

Cisco UCS C-Series Servers Troubleshooting Guide

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Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
http://www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

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Preface

This preface includes the following sections:

- Audience, page v
- Conventions, page v
- Related Cisco UCS Documentation, page vii

Audience

This guide is intended primarily for data center administrators with responsibilities and expertise in one or more of the following:

- Server administration
- Storage administration
- Network administration
- Network security

Conventions

Text Type	Indication
GUI elements	GUI elements such as tab titles, area names, and field labels appear in **this font**. Main titles such as window, dialog box, and wizard titles appear in **this font**.
Document titles	Document titles appear in *this font*.
TUI elements	In a Text-based User Interface, text the system displays appears in `this font`.
System output	Terminal sessions and information that the system displays appear in `this font`.

Text Type	Indication
CLI commands	CLI command keywords appear in **this font**. Variables in a CLI command appear in *this font*.
[ ]	Elements in square brackets are optional.
{x | y | z}	Required alternative keywords are grouped in braces and separated by vertical bars.
[x | y | z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
< >	Nonprinting characters such as passwords are in angle brackets.
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.



Note Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the document.



Tip Means *the following information will help you solve a problem*. The tips information might not be troubleshooting or even an action, but could be useful information, similar to a Timesaver.



Timesaver Means *the described action saves time*. You can save time by performing the action described in the paragraph.



Caution Means *reader be careful*. In this situation, you might perform an action that could result in equipment damage or loss of data.

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.

SAVE THESE INSTRUCTIONS

Related Cisco UCS Documentation

Documentation Roadmaps

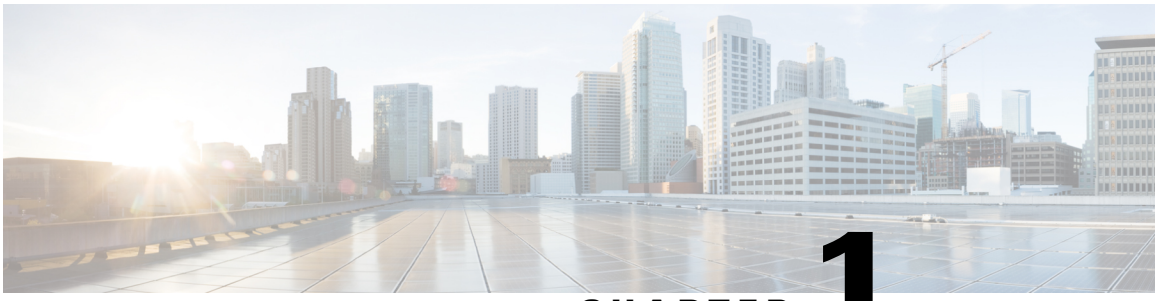
For a complete list of all B-Series documentation, see the *Cisco UCS B-Series Servers Documentation Roadmap* available at the following URL: http://www.cisco.com/go/unifiedcomputing/b-series-doc.

For a complete list of all C-Series documentation, see the *Cisco UCS C-Series Servers Documentation Roadmap* available at the following URL: http://www.cisco.com/go/unifiedcomputing/c-series-doc.

For information on supported firmware versions and supported UCS Manager versions for the rack servers that are integrated with the UCS Manager for management, refer to Release Bundle Contents for Cisco UCS Software.

