Installing the Server Operating System or Hypervisor

This chapter includes the following sections:

Operating System or Hypervisor Installation Methods

E-Series Servers support several operating systems and hypervisors. Regardless of the platform being installed, you can install it on your server using one of the following tools:

- KVM console
- PXE installation server
- Host image mapping

KVM Console

The KVM console is an interface accessible from CIMC that emulates a direct keyboard, video, and mouse connection to the server. The KVM console allows you to connect to the server from a remote location. Instead of using CD/DVD or floppy drives physically connected to the server, the KVM console uses virtual media, which are actual disk drives or disk image files that are mapped to virtual CD/DVD or floppy drives. You can map any of the following to a virtual drive:

- CD/DVD or floppy drive on your computer
- Disk image files (ISO or IMG files) on your computer
- USB flash drive on your computer

You can use the KVM console to install an operating system or hypervisor on the server and to do the following:

- Access the BIOS setup menu by pressing **F2** during bootup.

- Access the CIMC Configuration Utility by pressing **F8** during bootup.

- Access the WebBIOS to configure RAID, by pressing the **Ctrl** and **H** keys during bootup.

Installing an Operating System or Hypervisor Using the KVM Console

Before You Begin

- Locate the operating system or hypervisor installation disk or disk image file.

> **Note** VMware vSphere Hypervisor™ requires a customized image. To download the customized image, see Downloading the Customized VMware vSphere Hypervisor Image .

Procedure

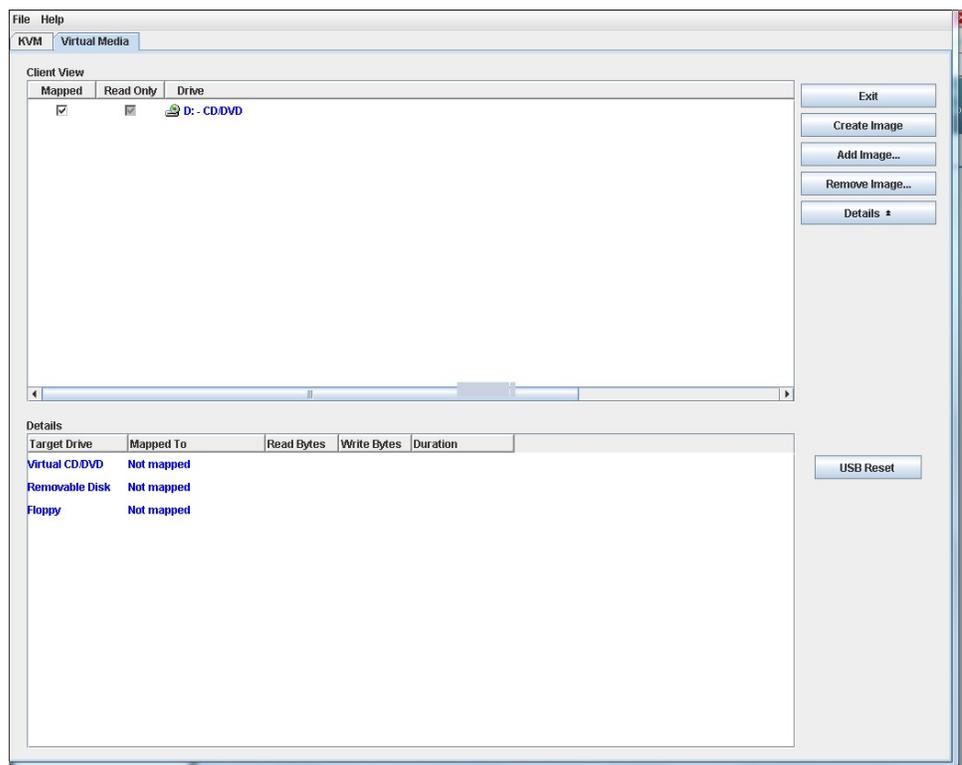**Step 1** Load the operating system or hypervisor installation disk into your CD/DVD drive, or copy the disk image files to your computer.

