services Engine

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Declaration of Conformity with Regard to the EU Directive 1999/5/EC (R&TTE Directive)

This declaration is only valid for configurations (combinations of software, firmware and hardware) provided and/or supported by Cisco Systems. The use software or firmware not supported/provided by Cisco Systems may result that the equipment is no longer compliant with the regulatory requirements.

Statement 191—VCCI Class A Warning for Japan

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Warning   **This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.**

警告