Other Documentation Resources

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CHAPTER 1

Introduction

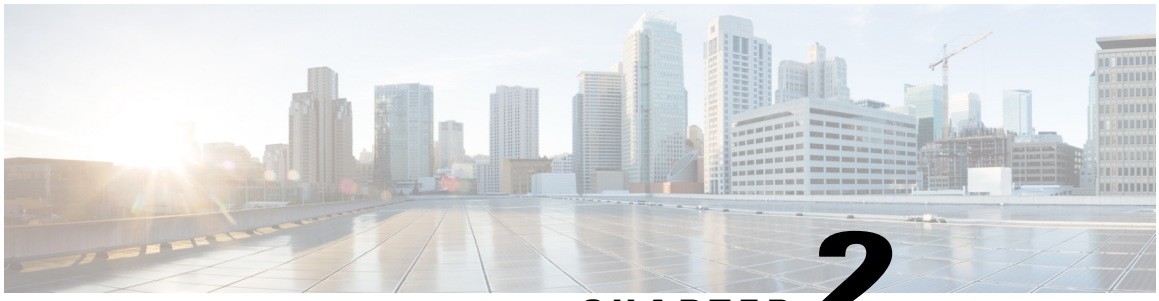
This chapter includes the following sections:

- Guidelines for Troubleshooting, page 1

Guidelines for Troubleshooting

When you troubleshoot issues with a C-Series Rack-Mount Server or any component in it, we recommend that you follow the guidelines in the following table.

Guideline	Description
Take screenshots of the fault or error message dialog box and other relevant areas.	These screenshots provide visual cues about the state of the C-Series server when the problem occurred. If your computer does not have software to take screenshots, check the documentation for your operating system, as it may include this functionality.
Record the steps that you took directly before the issue occurred.	If you have access to screen or keystroke recording software, repeat the steps you took and record what occurs. If you do not have access to this type of software, repeat the steps you took and make detailed notes of the steps and what happens after each step.
Enter the **show tech-support** command.	The information about the current state of the server is very helpful to the Cisco Technical Assistance Center (TAC) and frequently provides the information needed to identify the source of the problem.



CHAPTER 2

Troubleshooting Server Hardware or Software Issues

This chapter includes the following sections:

- Troubleshooting Operating System and Drivers Installation, page 3
- Troubleshooting Disk Drive and RAID Issues, page 7
- DIMM Memory Issues, page 11
- Troubleshooting Server and Memory Issues, page 17
- Troubleshooting Communication Issues, page 18

Troubleshooting Operating System and Drivers Installation

Table 1: Operating System and Driver Issues

Issue	Recommended Solution
• Basic server configuration steps • Steps for CIMC or BMC configuration • BIOS settings information • BIOS upgrade steps • CIMC or BMC firmware upgrade steps	• For information on the correct server hardware guides, see http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html • For information on the correct server GUI and CLI configuration guides, see http://www.cisco.com/en/US/products/ps10739/products_installation_and_configuration_guides_list.html

The Windows 2003 R2 64-bit install is not starting because the system is not seeing the install CD on the C200 servers.	• Set the boot order in the BIOS so that the server boots from the install CD. • Use this virtual media installation process as an alternative installation process. If a list of drivers are needed they are also available here: http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/os/install/2003-vmedia-install.html
Slow performance (slow mouse and keyboard) on C200 or C210 servers when running Windows 2008 R2.	There is a known issue with Intel 82576 driver included with Windows 2008 R2. Update to the latest Intel driver for this chipset at the following link: https://downloadcenter.intel.com/product/32261/Intel-82576-Gigabit-Ethernet-Controller
Installation of the Windows 2008 R2 OS failed with error message: `The computer restarted unexpectedly or encountered an unexpected error. Windows installation cannot proceed.`	On the C200 server, Windows 2008 R2 install fails with the Intel Quad Port NIC. Start the install without the NIC and put it in after the install is complete. Also, see this forum message: https://supportforums.cisco.com/message/3179297
VMware ESX/ESXi on C200, C210, or C250 failed.	• The onboard NIC might be disabled or not recognized. Check the BIOS to ensure the onboard NICs are enabled. • It is possible that the device ID of the Intel NIC is wrong. Use the Host Upgrade Utility to update the LOM firmware. • Download the latest ISO of the SCU from Cisco.com for the specific server.
Running Windows 2008 R2, Task Manager shows multiple spikes.	Go to this URL and update the drivers to the latest version: http://www.cisco.com/en/US/docs/unified_computing/ucs/overview/guide/UCS_rack_roadmap.html
The ESXi installation does not recognize the LOM or NIC Ethernet ports.	• Update when the LOM is used for ESXi. • Update when add-on adapters are used for ESXi.