Step 2 If CIMC is not open, log into the CIMC GUI.

Step 3 In the **Navigation** pane, click the **Server** tab.

Step 4 On the **Server** tab, click **Summary**.

Step 5 From the **Actions** area, click **Launch KVM Console**.

The **KVM Console** opens in a separate window.

Step 6 From the KVM console, click the **Virtual Media** tab.

Figure 1:

Step 7 In the **Virtual Media** tab, map the virtual media using either of the following methods:

- Check the **Mapped** check box for the CD/DVD drive containing the operating system or hypervisor installation disk.

- Click **Add Image**, navigate to and select the operating system or hypervisor installation disk image, click **Open** to mount the disk image, and then check the **Mapped** check box for the mounted disk image.

Note You must keep the **Virtual Media** tab open during the installation process. Closing the tab unmaps all virtual media.

Step 8 Set the boot order to make the virtual CD/DVD drive as the boot device.
To set the boot order, see Configuring the Server Boot Order.

Step 9 Reboot the server.
When the server reboots, it begins the installation process from the virtual CD/DVD drive. Refer to the installation guide for the platform being installed to guide you through the rest of the installation process.

Step 10 If disk drives are not displayed after you install the operating system or hypervisor, you must install drivers. See the appropriate operating system or hypervisor documentation for instructions on how to install drivers.

For instructions on how to install drivers on a Microsoft Windows operating system, see Installing Drivers for the Microsoft Windows Server.

What to Do Next

After the installation is complete, reset the virtual media boot order to its original setting.

PXE Installation Servers

A Preboot Execution Environment (PXE) installation server allows a client to boot and install an operating system or hypervisor from a remote location. To use this method, a PXE environment must be configured and available on your LAN, typically a dedicated provisioning LAN. In addition, the server must be set to boot from the network. When the server boots, it sends a PXE request across the network. The PXE installation server acknowledges the request, and starts a sequence of events that installs the operating system or hypervisor on the server.

PXE servers can use installation disks, disk images, or scripts to install the operating system or hypervisor. Proprietary disk images can also be used to install the platform, additional components, or applications.

Note PXE installation is an efficient method for installing a platform on a large number of servers. However, considering that this method requires setting up a PXE environment, it might be easier to use another installation method.

Installing an Operating System or Hypervisor Using a PXE Installation Server

Before You Begin

- Verify that the server can be reached over a VLAN.

Note VMware vSphere Hypervisor™ requires a customized image. To download the customized image, see Downloading the Customized VMware vSphere Hypervisor Image .

Procedure

Step 1 Set the boot order to **PXE**.

Step 2 Reboot the server.
If a PXE install server is available on the VLAN, the installation process begins when the server reboots. PXE installations are typically automated and require no additional user input. Refer to the installation guide for the operating system or hypervisor being installed to guide you through the rest of the installation process.

What to Do Next

After the installation is complete, reset the LAN boot order to its original setting.

Host Image Mapping

The Host Image Mapping feature allows you to download, map, unmap, or delete a host image. Download a host image, such as a Microsoft Windows, Linux, or VMware from a remote FTP, FTPS, HTTP, or HTTPS server onto the CIMC internal repository, then map the image onto the virtual drive of a USB controller in the E-Series Server. After you map the image, set the boot order to make the virtual drive, in which the image is mounted, as the first boot device, and then reboot the server. The host image must have .iso as the file extension.

The Host Image Mapping feature also allows you to download and mount a diagnostics image. The diagnostics image must have .diag as the file extension.

Mapping the Host Image

Before You Begin

- Log into CIMC as a user with admin privileges.

- Obtain the host image file from the appropriate third-party.

