



Cisco UCS B-Series Blade Servers Windows Installation Guide

October 06, 2010

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Preface

This preface describes the organization of the *Cisco UCS B-Series Servers Windows Installation Guide*. It also provides information on how to obtain related documentation and submit a service request.

Organization

This guide is organized as follows:

Chapter	Title	Description
Chapter 1	Windows Server 2003 Installation	Contains procedures for installing Windows Server 2003 to an internal drive and to a bootable SAN-connected device.
Chapter 2	Windows Server 2008 and Windows Server 2008 R2 Installation	Contains procedures for installing Windows Server 2008 to an internal drive and to a bootable SAN-connected device.
Appendix A	Drivers for B-Series Windows Installation	Contains information about the drivers for Windows that are on the B-Series Drivers and Utilities disk.

Related Documentation

The documentation set for the Cisco Unified Computing System (UCS) B-Series blade servers is described in the roadmap document at the following link:

[Cisco UCS B-Series Documentation Roadmap](#)

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

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CHAPTER 1

Windows Server 2003 Installation

This chapter contains two procedures:

- [Installation on an Internal Drive, page 1-1](#)
- [SAN Boot Installation, page 1-11](#)

Installation on an Internal Drive

This section describes how to install Windows Server 2003 with Service Pack 2 (SP2) x86 or x64 on an internal drive.



Note

For this server, the supported version of the operating system (OS) is Windows Server 2003 with SP2.

This section contains two topics:

- [Prerequisites, page 1-1](#)
- [Installation Procedure, page 1-3](#)

Prerequisites

The following items or actions are required before you begin this procedure:

- The Cisco UCS B-Series Drivers CD, or the ISO image of this CD from Cisco.com.
- If installing to one of the LSI RAID controllers, configure a LUN to which you will install the OS.
- The Windows installation ISO image (or CD/DVD), and any activation keys for this software installation.



Note

This document describes a procedure for installing the OS from an ISO image that you map as a virtual device. You can also install from a physical disk, but that method requires that you attach an external USB CD/DVD drive to the server targeted for installation. Attach a KVM cable to the blade server's front-panel console connector to provide the USB connector.

- A fully installed and configured UCS system.

See the [“Pre-Installation Service Profile Configuration Checklist” section on page 1-2](#) for a checklist of the minimum UCS configuration items required for this operating system installation.

Pre-Installation Service Profile Configuration Checklist

The installation-target server must have a configured service profile associated with that server. The service profile contains all of the information and settings that are applied to the server.

A minimum checklist of the UCS preconfiguration actions that you must perform for this OS installation follows. Detailed instructions for completing each item are beyond the scope of this document. Information and instructions for configuring all of these items are described in detail in the following documents:

- [Cisco UCS 5108 Server Chassis Installation Guide](#)
- [Cisco UCS Manager GUI Configuration Guide](#)
- [Cisco UCS Manager CLI Configuration Guide](#)

1. Install and cable the UCS system hardware to make the physical connections to your network.
2. Use UCS Manager to configure pools that identify the physical and logical resources on your network. You select from these pools as you build the service profile for the server.

For example, the UCS system uses WWN pools to identify available nodes and ports on FC HBAs. The UCS system also allows you to define pools for servers, MAC addresses, UUID suffixes, and management IP addresses.

3. Use UCS Manager to configure any policies that you require to manage the server. A specific boot policy is required, as described below in step 6.
4. Configure one named VSAN for each uplink fabric to which the target server is networked.
A named VSAN creates a connection to a specific external SAN fabric.
5. Associate each VSAN with a physical uplink port on each VSAN's corresponding fabric interconnect.

For example, you associate the VSAN that you created for Fabric A with an available physical port on Fabric Interconnect A.

6. Create a boot policy for this particular operating system installation.

For this installation, create a boot policy that defines the following boot order:

- a. CD-ROM
- b. Floppy
- c. Local disk

7. Create a service profile for the target blade server. If you are using the Create Service Profile wizard, part 5 of the creation process is Server Boot Order. Select the boot policy that you created in step 6.

If there is already an existing service profile associated with the target server, you can modify the boot policy that is associated with that service profile. Select the boot policy that you created in step 6.

8. Associate the service profile that you created with the target server.

When the target server is rebooted, the settings in the service profile are assigned to it.

At this point, you can begin the OS installation procedure.

Installation Procedure

To install the software and drivers, follow these steps:

**Note**

The values and settings shown in the screen captures in this procedure are examples only. Your actual settings might differ.

Step 1

Find the drivers for your installed devices on the Cisco UCS B-Series Drivers disk that came with your B-Series server, and then extract them to a local machine, such as your laptop.

**Note**

See [Drivers for B-Series Windows Installation, page A-1](#), for driver locations on the disk and information about how to determine which devices are installed in your server.

If you do not have this driver disk, you can download the driver package ISO for your server from Cisco at <http://www.cisco.com/cisco/web/support/index.html>. You can burn the image to a CD or use a third-party utility to mount the image on a laptop hard drive.

Step 2

Verify that the UCS Manager service profile for the server includes a boot policy that has the boot order of devices described in the prerequisites for this procedure ([Pre-Installation Service Profile Configuration Checklist, page 1-2](#)):

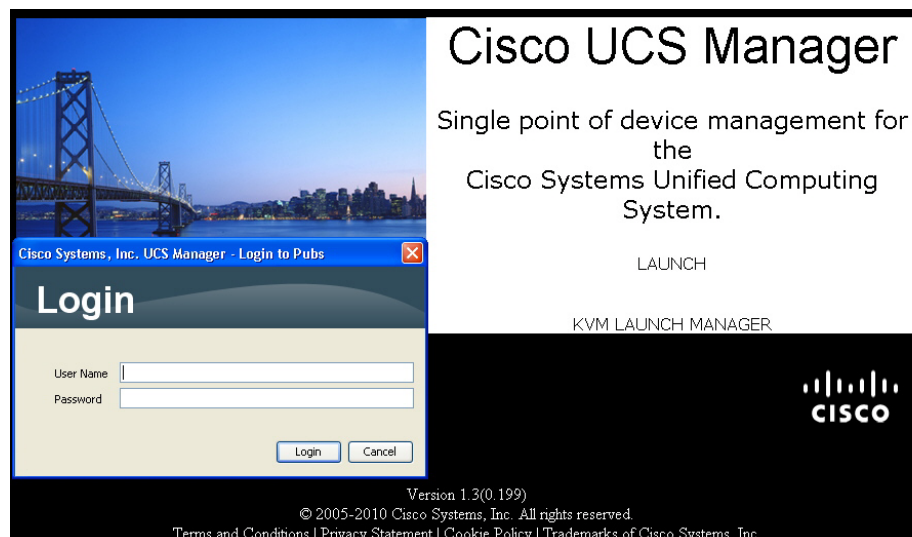
- CD-ROM
- Floppy
- Local disk

Step 3

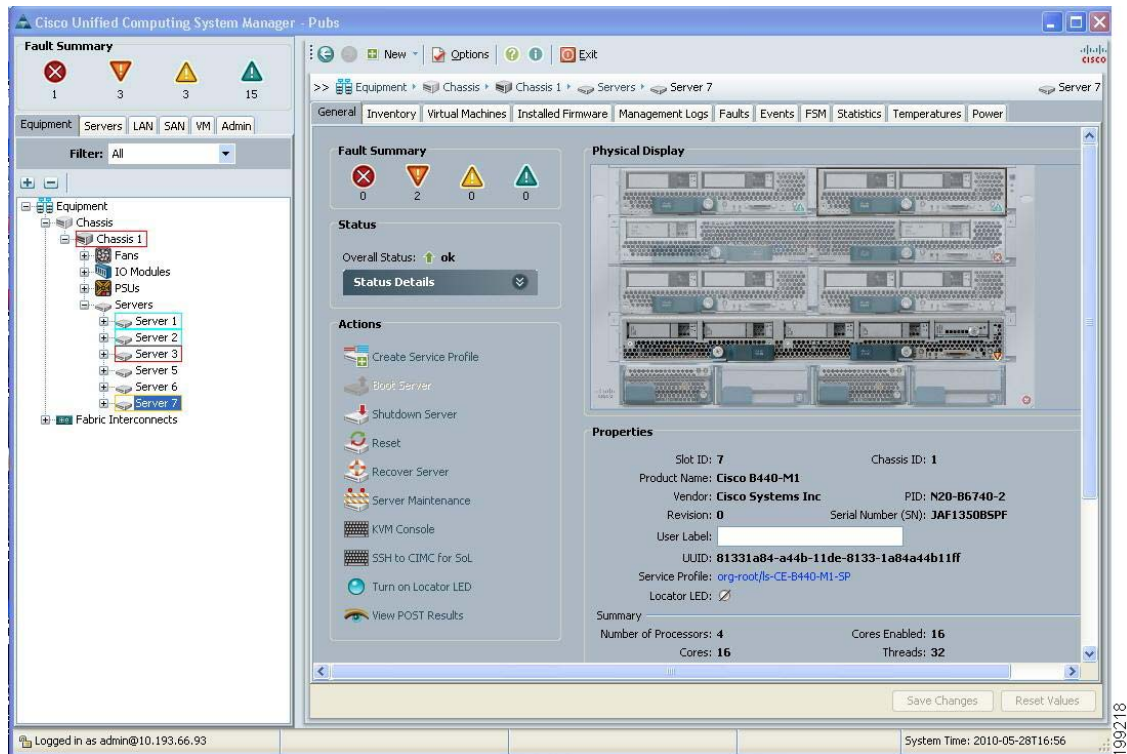
Use a browser to connect to the UCS Manager interface using your UCS Virtual Management IP address.

Step 4

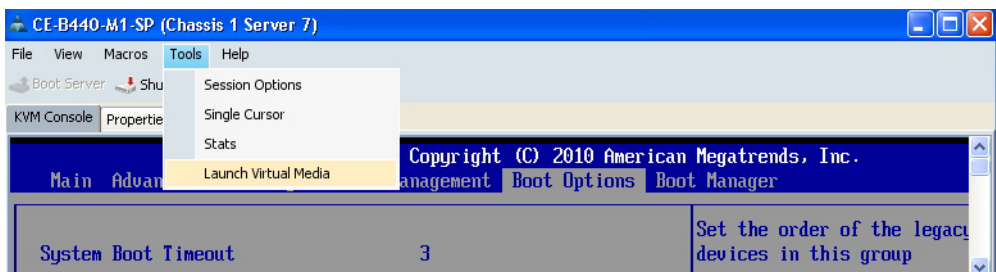
Click **Launch**, then log in to UCS Manager using your administrator username and password.



- Step 5** Open a KVM console window for the target server (the blade server that contains the target drive):
- In the UCS Manager main window, click the **Equipment** tab in the Navigation pane.
 - On the Equipment tab, expand **Equipment > Chassis > Chassis_Number > Servers**.
 - Choose the server that you want to access through the KVM console.
 - In the Work pane, click the **General** tab.
 - In the Actions area, click **KVM Console**. The KVM console opens in a separate window.



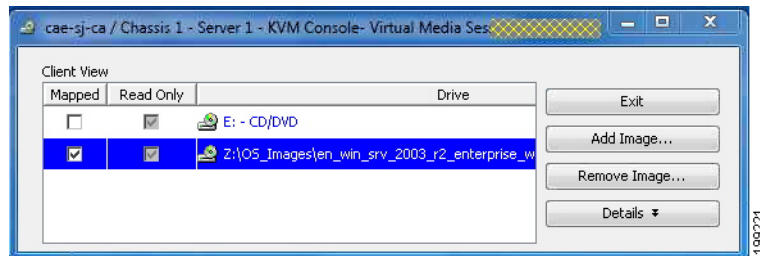
- Step 6** When the KVM console window launches, select **Tools > Launch Virtual Media**.



- Step 7** In the Virtual Media Session window, provide the path to your Windows installation image:
- Click **Add Image**.
 - Use the dialog box to navigate to your Windows Server 2003 ISO file and select it.
The ISO image is displayed as a device in the Client View pane.



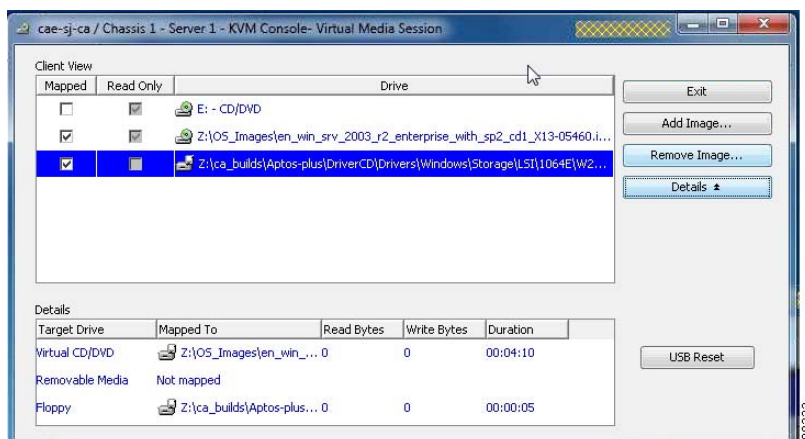
Tip Click **Details** to display the Details pane and observe the reading and writing progress.