The ESXi update does not recognize the NICs.	Update the LOM firmware using the Cisco Host Update Utility. Download the 1.2.x version from this link: http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/lomug/install/LOMUG.html Download the 1.3.x version from this link: http://www.cisco.com/en/US/docs/unified_computing/ucs/c/sw/lomug/1.3.x/install/HUUUG.html
Unable to install older OS.	Different C-Series servers support different versions of OS. Use the following link to see matrix of supported operating systems: http://www.cisco.com/en/US/products/ps10477/prod_technical_reference_list.html
Cannot upgrade BIOS on the system with no OS.	Use the BIOS upgrade instructions for the HW installation and service guide for their server. Go to: http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html
With ESXi installed on the drives, unable to boot from the partition.	Review the documentation at the following link: http://www.VMware.com
CIMC defaults to DHCP and will not retain the IP address.	Review the documentation at the following link: http://www.cisco.com/en/US/products/ps10739/products_installation_and_configuration_guides_list.html
System becomes unresponsive during BIOS POST.	When the system boots, if the system is hanging at LSI, waiting for user input, follow the instructions on the screen. Possible reasons would be: • Battery HW missing or disabled. This warning can be disabled by entering **D** to disable this message during the next boot. This bypasses the warning and the system will not hang for this reason. • The message could be about importing a foreign configuration. A foreign configuration could be imported by pressing **F**. An alternative procedure is to enter the config utility (press **Ctrl+C**) and enter the WebBIOS which is the LSI config utility. Preview the foreign configuration and decide if it should be imported.

Drives are not detected or the system hangs when the adapter ROM for the ICH10R SATA Software RAID scans the SATA ports.	• ICH10R is SATA controller software embedded in the motherboard on the C200 and C210 servers only. There is no adapter. It might not see a SAS drive because it does not support SAS drives. Only SATA drives are supported. • The cable from the HDD backplane must be connected to the motherboard to use ICH10R.
The drives are not detected or the system hangs when the adapter ROM for the LSI RAID Controller scans the SAS/SATA Drives.	• ICH10R is SATA controller software embedded in the motherboard on the C200 and C210 servers only. There is no adapter. It might not see a SAS drive because it does not support SAS drives. Only SATA drives are supported. • The onboard ICH10R controller is not compatible for use with VMware software." They must use an add-on controller card in this case. • The cable from the HDD backplane must be connected to the motherboard to use ICH10R. • Make sure all the drives are plugged in properly (reseat the drives if needed).
The Operating System does not boot.	• Make sure that the correct virtual drive on which the OS is installed is selected in the LSI WebBIOS. Do this by entering the LSI WebBIOS using **Ctrl+H** during system boot up. In the LSI WebBIOS menu, navigate to the virtual drive menu and get a list of the virtual drives. Choose the virtual drive as the boot drive by selecting it. • Make sure that you have properly selected the boot device in the system BIOS setup by pressing **F2**. Navigate to the boot devices screen and make sure the LSI RAID controller appears before all of the other bootable devices attached to the server. We recommend that this be the third bootable device in the list.

Troubleshooting Disk Drive and RAID Issues

Disk Drive/RAID Configuration Issues

Table 2: RAID Configuration Issues

Issue	Recommended Solution
Windows does not detect hard drives.	LSI drivers may not be bundled with the Windows OS version being installed. These drivers must be installed during the installation process. During the install process, if the hard drives fail to be detected, use the load driver option to point the drives to the correct drivers for the LSI controller in the system. The drivers can be loaded using a USB drive. When loaded, the hard drives are displayed and the hard drive for the OS can be selected.
Installing Windows 2008 64-bit and RAID controller had issues.	LSI drivers are not bundled in Windows 2008 64-bit. These must be installed during the installation process. During the install process, if the hard drives fail to be detected, use the load driver option to point the drives to the correct drivers for the LSI controller in the system. The drivers can be loaded using a USB drive. When loaded, the hard drives are displayed and the hard drive for the OS can be selected.
Unable to install ESX on server with only the onboard controller.	The LSI hardware RAID controller is required.