Note VMware vSphere Hypervisor™ requires a customized image. To download the customized image, see Downloading the Customized VMware vSphere Hypervisor Image .
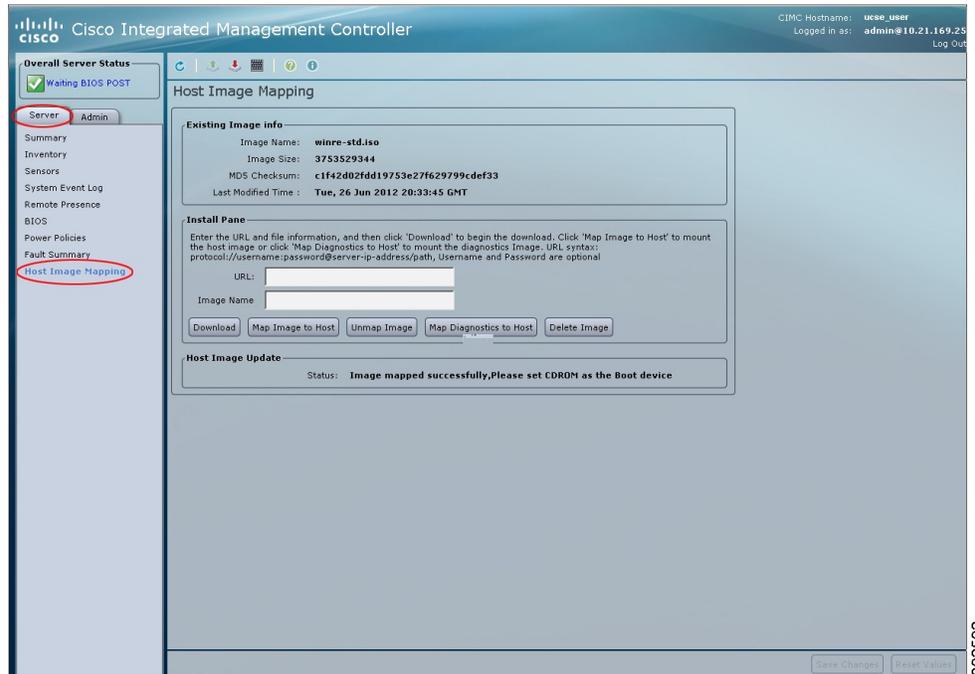
Note If you start an image update while an update is already in process, both updates will fail.

Procedure

Step 1   In the **Navigation** pane, click the **Server** tab.

Step 2   On the **Server** tab, click **Host Image Mapping**.

Figure 2: Host Image Mapping

Step 3   In the **Install Pane**, complete the following fields:

Name	Description
URL field	The URL of the remote server on which the image is located.
	If the remote server requires user authentication, you must add the username and password of the remote server in the URL. The remote server can be an FTP, FTPS, HTTP, or HTTPS server.
	The URL syntax must be: *protocol*://*username*:*password*@*server–ip–address*/*path*/*filename*
Image Name field	The name of the image.
	• If you are installing a host image, that image must have .iso as the file extension.
	• If you are installing a diagnostics image, that image must have .diag as the file extension.

Step 4   Click **Download**.

The image file is downloaded from the specified FTP, FTPS, HTTP, or HTTPS server onto the CIMC internal repository.

Step 5   Click **Map Image to Host**.

The image is mounted on the virtual drive of a USB controller. The virtual drive can be one of the following:

- HDD—Hard disk drive

- FDD—Floppy disk drive

- CDROM—Bootable CD-ROM

Step 6   Set the boot order to make the virtual drive in which the image is mounted as the first boot device.
To set the boot order, see Configuring the Server Boot Order.

> **Tip**   To determine in which virtual drive the image is mounted, see the **Host Image Update** area in the **Host Image Mapping** page.

Step 7   Reboot the server.

Step 8   If the image contains an answer file, the operating system or hypervisor installation is automated and the image is installed. Otherwise, the installation wizard is displayed. Follow the wizard steps to install the image.