- Step 8** Provide the path to drivers for your mass storage controllers:
- Click **Add Image**.
 - Navigate to the driver IMG image file for your device and operating system (where you saved it in [Step 1](#)) and select it.
The IMG file appears in the Client View pane as a virtual floppy drive.
 - When prompted whether you want to emulate the device as a floppy, click **Yes**.



- Step 9** Check the check box in the Mapped column for each device that you want to mount, and then wait for mapping to complete. Observe the progress in the Details pane.



- Step 10** When mapping is complete, power cycle the server so that the server reboots from the virtual CD/DVD and so the BIOS recognizes the media that you just added.



Note You can power cycle the server by pressing the Power button on the server; by selecting **Macros > Ctrl-Alt-Del** on the KVM Console window menu bar; or by clicking **Reset** in the UCS Manager Work pane for the selected server.

- Step 11** Watch the KVM console during bootup for the F2 prompt, and then press **F2** to enter BIOS setup. Wait for the setup utility screen to appear.

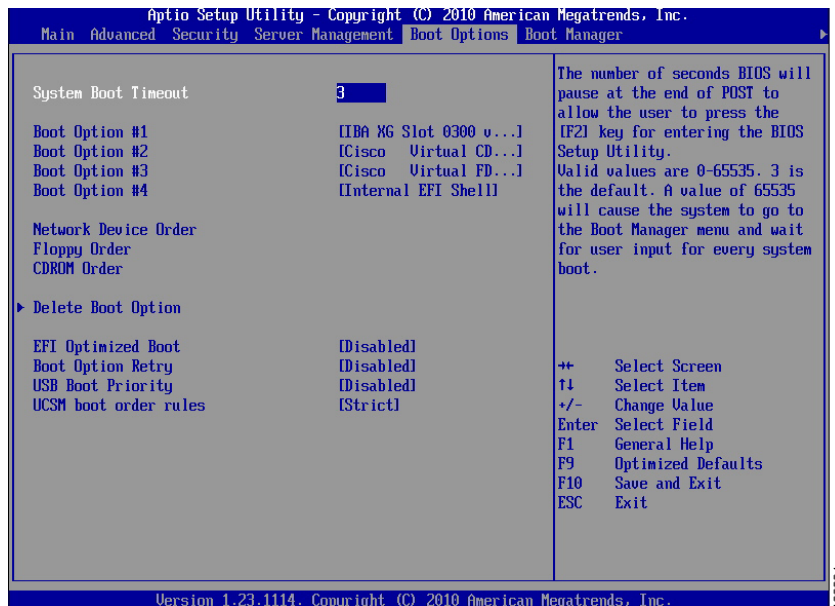


Note If Quiet Boot is enabled (the default), you see the Cisco splash screen when the F2 prompt is displayed.

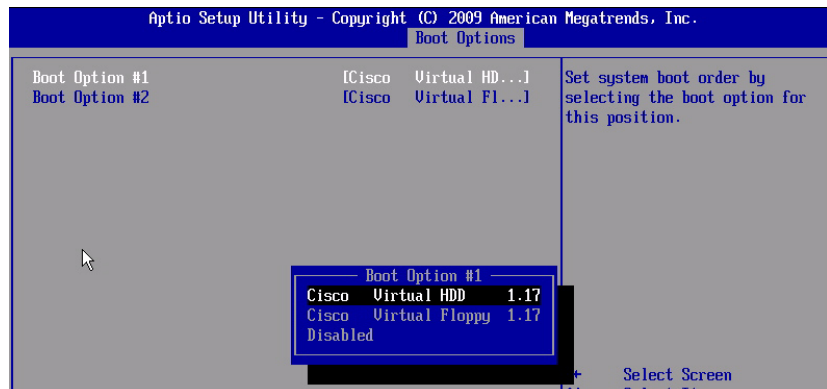


Note After you press F2 there is a small time interval before the BIOS setup utility is displayed because the server continues to initialize devices and then displays the utility only after this is complete.

- Step 12** On the BIOS setup utility screen, select the **Boot Options** tab and verify that the devices that you just added in [Step 7](#) and [Step 8](#) are listed as bootable devices.



- Step 13** Set the virtual floppy drive boot order:
- On the Boot Options screen, select **Floppy Order**.
 - On the Floppy Order screen, set the new virtual floppy to be first in the list of floppy devices.
 - Select **Boot Option#1** and press **Enter**.
 - Select **Cisco Virtual Floppy** in the pop-up window and press **Enter**.
 - Press **F10** to save your changes and exit the BIOS setup utility. The server power cycles.

**Note**

When the server power cycles, it boots from the virtual CD/DVD that is mapped to your ISO installation image. The server uses the boot order that is defined in its UCS Manager service profile (see [Step 2](#)).

**Note**

Do not install the OS or drivers on any eUSB drive in your server. The Cisco UCS B440 Blade Server can contain optional eUSB drives. If an eUSB drive is installed, the OS sees it as a local drive, listed as “Viking eUSB.” Cisco UCS Manager does not differentiate between the types of local drives. If an OS is installed on more than one local drive or on an internal USB drive (eUSB), you cannot specify which of these local drives the server should use as the boot drive.

- Step 14** Press **Enter** when prompted to boot from CD.

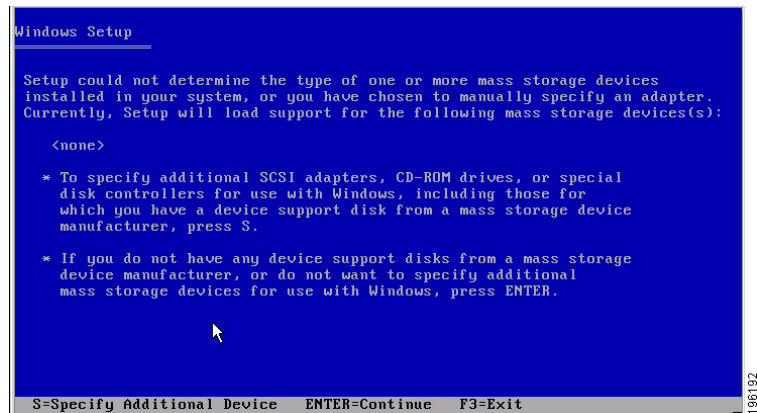
**Note**

In the next step, you must watch immediately for the prompt to press F6 and then press **F6**. During the initial startup of the Windows installer, a message at the bottom of the window will say “Press F6 to install third-party drivers.”

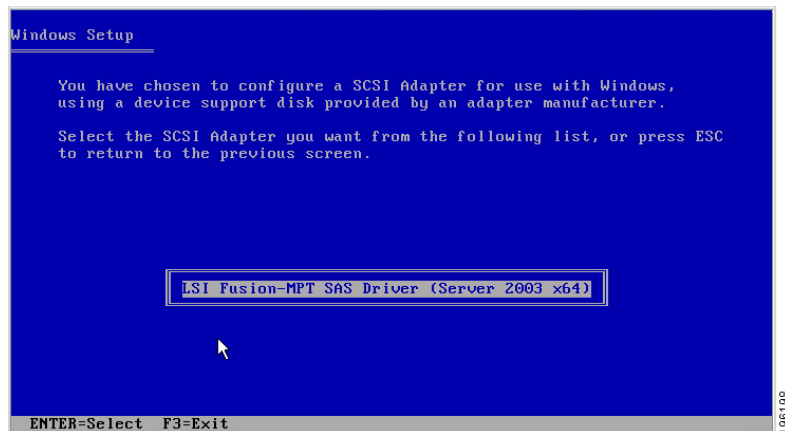
- Step 15** Install the drivers for your mass storage device from the virtual floppy:
- After the Windows Setup screen appears, immediately watch for the prompt to press F6, and then press **F6** to install third-party drivers for your mass storage device during the installation process.



- Continue to observe the Windows installation process and when prompted, press **S** to specify additional device.



- Select your mass storage device from the list and press **Enter**. The drivers for your mass storage device are installed from the virtual floppy.



**Note**

Do not install the OS or drivers on any eUSB drive in your server. The Cisco UCS B440 Blade Server can contain optional eUSB drives. If an eUSB drive is installed, the OS sees it as a local drive, listed as “Viking eUSB.” Cisco UCS Manager does not differentiate between the types of local drives. If an OS is installed on more than one local drive or on an internal USB drive (eUSB), you cannot specify which of these local drives the server should use as the boot drive.

Step 16

Complete the Windows installation according to the requirements and standards of your company. Continue to monitor the Windows installation progress as indicated in the Windows Setup window, and answer prompts as required. Verify that Windows lists the drivers that you added.

**Note**

During the installation steps in which you choose the partition on a RAID volume, the installation might fail with an error similar to the following:

“Your boot partition is on a disk using the GPT partitioning scheme but this machine cannot boot using GPT. This can happen if there is not enough space on your hard drive for the installation.”

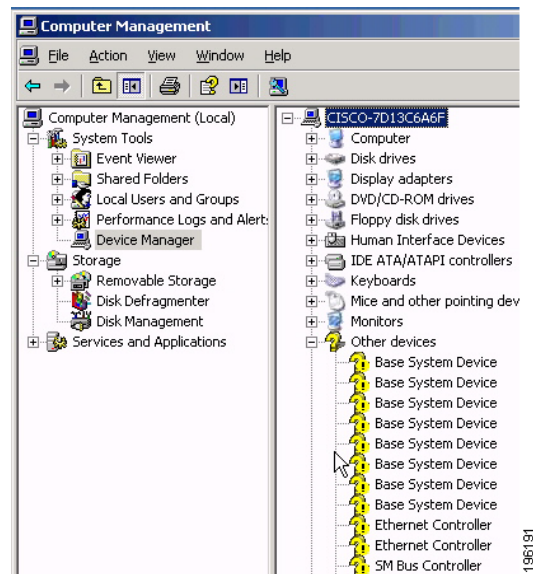
This is because the BIOS and boot disk of this server must use the MBR partitioning scheme, which supports a maximum partition size of 2.2 TB. If your target disk is using the GPT partitioning scheme with partitions larger than 2.2 TB, you must adjust to use the MBR partitioning scheme with no partition greater than 2.2 TB. Refer to your OS vendor’s documentation for more information about partitioning.

Step 17

After the Windows installation is complete, Windows reboots the server again and you are prompted to press **Ctrl-Alt-Del** and to log in to access the Windows desktop. Use the login credentials that you supplied during the Windows installation process.

**Note**

At this point, Windows still needs device drivers installed for devices such as the server chipset and Ethernet controllers. In the Windows Server 2003 Device Manager, devices that still need drivers are marked with yellow flags as shown in the following example.

**Step 18**

Use a Windows File Manager to navigate to the folder where you extracted the Cisco driver package that you got from the Cisco UCS B-Series Driver DVD (or downloaded from Cisco.com) in [Step 1](#).

Drivers for all the devices are included in folders named for each device. See [Drivers for B-Series Windows Installation, page A-1](#), for driver locations.

Step 19 Install Intel chipset drivers:

- a. In the folder that contains the chipset drivers for your hardware, there is an EXE file that extracts and installs the drivers (for example, ...\\Windows\\ChipSet\\Intel\\W2K3\\setup.exe).



Note Ensure that you have the Intel chipset drivers for your server model (B2X0 Blade or B440 Blade).

- b. Follow the prompts from Windows to reboot the server to complete the chipset driver installation.

Step 20 Install the LAN on motherboard (LOM) drivers:

- a. In the folder that contains the drivers that you need, click the EXE file to extract and install the drivers (for example, \\Windows\\Network\\Intel\\82576\\). In some cases, there is not an EXE file and you might have to manually install the drivers.
- b. Follow the prompts from Windows to reboot the server to complete the LOM driver installation.

Step 21 Repeat the driver installation process for each device that still needs drivers, as indicated by yellow flags in the Windows Server 2003 Device Manager.



Note Some drivers might be installed as part of the Windows hardware discovery process.

SAN Boot Installation

This section describes how to install Windows Server 2003 with Service Pack 2 (SP2) x86 or x64 on a bootable SAN LUN.

**Note**

For this server, the supported version of the operating system is Windows Server 2003 with SP2.

This section contains two topics:

- [Prerequisites, page 1-11](#)
- [Installation Procedure, page 1-13](#)

Prerequisites

The following items or actions are required before you begin this procedure:

- The Cisco UCS B-Series Drivers CD, or the ISO image of this CD from Cisco.com.
- If installing to a bootable SAN device, configure a LUN on the SAN, then connect to the SAN and verify that only one path exists from the SAN HBA to the LUN.
- The Windows installation ISO image (or CD/DVD), and any activation keys for this software installation.

**Note**

This document describes a procedure for installing the OS from an ISO image that you map as a virtual device. You can also install from a physical disk, but that method requires that you attach an external USB CD/DVD drive to the server targeted for installation. Attach a KVM cable to the blade server's front-panel console connector to provide the USB connector.

- A fully installed and configured UCS system.

See the [“Pre-Installation Service Profile Configuration Checklist”](#) section on [page 1-12](#) for a checklist of the minimum UCS configuration items required for this operating system installation.

Pre-Installation Service Profile Configuration Checklist

The installation-target server must have a configured service profile associated with that server. The service profile contains all of the information and settings that are applied to the server.

A minimum checklist of the UCS preconfiguration actions that you must perform for this OS installation follows. Detailed instructions for completing each item are beyond the scope of this document.