• Unable to see the LSI RAID controller in the BOOT environment. • Unable to access the onboard RAID controller.	• During the BIOS POST, the LSI option ROM should be displayed. The LSI RAID controller can be configured using **Ctrl+H** to create virtual drives. When configured, the BIOS should list the RAID controller in the boot device menu. To verify, enter the BIOS POST menu by pressing F2. Confirm that the LSI RAID controller is listed in the boot device menu. • If, after completing the above process, the LSI RAID card is not detected, power off the system and reseat the LSI card. Make sure that the cables are connected to the backplane and then follow the above procedure to verify that the LSI card is seen in the BIOS Setup menu. • If reseating the card does not solve the problem, replace the LSI controller (the card could be bad) and verify if this card is seen during BIOS POST.
VMware does not show the local drive during installation.	VMware supports a maximum of two TB partitions sizes. Resize the partition to not exceed the 2TB partition size limitation.
The RAID controller card is not working.	Verify that the card installed is supported for this server. If supported, follow the steps listed in Unable to see LSI RAID controller in BOOT environment. (above).

Problem with setup of the RAID6 virtual device and installation of Windows 2003 X64.	• When the system boots up and the LSI Option ROM screen displays, press Ctrl+H to enter the LSI option ROM screen. • Choose the Configuration Wizard and follow the instructions to configure the RAID 6 array group. (RAID 6 needs a minimum of three drives.) Once RAID 6 is created, initialize the virtual drives (full initialization) on which the OS is to be installed. • After the virtual drive is initialized, the virtual drive on which the OS is to be installed must be set as the boot drive. • Go to the virtual drive menu and choose the virtual drive number and click **Set Virtual drive**. This is very important because Windows will report an error message during install if this is not set. • When the Windows 2003 installation is started, follow the instructions on the screen to install the LSI controller drivers on Win2003. The LSI drivers need to be copied on a floppy disc and the floppy drive connected to the server. During install, press F6 to install the drivers. This is a very important step to follow for Windows LSI driver installation. This will ensure that the LSI virtual drive is seen during the install process.
Unable to see HDD.	• If not able to see the LSI controller during system boot up, follow the instructions in Unable to see LSI controller (above) to ensure the LSI controller is seen during BIOS bootup. • If the LSI controller does not see the hard drives, ensure they are properly plugged in and making contact and that the green LED is visible. If still not seen, insert a different HDD (in case of a bad HDD). • Note that the BIOS will not see the physical drives plugged in the boot device menu. It will only display the RAID controller which points to the virtual drive (set as the boot virtual disk). Make sure to configure the virtual drives using the LSI WebBIOS to ensure the RAID controller is seen in the boot device menu of the BIOS setup.

Problem setting up the RAID configuration.	• During system boot, enter the WebBIOS by pressing **Ctrl+H**. Use the Configuration Wizard and follow the screen instructions to create the RAID configurations. • Check the BIOS and CIMC version and upgrade to the latest version. Get the upgrade software at the following link: http://www.cisco.com/cisco/software/navigator.html

Configuring Multiple (Redundant) RAID controllers

Cisco does not support multiple (redundant) RAID controllers that automatically fail over if one RAID controllers fails. It is possible to recover from a RAID controller failure. Install a new RAID card of the same type and model.

Configuration data about a RAID array is stored inside the disks being managed by the controller. A new controller can import those configurations from disks to restore proper RAID operation. Each disk has its own copy of the metadata. If there are 16 disks in an array, each disk can contain its own copy of the metadata.