Step 9   If disk drives are not displayed after you install the operating system or hypervisor, you must install drivers. See the appropriate operating system or hypervisor documentation for instructions on how to install drivers. For instructions on how to install drivers on a Microsoft Windows operating system, see Installing Drivers for the Microsoft Windows Server.

What to Do Next

- After the installation is complete, reset the virtual media boot order to its original setting.

- Unmap the host image. See Unmapping the Host Image.

Installing Drivers for the Microsoft Windows Server

> **Note**   If you purchased E-Series Server Option 1 (E-Series Server without preinstalled operating system or hypervisor), and you installed your own version of the Microsoft Windows Server, you must install drivers.

Microsoft Windows operating system requires that you install three drivers:

- On-Board Network Drivers for Windows 2008 R2

- LSI Drivers (On-Board Hardware RAID Controller) for Windows 2008 R2

- Intel Drivers for Windows 2008 R2

If you have purchased a 10 Gigabit add-on card, you must also install the 10G PCIe Network Drivers for Windows 2008 R2.

Procedure

| Step 1	Download the drivers from Cisco.com. See Obtaining Software from Cisco Systems.
Step 2	Copy the driver files into an USB flash drive.
Step 3	Install your own version of Microsoft Windows Server. During the installation process, you will be prompted for the LSI Drivers.
Step 4	Plug the USB flash drive into the USB slot in the E-Series Server, and then install the LSI Drivers.
Step 5	After the Microsoft Windows Server installation is complete, install the On-Board Network Drivers (Broadcom) and the Intel Drivers.

Unmapping the Host Image

Before You Begin

- Log into CIMC as a user with admin privileges.

Procedure

Step 1 In the **Navigation** pane, click the **Server** tab.

Step 2 On the **Server** tab, click **Host Image Mapping**.