Information and instructions for configuring all of these items are described in detail in the following documents:

- [Cisco UCS 5108 Server Chassis Installation Guide](#)
- [Cisco UCS Manager GUI Configuration Guide](#)
- [Cisco UCS Manager CLI Configuration Guide](#)

1. Install and cable the UCS system hardware to make the physical connections to your network.
2. Use UCS Manager to configure pools that identify the physical and logical resources on your network. You select from these pools as you build the service profile for the server.

For example, the UCS system uses WWN pools to identify available nodes and ports on FC HBAs. The UCS system also allows you to define pools for servers, MAC addresses, UUID suffixes, and management IP addresses.

3. Use UCS Manager to configure any policies that you require to manage the server. A specific boot policy is required, as described below in step 7.
4. Configure one named VSAN for each uplink fabric to which the target server is networked.

A named VSAN creates a connection to a specific external SAN fabric.

5. Associate each VSAN with a physical uplink port on each VSAN's corresponding fabric interconnect.

For example, you associate the VSAN that you created for Fabric A with an available physical port on Fabric Interconnect A.

6. Create one vHBA policy for each uplink fabric to which the target server is networked.

This vHBA policy defines how the vHBA connects to the SAN.

7. Create a boot policy for this particular operating system installation.

For this installation, create a boot policy that defines the following boot order:

- a. CD-ROM
- b. Floppy
- c. Storage
 - SAN Primary
 - SAN Secondary

8. Create a service profile for the target blade server. Associate the policies that you created in previous steps with the service profile. If you are using the Create Service Profile wizard, part 5 of the creation process is Server Boot Order. Select the boot policy that you created in step 7.

If there is already an existing service profile associated with the target server, you can modify the existing boot policy. Edit the service profile to select the boot policy that you created in step 7.

9. Associate the service profile that you created with the target server.

When the target server is rebooted, the settings in the service profile are assigned to it.

At this point, you can begin the OS installation procedure.

Installation Procedure

To install the software and drivers, follow these steps:


Note

The values and settings shown in the screen captures in this procedure are examples only. Your actual settings might differ.

Step 1

Find the drivers for your installed devices on the Cisco UCS B-Series Drivers disk that came with your B-Series server, and then extract them to a local machine, such as your laptop.


Note

See [Drivers for B-Series Windows Installation, page A-1](#), for driver locations on the disk and information about how to determine which devices are installed in your server.

If you do not have this driver disk, you can download the driver package ISO for your server from Cisco at <http://www.cisco.com/cisco/web/support/index.html>. You can burn the image to a CD or use a third-party utility to mount the image on a laptop hard drive.

Step 2

Verify that the UCS Manager service profile for the server includes a boot policy that has the boot order of devices described in the prerequisites for this procedure ([Pre-Installation Service Profile Configuration Checklist, page 1-2](#)):

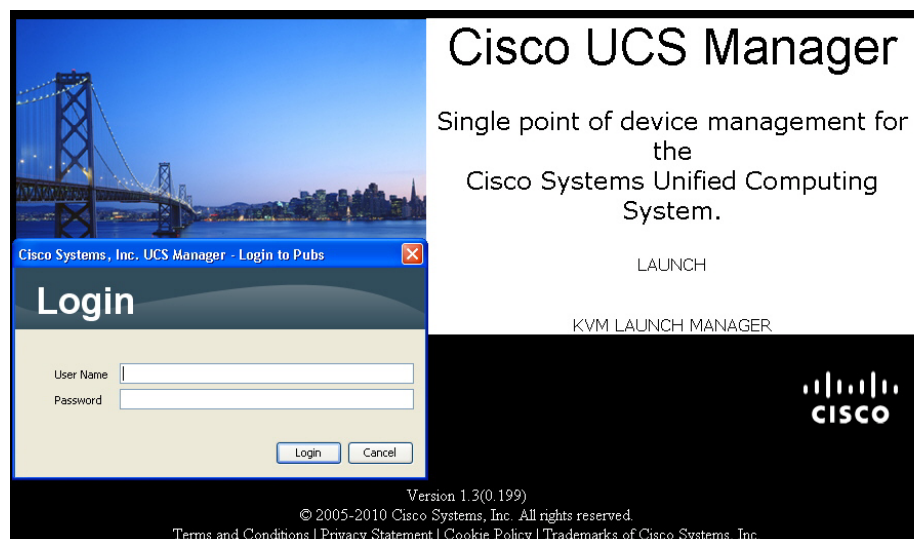
- a. CD-ROM
- b. Floppy
- c. Storage
 - SAN Primary
 - SAN Secondary

Step 3

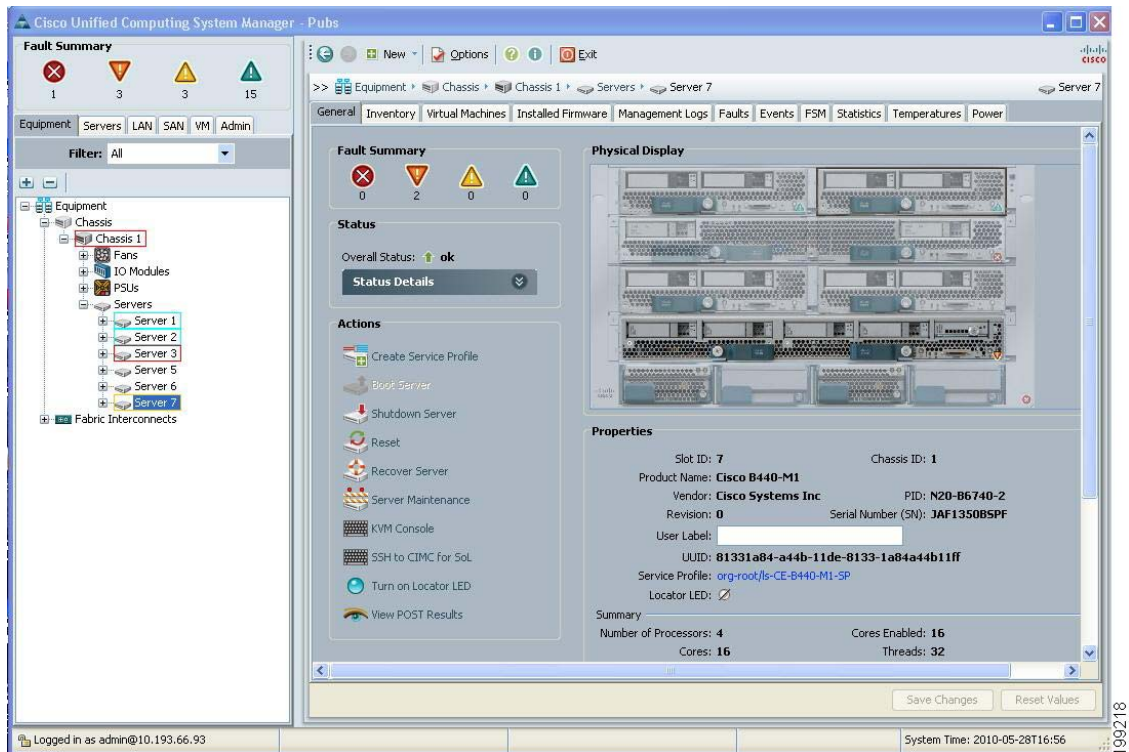
Use a browser to connect to the UCS Manager interface using your UCS Virtual Management IP address.

Step 4

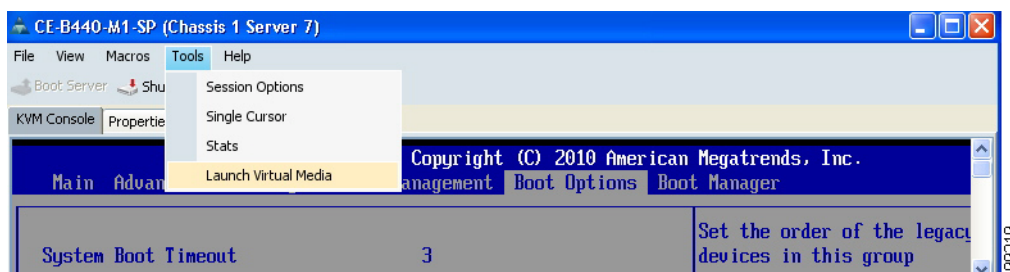
Click **Launch**, then log in to UCS Manager using your administrator username and password.



- Step 5** Open a KVM console window for the target server (the blade server that contains the target drive):
- In the UCS Manager main window, click the **Equipment** tab in the Navigation pane.
 - On the Equipment tab, expand **Equipment > Chassis > Chassis_Number > Servers**.
 - Choose the server that you want to access through the KVM console.
 - In the Work pane, click the **General** tab.
 - In the Actions area, click **KVM Console**. The KVM console opens in a separate window.



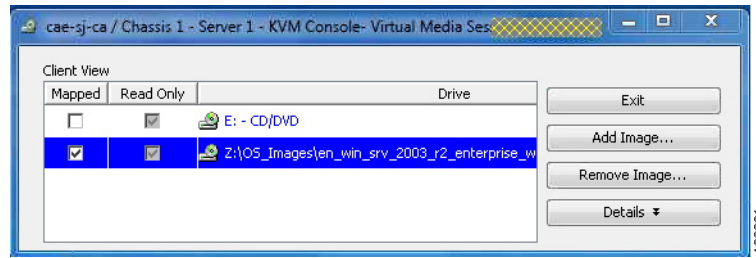
- Step 6** When the KVM console window launches, select **Tools > Launch Virtual Media**.



- Step 7** In the Virtual Media Session window, provide the path to your Windows installation image:
- Click **Add Image**.
 - Use the dialog to navigate to your Windows Server 2003 ISO file and select it.
The ISO image is displayed as a device in the Client View pane.



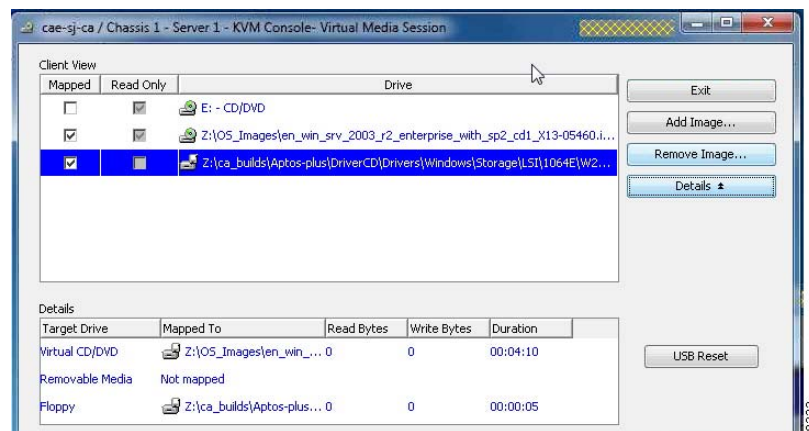
Tip Click **Details** to display the Details pane and observe the reading and writing progress.



- Step 8** Provide the path to drivers for your SAN HBA device:
- Click **Add Image**.
 - Navigate to the driver IMG image file for your device and operating system (where you saved it in [Step 1](#)) and select it.
The IMG file appears in the Client View pane as a virtual floppy drive.
 - When prompted whether you want to emulate the device as a floppy, click **Yes**.



- Step 9** Check the check box in the Mapped column for each device that you want to mount, and then wait for mapping to complete. Observe the progress in the Details pane.



Step 10 When mapping is complete, power cycle the server so that the server reboots from the virtual CD/DVD and so the BIOS recognizes the media that you just added.

**Note**

You can power cycle the server by pressing the Power button on the server; by selecting **Macros > Ctrl-Alt-Del** on the KVM Console window menu bar; or by clicking **Reset** in the UCS Manager Work pane for the selected server.

Step 11 Watch the KVM console during bootup for the F2 prompt, and then press **F2** to enter BIOS setup. Wait for the setup utility screen to appear.

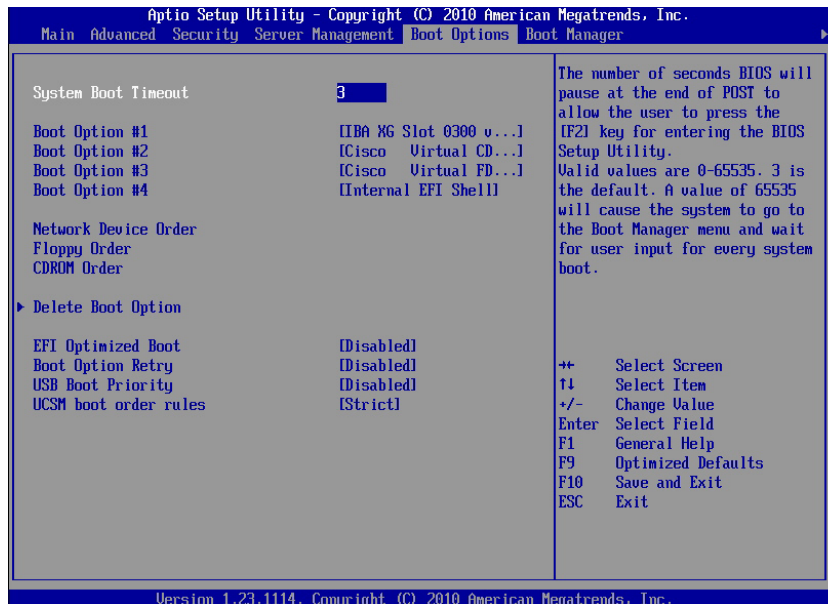
**Note**

If Quiet Boot is enabled (the default), you see the Cisco splash screen when the F2 prompt is displayed.