Detailed steps are available in the LSI document *80-00156-01_RevH_SAS_SW_UG.pdf*.

This document is available from the Documents & Downloads section of the LSI support site at this URL: http://www.lsi.com

When configuring the RAID card for the first time, the step “Import foreign config” in the file provides details on how to import the RAID configuration from previously configured disks.

RHEL 5.4 64-bit Recommended Installation with RAID (C200)

To ensure that the RAID drives are properly recognized, complete the following steps:

Procedure

Step 1 Follow the normal installation process of RHEL 5.4 i386 from the ISO or DVD.

Step 2 At the prompt, enter the command:
boot: linux dd noprobe=ata1 noprobe=ata2 noprobe=ata3 noprobe=ata4

Step 3 Mount the megaraid driver and map it from the virtual media. The .img file is emulated as a floppy. The file Drivers\Linux\Storage\Intel\ICH10R\RHEL\RHEL5.4 is also on the driver CD available on CCO and the path from the root.

Step 4 At the “before installation starts” step, the system will ask whether you want to add any additional drivers.

Step 5 Provide the drivers (usually the mapped file will be /dev/sdb, because it is a floppy).

Step 6 Continue the installation.

Step 7 When the system looks for storage, it should list the RAID as “LSI MegaSR”.

DIMM Memory Issues

Types of DIMM Errors

Cisco UCS Servers can detect and report correctable and uncorrectable DIMM errors.

Correctable DIMM Errors

DIMMs with correctable errors are not disabled and are available for the OS to use. The total memory and effective memory are the same (memory mirroring is taken into account). These correctable errors are reported in Cisco IMC as degraded once they exceed pre-determined error thresholds.

Uncorrectable DIMM Errors

Uncorrectable errors generally cannot be fixed, and may make it impossible for the application or operating system to continue execution. The DIMMs with uncorrectable error will be disabled if DIMM blacklisting is enabled or if the DIMM fails upon reboot during BIOS POST and OS will not see that memory. Cisco IMC **operState** will be inoperable for this DIMM in this case.

A problem with the DIMM memory can cause a server to fail to boot or cause the server to run below its capabilities. If DIMM issues are suspected, consider the following:

- DIMMs tested, qualified, and sold by Cisco are the only DIMMs supported on your system. Third-party DIMMs are not supported, and if they are present, Cisco technical support will ask you to replace them with Cisco DIMMs before continuing to troubleshoot a problem.
- Check if the malfunctioning DIMM is supported on that model of server. Refer to the server's installation guide and technical specifications to verify whether you are using the correct combination of server, CPU and DIMMs.
- Check if the malfunctioning DIMM seated correctly in the slot. Remove and reseat the DIMMs.
- All Cisco servers have either a required or recommended order for installing DIMMs. Refer to the server's installation guide and technical specifications to verify that you are adding the DIMMs appropriately for a given server type.
- If the replacement DIMMs have a maximum speed lower than those previously installed, all DIMMs in a server run at the slower speed or not work at all. All of the DIMMs in a server should be of the same type. All of the DIMMs in a server should be of the same type for optimal performance.
- The number and size of DIMMs should be the same for all CPUs in a server. Mismatching DIMM configurations can degrade system performance.

Memory Terms and Acronyms

Table 3: Memory Terms and Acronyms

Acronym	Meaning
DIMM	Dual In-line Memory Module

DRAM	Dynamic Random Access Memory
ECC	Error Correction Code
LVDIMM	Low voltage DIMM
MCA	Machine Check Architecture
MEMBIST	Memory Built-In Self Test
MRC	Memory Reference Code
POST	Power On Self Test
SPD	Serial Presence Detect
DDR	Double Data Rate
CAS	Column Address Strobe
RAS	Row Address Strobe