Figure 3: Host Image Mapping
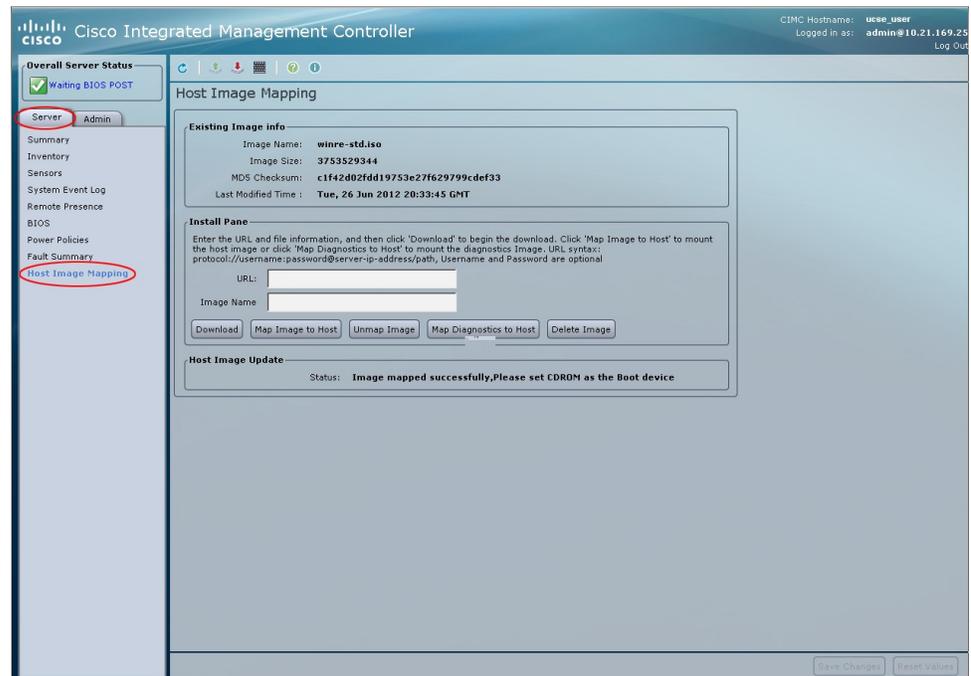
Step 3 Click **Unmap Image**.
The image is unmounted from the virtual drive of the USB controller.
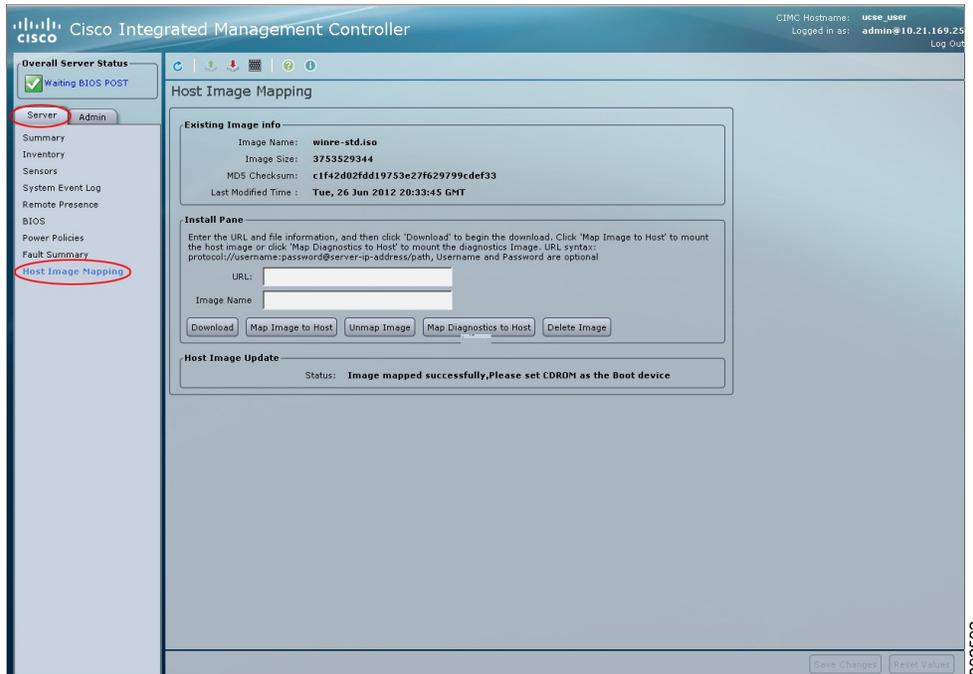
Deleting the Host Image

Before You Begin

• Log into CIMC as a user with admin privileges.

Procedure

Step 1   In the **Navigation** pane, click the **Server** tab.

Step 2   On the **Server** tab, click **Host Image Mapping**.

Figure 4: Host Image Mapping

Step 3   Click **Delete Image**.
The image is removed from the SD card.

Note   After the image is removed from the SD card, the information that was originally displayed in the
Existing Image Information area and the **Host Image Update** area is erased.

Downloading the Customized VMware vSphere Hypervisor Image

Use this procedure to download the customized VMware vSpere Hypervisor™ image.

Procedure

Step 1   Navigate to https://my.vmware.com/web/vmware/login.
The VMware login page appears.

Step 2   Enter your VMware credentials, and then click **Log In**.

If you do not have an account with VMware, click **Register** to create a free account.

Step 3 Under the **Support Requests** pane, click **Knowledge Base**.

Step 4 In the **Search** field located on the top right corner, enter **ESXi-5.0.0-623860-custom-Cisco-2.0.1.6.iso**, and then click **Search**.

Step 5 From the **Search Results**, click **Download VMware View 5.1** to download the customized VMware vSpere Hypervisor™ image.

What to Do Next

Install the VMware vSpere Hypervisor™ image. For installation instructions, see Mapping the Host Image.