**Note**

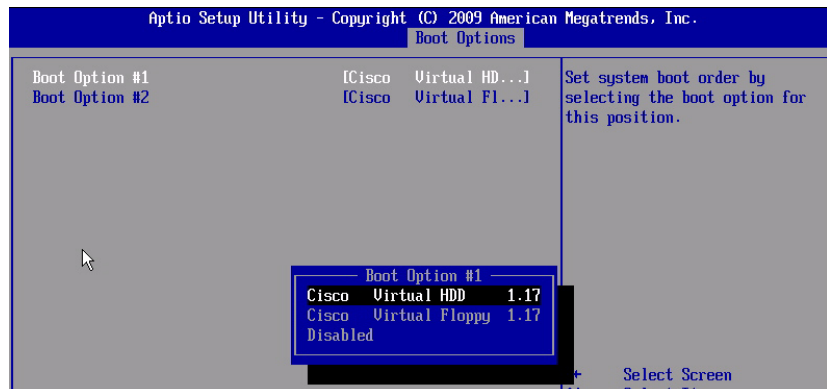
After you press F2 there is a small time interval before the BIOS setup utility is displayed because the server continues to initialize devices and then displays the utility only after this is complete.

Step 12 On the BIOS setup utility screen, select the **Boot Options** tab and verify that the devices that you just added in [Step 7](#) and [Step 8](#) are listed as bootable devices.



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- Step 13** Set the virtual floppy drive boot order:
- On the Boot Options screen, select **Floppy Order**.
 - On the Floppy Order screen, set the new virtual floppy to be the first in the list of floppy devices.
 - Select **Boot Option#1** and press **Enter**.
 - Select **Cisco Virtual Floppy** in the pop-up window and press **Enter**.
 - Press **F10** to save your changes and exit the BIOS setup utility. The server power cycles.

**Note**

When the server power cycles, it boots from the virtual CD/DVD that is mapped to your ISO installation image. The server uses the boot order that is defined in its UCS Manager service profile (see [Step 2](#)).

- Step 14** Press **Enter** when prompted to boot from CD.

**Note**

In the next step, you must watch immediately for the prompt to press F6 and then press **F6**. During the initial startup of the Windows installer, a message at the bottom of the window will say “Press F6 to install third-party drivers.”

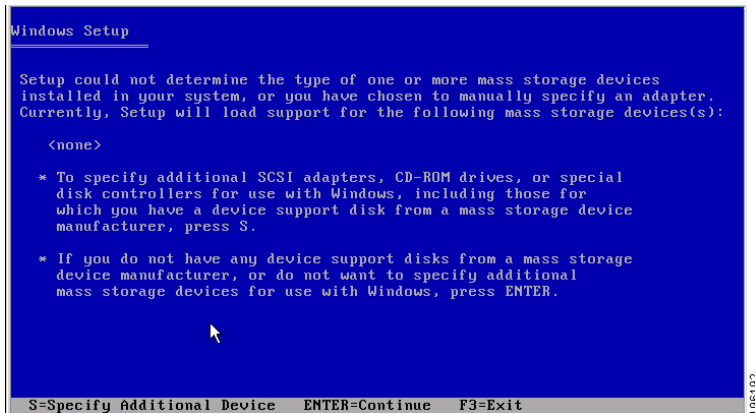
SAN Boot Installation

Step 15 Install the drivers for your HBA device from the virtual floppy:

- a. Immediately watch for the prompt to press F6, and then press **F6** to install third-party drivers for your mass storage device during the installation process.



- b. Continue to observe the Windows installation process and when prompted, press **S** to specify additional device.



- c. Select your HBA device from the list and press **Enter**. The drivers for your HBA device are installed from the virtual floppy.



- Step 16** Complete the Windows installation according to the requirements and standards of your company. Continue to monitor the Windows installation progress as indicated in the Windows Setup window, and answer prompts as required. Verify that Windows lists the drivers that you added.

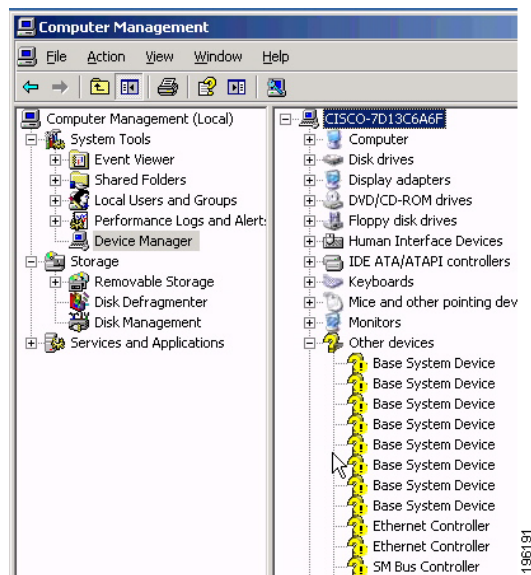


Note During the installation steps in which you choose the partition on a RAID volume, the installation might fail with an error similar to the following:
 “Your boot partition is on a disk using the GPT partitioning scheme but this machine cannot boot using GPT. This can happen if there is not enough space on your hard drive for the installation.”
 This is because the BIOS and boot disk of this server must use the MBR partitioning scheme, which supports a maximum partition size of 2.2 TB. If your target disk is using the GPT partitioning scheme with partitions larger than 2.2 TB, you must adjust to use the MBR partitioning scheme with no partition greater than 2.2 TB. Refer to your OS vendor’s documentation for more information about partitioning.

- Step 17** After the Windows installation is complete, Windows reboots the server again and you are prompted to press **Ctrl-Alt-Del** and to log in to access the Windows desktop. Use the login credentials that you supplied during the Windows installation process.



Note At this point, Windows still needs device drivers installed for devices such as the server chipset and Ethernet controllers. In the Windows Server 2003 Device Manager, devices that still need drivers are marked with yellow flags as shown in the following example.



- Step 18** Use a Windows File Manager to navigate to the folder where you extracted the Cisco driver package that you got from the Cisco UCS B-Series Drivers disk (or downloaded from Cisco.com) in [Step 1](#). Drivers for all the devices are included in folders named for each device. See [Drivers for B-Series Windows Installation, page A-1](#), for driver locations.

- Step 19** Install Intel chipset drivers:
- In the folder that contains the chipset drivers you need for your server, there is an EXE file that extracts and installs the drivers (for example, ...\\Windows\\ChipSet\\Intel\\W2K3\\setup.exe).
 - Follow the prompts from Windows to reboot the server to complete the chipset driver installation.

- Step 20** Install the LAN on motherboard (LOM) drivers:
- a. In the folder that contains the drivers that you need, click the EXE file to extract and install the drivers (for example, \Windows\Network\Intel\82576\). In some cases, there is not an EXE file and you might have to manually install the drivers.
 - b. Follow the prompts from Windows to reboot the server to complete the LOM driver installation.
- Step 21** Repeat the driver installation process for each device that still needs drivers, as indicated by yellow flags in the Windows Server 2003 Device Manager.

**Note**

Some drivers might be installed as part of the Windows hardware discovery process.



CHAPTER 2

Windows Server 2008 and Windows Server 2008 R2 Installation

This chapter contains two procedures:

- [Installation on an Internal Drive, page 2-1](#)
- [SAN Boot Installation, page 2-11](#)

Installation on an Internal Drive

This section describes how to install Windows Server 2008 x64 or Windows Server 2008 x64 R2 and required drivers on an internal drive.

This section contains two topics:

- [Prerequisites, page 2-1](#)
- [Installation Procedure, page 2-3](#)

Prerequisites

The following items or actions are required before you begin this procedure:

- The Cisco UCS B-Series Drivers CD, or the ISO image of this CD from Cisco.com.
- If installing to one of the LSI RAID controllers, configure a LUN to which you will install the OS.
- The Windows installation ISO image (or CD/DVD), and any activation keys for this software installation.



Note

This document describes a procedure for installing the OS from an ISO image that you map as a virtual device. You can also install from a physical disk, but that method requires that you attach an external USB CD/DVD drive to the server targeted for installation. Attach a KVM cable to the blade server's front-panel console connector to provide the USB connector.

- A fully installed and configured UCS system.

See the [“Pre-Installation Service Profile Configuration Checklist”](#) section on [page 2-2](#) for a checklist of the minimum UCS configuration items required for this operating system installation.

Pre-Installation Service Profile Configuration Checklist

The installation-target server must have a configured service profile associated with that server. The service profile contains all of the information and settings that are applied to the server.

A minimum checklist of the UCS preconfiguration actions that you must perform for this OS installation follows. Detailed instructions for completing each item are beyond the scope of this document. Information and instructions for configuring all of these items are described in detail in the following documents:

- [Cisco UCS 5108 Server Chassis Installation Guide](#)
- [Cisco UCS Manager GUI Configuration Guide](#)
- [Cisco UCS Manager CLI Configuration Guide](#)

1. Install and cable the UCS system hardware to make the physical connections to your network.
2. Use UCS Manager to configure pools that identify the physical and logical resources on your network. You select from these pools as you build the service profile for the server.

For example, the UCS system uses WWN pools to identify available nodes and ports on FC HBAs. The UCS system also allows you to define pools for servers, MAC addresses, UUID suffixes, and management IP addresses.

3. Use UCS Manager to configure any policies that you require to manage the server. A specific boot policy is required, as described below in step 6.
4. Configure one named VSAN for each uplink fabric to which the target server is networked.

A named VSAN creates a connection to a specific external SAN fabric.

5. Associate each VSAN with a physical uplink port on each VSAN's corresponding fabric interconnect.

For example, you associate the VSAN that you created for Fabric A with an available physical port on Fabric Interconnect A.

6. Create a boot policy for this particular operating system installation.

For this installation, create a boot policy that defines the following boot order:

- a. CD-ROM
- b. Local disk

7. Create a service profile for the target blade server. If you are using the Create Service Profile wizard, part 5 of the creation process is Server Boot Order. Select the boot policy that you created in step 6.

If there is already an existing service profile associated with the target server, you can modify the boot policy that is associated with that service profile. Select the boot policy that you created in step 6.

8. Associate the service profile that you created with the target server.

When the target server is rebooted, the settings in the service profile are assigned to it.

At this point, you can begin the OS installation procedure.

Installation Procedure

To install the software and drivers, follow these steps:

**Note**

The values and settings shown in the screen captures in this procedure are examples only. Your actual settings might differ.

Step 1

Find the drivers for your installed devices on the Cisco UCS B-Series Drivers disk that came with your B-Series server, and then extract them to a local machine such as your laptop.

**Note**

See [Drivers for B-Series Windows Installation, page A-1](#), for driver locations on the disk and information about how to determine which devices are installed in your server.

If you do not have this driver disk, you can download the driver package ISO for your server from Cisco at <http://www.cisco.com/cisco/web/support/index.html>. You can burn the image to a CD or use a third-party utility to mount the image on a laptop hard drive.

Step 2

Verify that the UCS Manager service profile for the server includes a boot policy that has the boot order of devices described in the prerequisites for this procedure ([Pre-Installation Service Profile Configuration Checklist, page 2-2](#)):

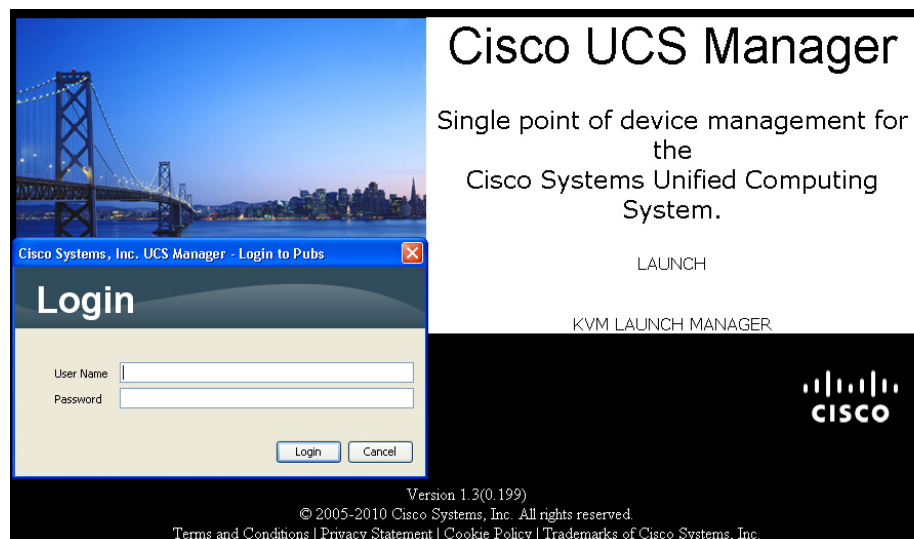
- a. CD-ROM
- b. Local disk

Step 3

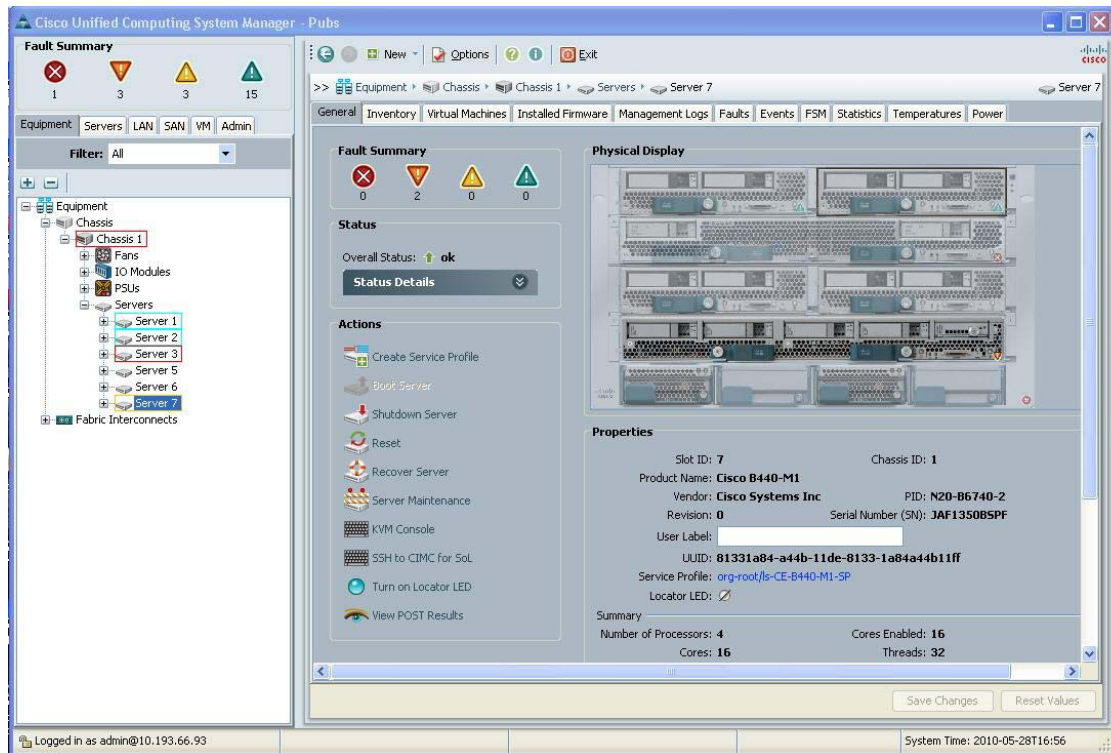
Use a browser to connect to the UCS Manager interface using your UCS Virtual Management IP address.

Step 4

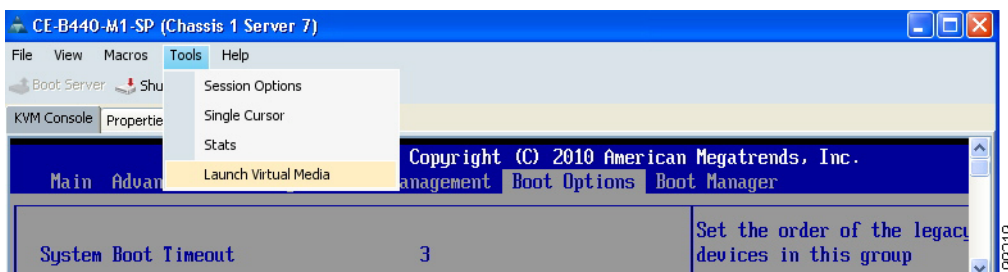
Click **Launch**, then log in to UCS Manager using your administrator username and password.



- Step 5** Open a KVM console window for the target server (the blade server that contains the target drive):
- In the UCS Manager main window, click the **Equipment** tab in the Navigation pane.
 - On the Equipment tab, expand **Equipment > Chassis > Chassis_Number > Servers**.
 - Choose the server that you want to access through the KVM console.
 - In the Work pane, click the **General** tab.
 - In the Actions area, click **KVM Console**. The KVM console opens in a separate window.



- Step 6** When the KVM console window launches, select **Tools > Launch Virtual Media**.



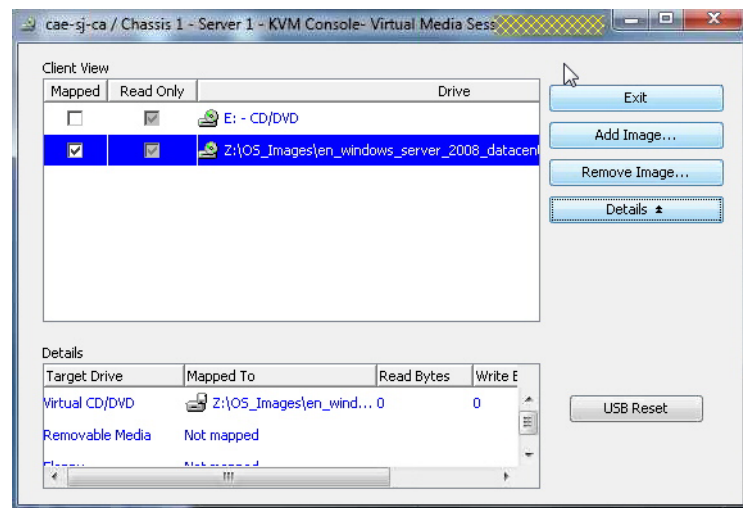
- Step 7** In the Virtual Media Session window, provide the path to your Windows installation image:
- Click **Add Image**.
 - Use the dialog box to navigate to your Windows Server 2008 ISO file and select it.
The ISO image is displayed as a device in the Client View pane.



Tip Click **Details** to display the Details pane and observe the reading and writing progress.



- Step 8** Check the check box in the Mapped column for the media that you added, and then wait for mapping to complete. Observe the progress in the Details pane.



- Step 9** When mapping is complete, power cycle the server so that the server reboots from the virtual CD/DVD and so the BIOS recognizes the media that you just added.




Note You can power cycle the server by pressing the Power button on the server; by selecting **Macros > Ctrl-Alt-Del** on the KVM Console window menu bar; or by clicking **Reset** in the UCS Manager Work pane for the selected server.



Note When the server power cycles, it boots from the virtual CD/DVD that is mapped to your ISO installation image. The server uses the boot order that is defined in its UCS Manager service profile (see [Step 2](#)).

Step 10 Press **Enter** when prompted to boot from CD.



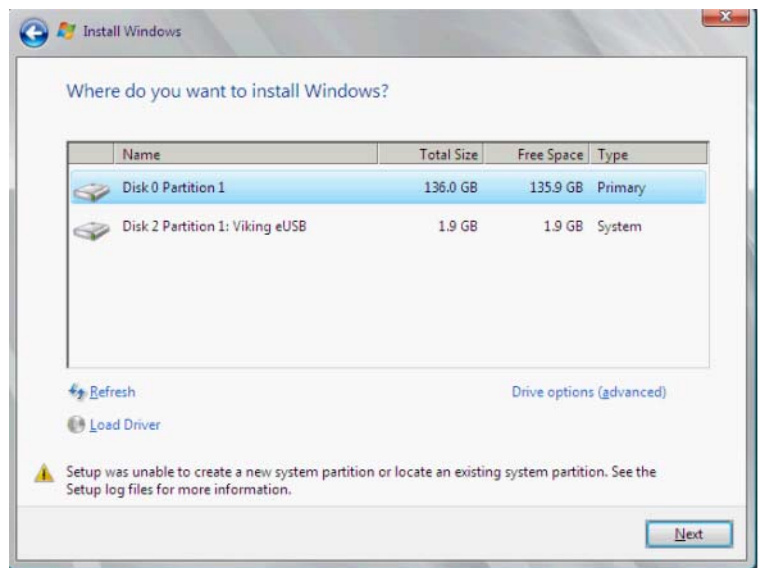
Step 11 Observe the Windows installation process and respond to prompts in the wizard as required for your preferences and company standards.

Step 12 When Windows prompts you with “Where do you want to install Windows,” first install the drivers for your mass storage device:

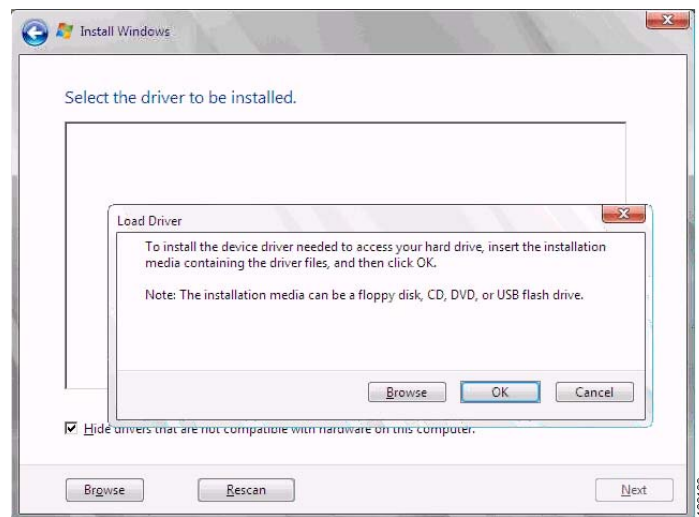


Note

Do not install the OS or drivers on any eUSB drive in your server. The Cisco UCS B440 Blade Server can contain optional eUSB drives. If an eUSB drive is installed, the OS sees it as a local drive, listed as “Viking eUSB.” Cisco UCS Manager does not differentiate between the types of local drives. If an OS is installed on more than one local drive or on an internal USB drive (eUSB), you cannot specify which of these local drives the server should use as the boot drive.



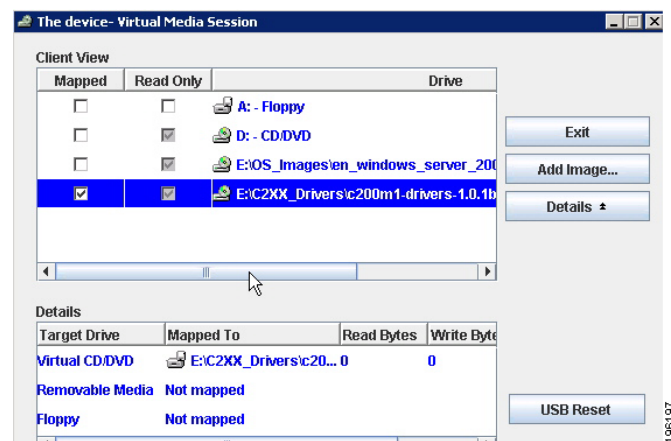
- a. In the Install Windows window, click **Load Driver**. You are prompted by a Load Driver dialog box to select the driver to be installed. In the next steps you first define a virtual device with your driver ISO image.



- b. If not already open, open a KVM Virtual Media Session window as you did in [Step 6](#).
- c. In the Virtual Media Session window, unmount the virtual DVD that you mapped in [Step 7](#) (remove its check mark under Mapped).
- d. In the Virtual Media Session window, click **Add Image**.
- e. Use the dialog box to navigate to the location where you saved the Cisco driver ISO image for your mass storage device in [Step 1](#) and select it.

The ISO appears in the Client View pane.

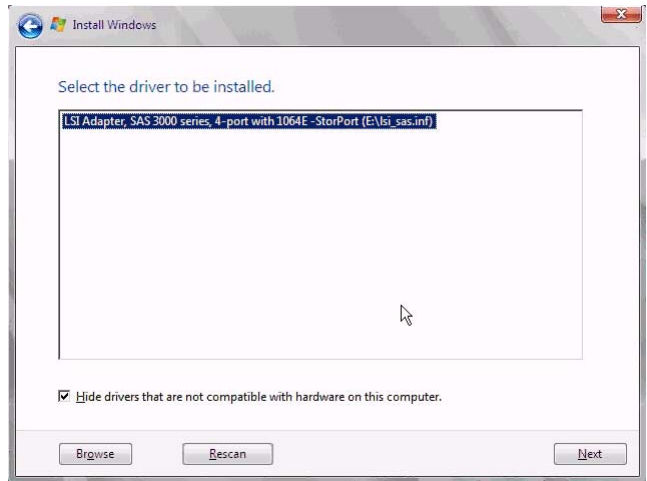
- f. In the Virtual Media Session window, check the check box under Mapped to mount the driver ISO that you just selected. Wait for mapping to complete, as indicated in the Details pane.



- g. In the Windows Load Driver dialog box that you opened in Step a, click **Browse**.
- h. Use the dialog box to select the virtual DVD device that you just created, and then navigate to the location of the drivers, select them, and click OK.

Windows loads the drivers and when finished, the driver is listed under the prompt “Select the driver to be installed.”

- i. After Windows loads the drivers, select the driver for your device from the list in the Install Windows window and then click **Next**. Wait while the drivers for your mass storage device are installed, as indicated by the progress bar.



- Step 13** After driver installation finishes, unmap the driver ISO and map the Windows installation image:
- a. In the Virtual Media Session window, uncheck the check box under Mapped that corresponded to the driver ISO.
 - b. In the Virtual Media Session window, check the check box under Mapped that corresponds to your Windows installation image (the same one that you defined in [Step 7](#)). Wait for mapping to complete. Observe the progress in the Details pane.
- Step 14** In the Install Windows window, select the disk or partition where you want to install Windows from the list, and then click **Next**.

**Note**

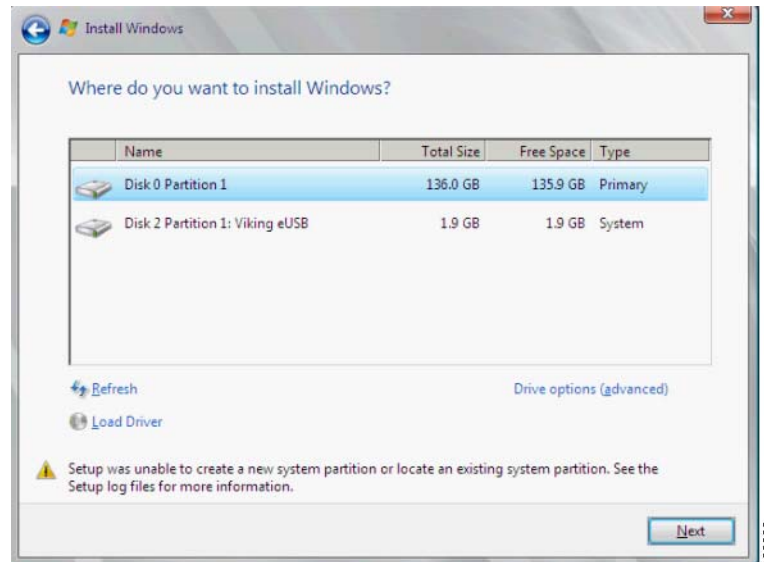
During the installation steps in which you choose the partition on a RAID volume, the installation might fail with an error similar to the following:

“Your boot partition is on a disk using the GPT partitioning scheme but this machine cannot boot using GPT. This can happen if there is not enough space on your hard drive for the installation.”

This is because the BIOS and boot disk of this server must use the MBR partitioning scheme, which supports a maximum partition size of 2.2 TB. If your target disk is using the GPT partitioning scheme with partitions larger than 2.2 TB, you must adjust to use the MBR partitioning scheme with no partition greater than 2.2 TB. Refer to your OS vendor’s documentation for more information about partitioning.

**Note**

Do not install the OS or drivers on any eUSB drive in your server. The Cisco UCS B440 Blade Server can contain optional eUSB drives. If an eUSB drive is installed, the OS sees it as a local drive, listed as “Viking eUSB.” Cisco UCS Manager does not differentiate between the types of local drives. If an OS is installed on more than one local drive or on an internal USB drive (eUSB), you cannot specify which of these local drives the server should use as the boot drive.



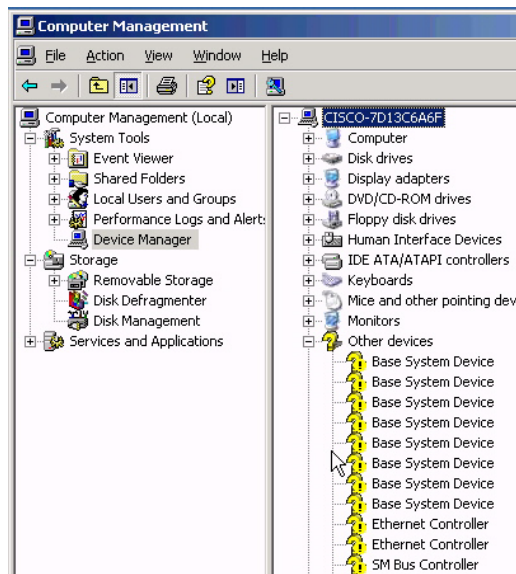
Step 15 Complete the Windows installation according to the requirements and standards of your company. Continue to observe the Windows installation process and answer prompts as required for your preferences. Verify that Windows lists the drivers that you added.

Step 16 After the Windows installation is complete, Windows reboots the server again and you are prompted to press **Ctrl-Alt-Del** and to log in to access the Windows desktop. Use the login that you supplied during the Windows installation process.



Note

At this point, Windows still needs device drivers installed for devices such as the server chipset and Ethernet controllers. In the Windows Server 2008 Device Manager, devices that still need drivers are marked with yellow flags as shown in the example below.



Step 17 Use a Windows File Manager to navigate to the folder where you extracted the Cisco driver package that you got from the Cisco UCS B-Series Drivers disk or downloaded from Cisco.com in [Step 1](#).

Drivers for all the devices are included in folders named for each device. See [Drivers for B-Series Windows Installation, page A-1](#), for driver locations.

Step 18 Install Intel chipset drivers:

- a. In the folder that contains the chipset drivers you need, there is an EXE file that will extract and install the drivers (for example, ...\\Windows\\ChipSet\\Intel\\W2K8\\setup.exe).
- b. Follow the prompts from Windows to reboot the server to complete the chipset driver installation.

Step 19 Install the LAN on motherboard (LOM) drivers:

- a. In the folder that contains the LOM drivers you need, there might be an EXE file that will extract and install the drivers (for example, ...\\Windows\\Network\\Intel\\82576\\W2K8\\). If there is an EXE file, click the EXE file for the set of drivers that you need. In some cases you might have to manually install the drivers.
- b. Follow the prompts from Windows to reboot the server to complete the LOM driver installation.

Step 20 Repeat the driver installation process for each device that still needs drivers, as indicated by yellow flags in the Windows Server 2008 Device Manager.

**Note**

Some drivers might be installed as part of the Windows hardware discovery process.

SAN Boot Installation

This section describes how to install Windows Server 2008 x64 or Windows Server 2008 x64 R2 and required drivers on a bootable SAN LUN.

This section contains two topics:

- [Prerequisites, page 2-11](#)
- [Installation Procedure, page 2-13](#)

Prerequisites

The following items or actions are required before you begin this procedure:

- The Cisco UCS B-Series Drivers CD, or the ISO image of this CD from Cisco.com.
- If installing to a bootable SAN device, configure a LUN on the SAN, then connect to the SAN and verify that only one path exists from the SAN HBA to the LUN.
- The Windows installation ISO image (or CD/DVD), and any activation keys for this software installation.



Note This document describes a procedure for installing the OS from an ISO image that you map as a virtual device. You can also install from a physical disk, but that method requires that you attach an external USB CD/DVD drive to the server targeted for installation. Attach a KVM cable to the blade server's front-panel console connector to provide the USB connector.

- A fully installed and configured UCS system.

See the “[Pre-Installation Service Profile Configuration Checklist](#)” section on page 2-12 for a checklist of the minimum UCS configuration items required for this operating system installation.

Pre-Installation Service Profile Configuration Checklist

The installation-target server must have a configured service profile associated with that server. The service profile contains all of the information and settings that are applied to the server.

A minimum checklist of the UCS preconfiguration actions that you must perform for this OS installation follows. Detailed instructions for completing each item are beyond the scope of this document. Information and instructions for configuring all of these items are described in detail in the following documents:

- [Cisco UCS 5108 Server Chassis Installation Guide](#)
- [Cisco UCS Manager GUI Configuration Guide](#)
- [Cisco UCS Manager CLI Configuration Guide](#)

1. Install and cable the UCS system hardware to make the physical connections to your network.
2. Use UCS Manager to configure pools that identify the physical and logical resources on your network. You select from these pools as you build the service profile for the server.

For example, the UCS system uses WWN pools to identify available nodes and ports on FC HBAs. The UCS system also allows you to define pools for servers, MAC addresses, UUID suffixes, and management IP addresses.
3. Use UCS Manager to configure any policies that you require to manage the server. A specific boot policy is required, as described below in step 7.
4. Configure one named VSAN for each uplink fabric to which the target server is networked.

A named VSAN creates a connection to a specific external SAN fabric.
5. Associate each VSAN with a physical uplink port on each VSAN's corresponding fabric interconnect.

For example, you associate the VSAN that you created for Fabric A with an available physical port on Fabric Interconnect A.
6. Create one vHBA policy for each uplink fabric to which the target server is networked.

This vHBA policy defines how the vHBA connects to the SAN.
7. Create a boot policy for this particular operating system installation.

For this installation, create a boot policy that defines the following boot order:

 - a. CD-ROM
 - b. Storage
 - SAN Primary
 - SAN Secondary
8. Create a service profile for the target blade server. Associate the policies that you created in previous steps with the service profile. If you are using the Create Service Profile wizard, part 5 of the creation process is Server Boot Order. Select the boot policy that you created in step 7.

If there is already an existing service profile associated with the target server, you can modify the existing boot policy. Edit the service profile to select the boot policy that you created in step 7.
9. Associate the service profile that you created with the target server.

When the target server is rebooted, the settings in the service profile are assigned to it. At this point, you can begin the OS installation procedure.

Installation Procedure

To install the software and drivers, follow these steps:


Note

The values and settings shown in the screen captures in this procedure are examples only. Your actual settings might differ.

Step 1

Find the drivers for your installed devices on the Cisco UCS B-Series Drivers disk that came with your B-Series server, and then extract them to a local machine such as your laptop.


Note

See [Drivers for B-Series Windows Installation, page A-1](#), for driver locations on the disk and information about how to determine which devices are installed in your server.

If you do not have this driver disk, you can download the driver package ISO for your server from Cisco at <http://www.cisco.com/cisco/web/support/index.html>. You can burn the image to a CD or use a third-party utility to mount the image on a laptop hard drive.

Step 2

Verify that the UCS Manager service profile for the server includes a boot policy that has the boot order of devices described in the prerequisites for this procedure ([Pre-Installation Service Profile Configuration Checklist, page 2-2](#)):

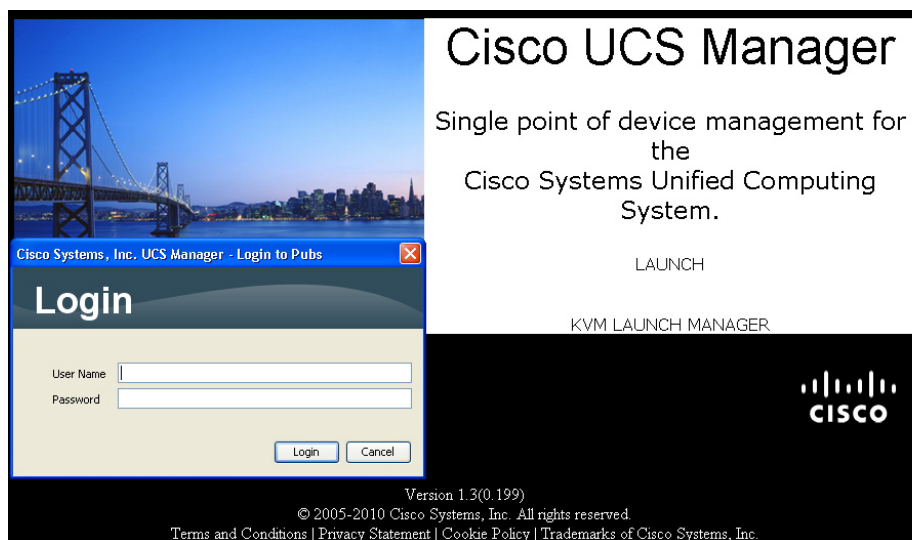
- a. CD-ROM
- b. Storage
 - SAN Primary
 - SAN Secondary

Step 3

Use a browser to connect to the UCS Manager interface using your UCS Virtual Management IP address.

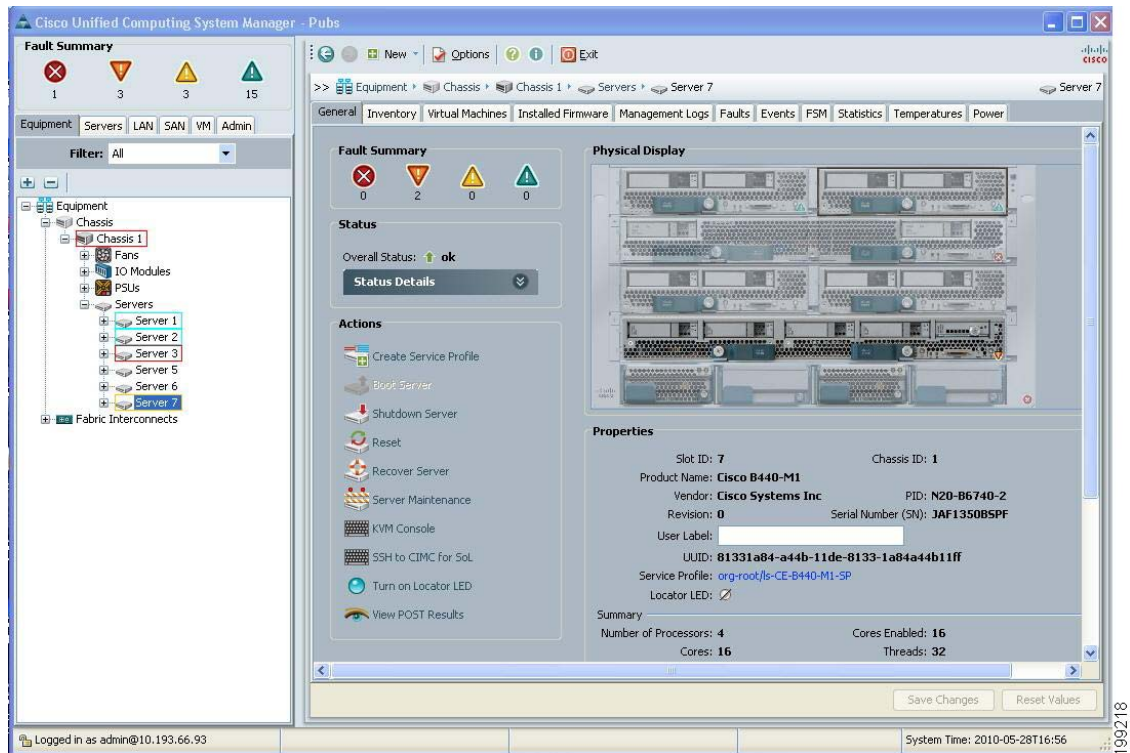
Step 4

Click **Launch**, then log in to UCS Manager using your administrator username and password.

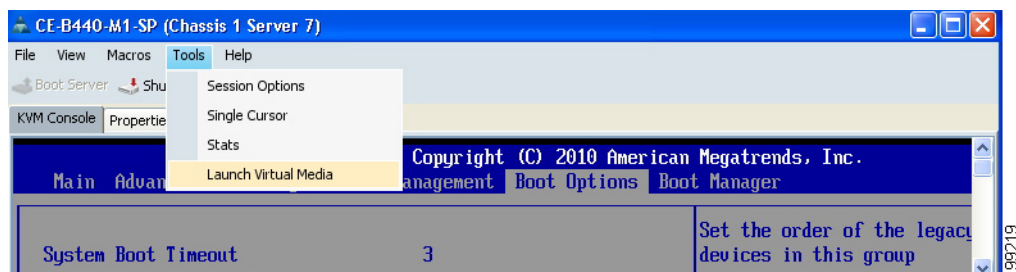


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- Step 5** Open a KVM console window for the target server (the blade server that contains the target drive):
- In the UCS Manager main window, click the **Equipment** tab in the Navigation pane.
 - On the Equipment tab, expand **Equipment > Chassis > Chassis_Number > Servers**.
 - Choose the server that you want to access through the KVM console.
 - In the Work pane, click the **General** tab.
 - In the Actions area, click **KVM Console**. The KVM console opens in a separate window.



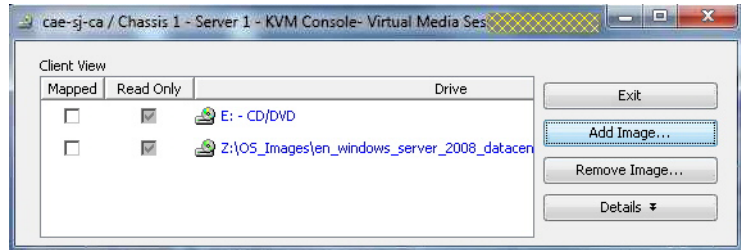
- Step 6** When the KVM console window launches, select **Tools > Launch Virtual Media**.



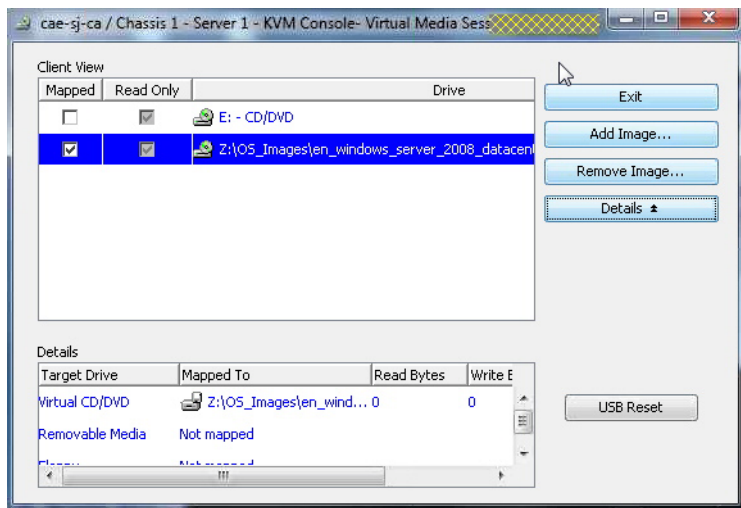
- Step 7** In the Virtual Media Session window, provide the path to your Windows installation image:
- Click **Add Image**.
 - Use the dialog box to navigate to your Windows Server 2008 ISO file and select it.
The ISO image is displayed as a device in the Client View pane.



Tip Click **Details** to display the Details pane and observe the reading and writing progress.



- Step 8** Check the check box in the Mapped column for the media that you added, and then wait for mapping to complete. Observe the progress in the Details pane.



- Step 9** When mapping is complete, power cycle the server so that the server reboots from the virtual CD/DVD and so the BIOS recognizes the media that you just added.



Note You can power cycle the server by pressing the Power button on the server; by selecting **Macros > Ctrl-Alt-Del** on the KVM Console window menu bar; or by clicking **Reset** in the UCS Manager Work pane for the selected server.



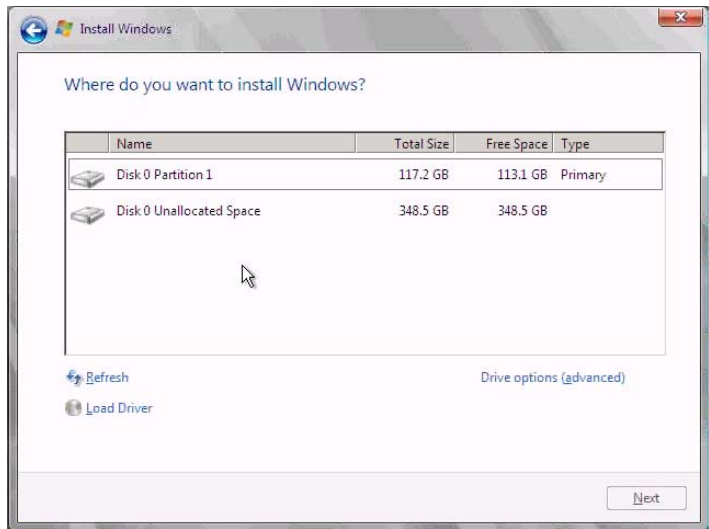
Note When the server power cycles, it boots from the virtual CD/DVD that is mapped to your ISO installation image. The server uses the boot order that is defined in its UCS Manager service profile (see [Step 2](#)).

Step 10 Press **Enter** when prompted to boot from CD.

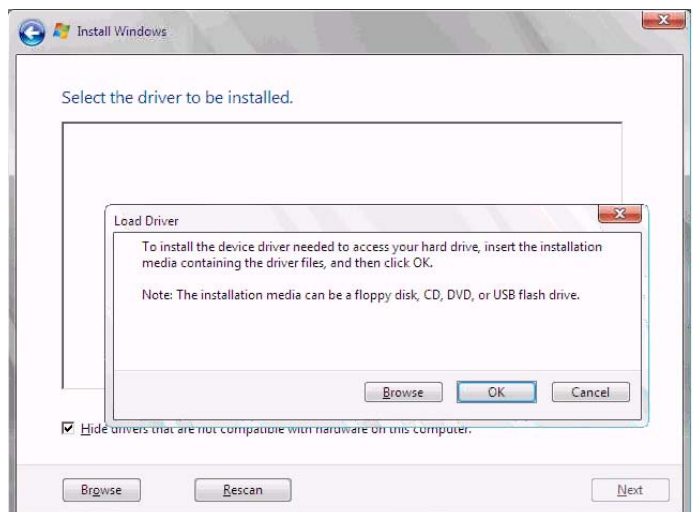


Step 11 Complete the Windows installation according to the requirements and standards of your company. Continue to observe the Windows installation process and answer prompts as required for your preferences. Verify that Windows lists the drivers that you added.

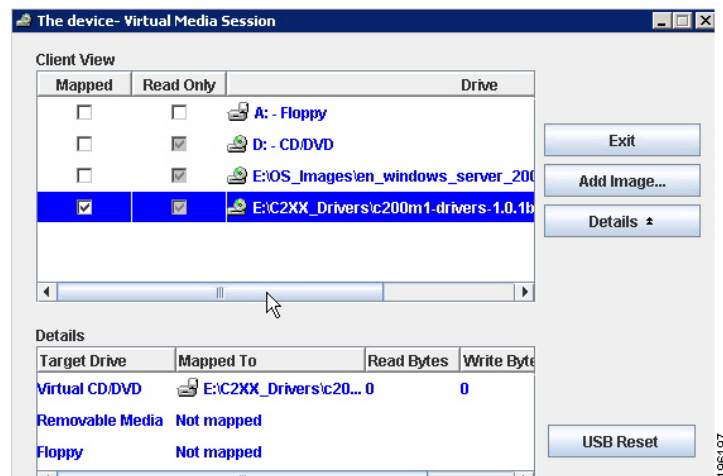
Step 12 When Windows prompts you with “Where do you want to install Windows,” first install the drivers for your HBA device:



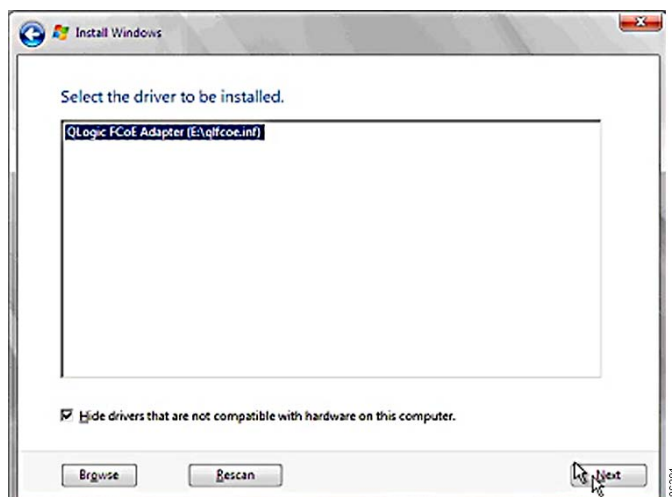
a. In the Install Windows window, click **Load Driver**. You are prompted by a Load Driver dialog box to select the driver to be installed. In the next steps you first define a virtual device with your driver ISO image.



- b. If not already open, open a KVM Virtual Media Session window as you did in [Step 6](#).
- c. In the Virtual Media Session window, unmount the virtual DVD that you mapped in [Step 7](#) (remove its check mark under Mapped).
- d. In the Virtual Media Session window, click **Add Image**.
- e. Use the dialog box to navigate to the location where you saved the Cisco driver ISO image for your HBA device in [Step 1](#) and select it.
The ISO appears in the Client View pane.
- f. In the Virtual Media Session window, check the check box under Mapped to mount the driver ISO that you just selected. Wait for mapping to complete, as indicated in the Details pane.



- g. In the Windows Load Driver dialog box that you opened in Step a, click **Browse**.
- h. Use the dialog box to select the virtual DVD device that you just created, and then navigate to the location of the drivers, select them, and click **OK**. Windows loads the drivers and when finished, the driver is listed under the prompt, "Select the driver to be installed."
- i. After Windows loads the drivers, select the driver for your device from the list in the Install Windows window and then click **Next**. Wait while the drivers for your HBA device are installed, as indicated by the progress bar.



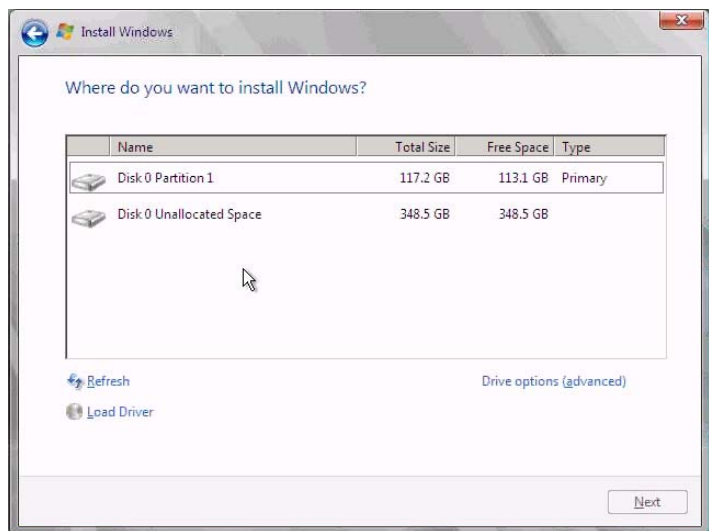
- Step 13** After driver installation finishes, unmap the driver ISO and map the Windows installation image:
- In the Virtual Media Session window, uncheck the check box under Mapped that corresponded to the driver ISO.
 - In the Virtual Media Session window, check the check box under Mapped that corresponds to your Windows installation image (the same one that you defined in [Step 7](#)). Wait for mapping to complete. Observe the progress in the Details pane.
- Step 14** In the Install Windows window, select the disk or partition where you want to install Windows from the list, and then click **Next**.

**Note**

During the installation steps in which you choose the partition on a RAID volume, the installation might fail with an error similar to the following:

“Your boot partition is on a disk using the GPT partitioning scheme but this machine cannot boot using GPT. This can happen if there is not enough space on your hard drive for the installation.”

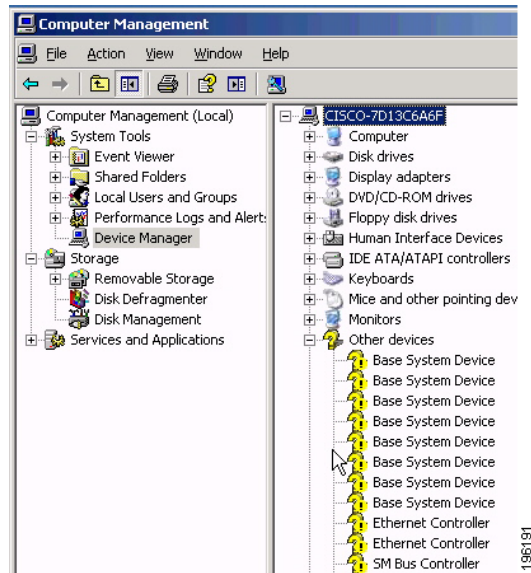
This is because the BIOS and boot disk of this server must use the MBR partitioning scheme, which supports a maximum partition size of 2.2 TB. If your target disk is using the GPT partitioning scheme with partitions larger than 2.2 TB, you must adjust to use the MBR partitioning scheme with no partition greater than 2.2 TB. Refer to your OS vendor’s documentation for more information about partitioning.



- Step 15** Complete the Windows installation according to the requirements and standards of your company. Continue to observe the Windows installation process and answer prompts as required for your preferences. Verify that Windows lists the drivers that you added.
- Step 16** After the Windows installation is complete, Windows reboots the server again and you are prompted to press **Ctrl-Alt-Del** and to log in to access the Windows desktop. Use the login that you supplied during the Windows installation process.

**Note**

At this point, Windows still needs device drivers installed for devices such as the server chipset and Ethernet controllers. In the Windows 2008 Device Manager, devices that still need drivers are marked with yellow flags as shown in the example below.



- Step 17** Use a Windows File Manager to navigate to the folder where you extracted the Cisco driver package that you got from the Cisco UCS B-Series Drivers disk or downloaded from Cisco.com in [Step 1](#). Drivers for all devices are included in folders named for each device. See [Drivers for B-Series Windows Installation, page A-1](#), for driver locations.
- Step 18** Install Intel chipset drivers:
- In the folder that contains the chipset drivers you need, there is an EXE file that will extract and install the drivers (for example, ...\\Windows\\ChipSet\\Intel\\W2K8\\setup.exe).
 - Follow the prompts from Windows to reboot the server to complete the chipset driver installation.
- Step 19** Install the LAN on motherboard (LOM) drivers:
- In the folder that contains the LOM drivers you need, there might be an EXE file that will extract and install the drivers (for example, ...\\Windows\\Network\\Intel\\82576\\W2K8\\). If there is an EXE file, click the EXE file for the set of drivers that you need. In some cases you might have to manually install the drivers.
 - Follow the prompts from Windows to reboot the server to complete the LOM driver installation.
- Step 20** Repeat the driver installation process for each device that still needs drivers, as indicated by yellow flags in the Windows 2008 Device Manager.

**Note**

Some drivers might be installed as part of the Windows hardware discovery process.



APPENDIX **A**

Drivers for B-Series Windows Installation

This appendix contains the following sections:

- [How to Determine Which Devices Are Installed in Your Server, page A-1](#)
- [Drivers for Windows Server 2003 Installation, page A-3](#)
- [Drivers for Windows Server 2008 Installation, page A-4](#)

How to Determine Which Devices Are Installed in Your Server

If you do not have a record of which devices (mass storage controller and HBA cards) are installed in the target server so that you can know which Windows drivers are required, you can get this information from the following sections.

- [Viewing Installed Devices Using the KVM Console, page A-1](#)
- [Viewing Installed Devices Using the UCS Manager GUI, page A-2](#)
- [Viewing Installed Devices Using the UCS Manager CLI, page A-2](#)

Viewing Installed Devices Using the KVM Console

To see the names and model numbers of the devices displayed on the console screen during server bootup, follow these steps:

1. In the UCS Manager main window, click the **Equipment** tab in the Navigation pane.
2. On the Equipment tab, expand **Equipment > Chassis > Chassis_Number > Servers**.
3. Select the target server that you want to access through the KVM console.
4. In the Work pane, click the **General** tab.
5. In the Actions area, click **KVM Console**. The KVM console opens in a separate window.
6. Reboot the server and observe the information about the installed devices on the console screen during bootup.

Viewing Installed Devices Using the UCS Manager GUI

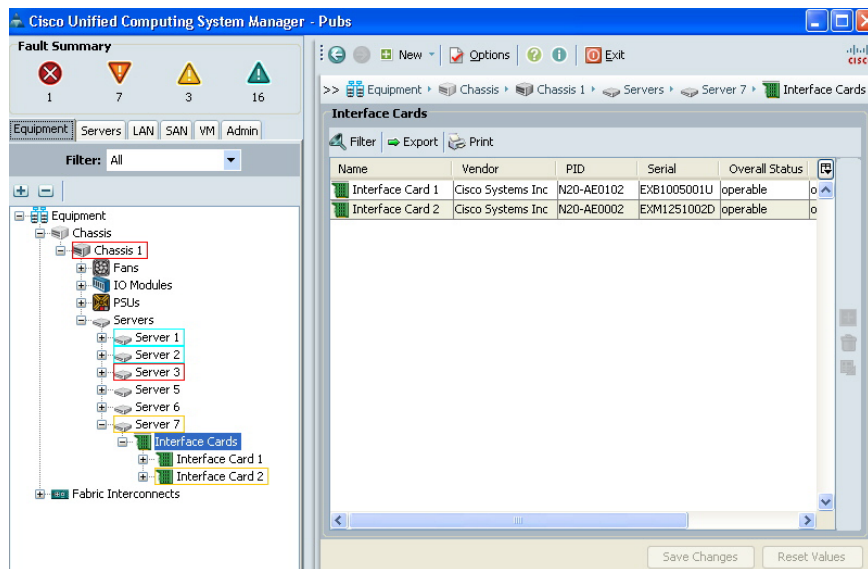
To view the installed devices in the server by using the UCS Manager GUI, follow these steps:

1. In the UCS Manager main window, click the **Equipment** tab in the Navigation pane.
2. On the Equipment tab, expand **Equipment > Chassis > Chassis_Number > Servers > Server_Number**.

where *Server_Number* is the target server.

3. Select **Interface Cards**.

The interface cards installed in the target server are displayed. The product ID (PID) of each card is listed.



Viewing Installed Devices Using the UCS Manager CLI

To view the installed devices in the server by using the UCS Manager CLI, follow these steps. For more information about the UCS Manager CLI, see the [Cisco UCS Manager CLI Configuration Guide](#) and the [Cisco UCS Manager CLI Command Reference](#).

1. Use Telnet or SSH to connect to the UCS system.
2. Use the scope command to change to chassis-server command mode:

```
# scope server chassis-id/blade-id
```

Where *chassis-id/blade-id* is the target server.

3. Use the show adapter command to display a list of installed interface cards in the target server. The interface cards are displayed by their PID numbers.

```
/chassis/server # show adapter
```


Drivers for Windows Server 2003 Installation

Table A-1 shows the paths to the drivers that are included on the Cisco UCS B-Series Drivers DVD.

Table A-1 Drivers for Windows Server 2003 Installation

Device	Driver Folder	
	Windows Server 2003 x86	Windows Server 2003 x64
Chipset Devices		
Intel chipset (B2X0 Blade)	...\Windows\ChipSet\Intel\B2X0\W2K3\	...\Windows\ChipSet\Intel\B2X0\W2K3\
Intel chipset (B440 Blade)	...\Windows\ChipSet\Intel\B440\W2K3\	...\Windows\ChipSet\Intel\B440\W2K3\
Management Devices		
Emulex M71KR ElxPlus (management drivers)	...\Windows\Mgmt\Emulex\M71KR\ElxPlus\W2K3\x86\	...\Windows\Mgmt\Emulex\M71KR\ElxPlus\W2K3\x64\
Emulex M72KR ElxPlus (management drivers)	...\Windows\Mgmt\Emulex\M72KR\ElxPlus\W2K3\x86\	...\Windows\Mgmt\Emulex\M72KR\ElxPlus\W2K3\x64\
Network Devices		
Broadcom M51KR	...\Windows\Network\Broadcom\M51KR\W2K3\x86\	...\Windows\Network\Broadcom\M51KR\W2K3\x64\
Emulex M72KR ElxPlus (network drivers)	...\Windows\Network\Emulex\M72KR\W2K3\x86\	...\Windows\Network\Emulex\M72KR\W2K3\x64\
Intel 82598	...\Windows\Network\Intel\82598\W2K3\x86\	...\Windows\Network\Intel\82598\W2K3\x64\
Intel M61KR	...\Windows\Network\Intel\M61KR\W2K3\x86\	...\Windows\Network\Intel\M61KR\W2K3\x64\
QLogic M72KR (network drivers)	...\Windows\Network\QLogic\M72KR\W2K3\x86\	...\Windows\Network\QLogic\M72KR\W2K3\x64\
Security Devices		
Trusted Platform Module (TPM)	...\Windows\Security\TPM\W2K3\x86\	...\Windows\Security\TPM\W2K3\x64\
Storage Devices		
Emulex M71KR ElxPlus (storage drivers)	...\Windows\Storage\Emulex\M71KR\W2K3\x86\	...\Windows\Storage\Emulex\M71KR\W2K3\x64\
Emulex M72KR ElxPlus (storage drivers)	...\Windows\Storage\Emulex\M72KR\W2K3\x86\	...\Windows\Storage\Emulex\M72KR\W2K3\x64\
LSI 1064E	...\Windows\Storage\LSI\1064E\W2K3\x86\	...\Windows\Storage\LSI\1064E\W2K3\x64\
LSI 2108	Not supported with Windows Server 2003 x86 on these blade servers.	...\Windows\Storage\LSI\2108\W2K3\x64\
QLogic M71KR (storage drivers)	...\Windows\Storage\QLogic\M71KR\W2K3\x86\	...\Windows\Storage\QLogic\M71KR\W2K3\x64\
QLogic M72KR (storage drivers)	...\Windows\Storage\QLogic\M72KR\W2K3\x86\	...\Windows\Storage\QLogic\M72KR\W2K3\x64\
Video Devices		
Matrox G200e video controller	...\Windows\Video\Matrox\G200e\W2K3\x86\	...\Windows\Video\Matrox\G200e\W2K3\x64\

Drivers for Windows Server 2008 Installation

Table A-1 shows the paths to the drivers that are included on the Cisco UCS B-Series Drivers DVD.

Table A-2 Drivers for Windows Server 2008 Installation

Device	Driver Folder	
	Windows Server 2008 x64	Windows Server 2008 x64 R2
Chipset Devices		
Intel chipset (B2X0 Blade)	...\Windows\ChipSet\Intel\B2X0\W2K8\	This driver is included with the operating system.
Intel chipset (B440 Blade)	...\Windows\ChipSet\Intel\B440\W2K8\	...\Windows\ChipSet\Intel\B440\W2K8R2\
Management Devices		
Emulex M71KR ElxPlus (management drivers)	...\Windows\Mgmt\Emulex\M71KR\ElxPlus\W2K8\x64\	...\Windows\Mgmt\Emulex\M71KR\ElxPlus\W2K8R2\x64\
Emulex M72KR ElxPlus (management drivers)	...\Windows\Mgmt\Emulex\M72KR\ElxPlus\W2K8\x64\	...\Windows\Mgmt\Emulex\M72KR\ElxPlus\W2K8R2\x64\
Network Devices		
Broadcom M51KR	...\Windows\Network\Broadcom\M51KR\W2K8\x64\	...\Windows\Network\Broadcom\M51KR\W2K8R2\x64\
Cisco M81KR (network drivers)	...\Windows\Network\Cisco\M81KR\W2K8\x64\	...\Windows\Network\Cisco\M81KR\W2K8R2\x64\
Emulex M72KR ElxPlus (network drivers)	...\Windows\Network\Emulex\M72KR\W2K8\x64\	...\Windows\Network\Emulex\M72KR\W2K8R2\x64\
Intel 82598	...\Windows\Network\Intel\82598\W2K8\x64\	...\Windows\Network\Intel\82598\W2K8R2\x64\
Intel M61KR	...\Windows\Network\Intel\M61KR\W2K8\x64\	...\Windows\Network\Intel\M61KR\W2K8R2\x64\
QLogic M72KR (network drivers)	...\Windows\Network\QLogic\M72KR\W2K8\x64\	...\Windows\Network\QLogic\M72KR\W2K8R2\x64\
Security Devices		
Trusted Platform Module (TPM)	This driver is included with the operating system.	This driver is included with the operating system.
Storage Devices		
Cisco M81KR (storage drivers)	...\Windows\Storage\Cisco\M81KR\W2K8\x64\	...\Windows\Storage\Cisco\M81KR\W2K8R2\x64\
Emulex M71KR ElxPlus (storage drivers)	...\Windows\Storage\Emulex\M71KR\W2K8\x64\	...\Windows\Storage\Emulex\M71KR\W2K8R2\x64\
Emulex M72KR ElxPlus (storage drivers)	...\Windows\Storage\Emulex\M72KR\W2K8\x64\	...\Windows\Storage\Emulex\M72KR\W2K8R2\x64\
LSI 1064E	...\Windows\Storage\LSI\1064E\W2K8\x64\	This driver is included with the operating system.
LSI 2108	...\Windows\Storage\LSI\2108\W2K8\x64\	...\Windows\Storage\LSI\2108\W2K8R2\x64\
QLogic M71KR (storage drivers)	...\Windows\Storage\QLogic\M71KR\W2K8\x64\	...\Windows\Storage\QLogic\M71KR\W2K8R2\x64\
QLogic M72KR (storage drivers)	...\Windows\Storage\QLogic\M72KR\W2K8\x64\	...\Windows\Storage\QLogic\M72KR\W2K8R2\x64\
Video Devices		
Matrox G200e video controller	...\Windows\Video\Matrox\G200e\W2K8\x64\	This driver is included with the operating system.