Troubleshooting DIMM Errors

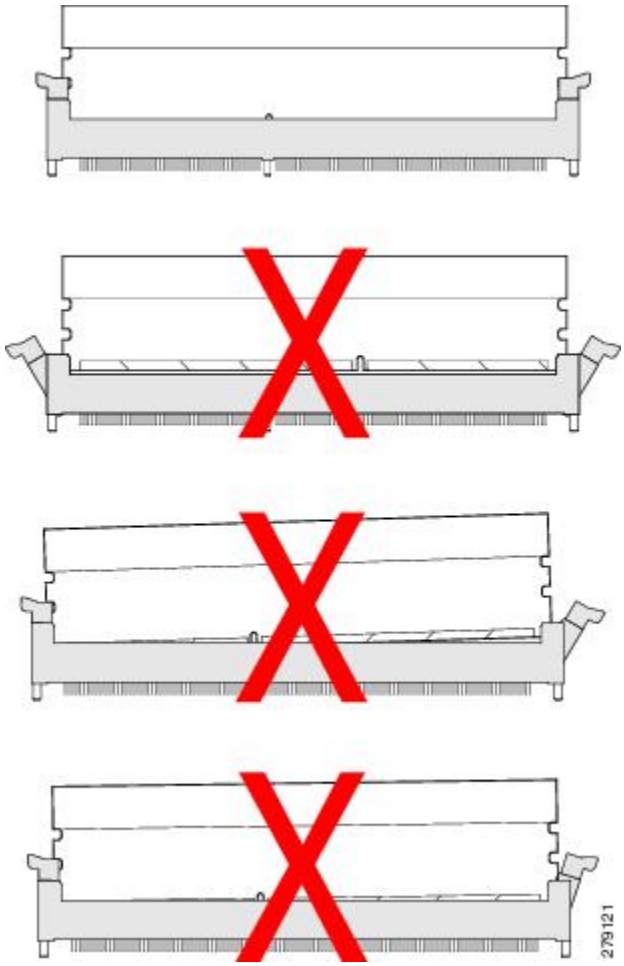
Correct Installation of DIMMs

Verify that the DIMMs are installed correctly.

In the first example in the following figure, a DIMM is correctly inserted and latched. Unless there is a small bit of dust blocking one of the contacts, this DIMM should function correctly. The second example shows a DIMM that is mismatched with the key for its slot. That DIMM cannot be inserted in this orientation and must be rotated to fit into the slot. In the third example, the left side of the DIMM seems to be correctly seated and the latch is fully connected, but the right side is just barely touching the slot and the latch is not seated

into the notch on the DIMM. In the fourth example, the left side is again fully inserted and seated, and the right side is partially inserted and incompletely latched.

Figure 1: Installation of DIMMs



Troubleshooting DIMM Errors Using Cisco IMC CLI

You can check memory information to identify possible DIMM errors in the Cisco IMC CLI.

Procedure

	Command or Action	Purpose
Step 1	Server# **scope chassis**	Enters chassis command mode.
Step 2	Server /chassis # **show dimm** [**detail**]	Displays memory properties.

The following example shows how to check memory information using the Cisco IMC CLI:

```
Server# scope chassis
Server /chassis# show dimm detail

    Name DIMM_A1:
    Capacity: Failed
    Channel Speed (MHz): NA
    Channel Type: NA
    Memory Type Detail: NA
    Bank Locator: NA
    Visibility: NA
    Operability: NA
    Manufacturer: NA
    Part Number: NA
    Serial Number: NA
    Asset Tag: NA
    Data Width: NA
Name DIMM_A2:
    Capacity: Not Installed
    Channel Speed (MHz): NA
    Channel Type: NA
    Memory Type Detail: NA
    Bank Locator: NA
    Visibility: NA
    Operability: NA
    Manufacturer: NA
    Part Number: NA
    Serial Number: NA
    Asset Tag: NA
    Data Width: NA
    ...
```

Troubleshooting DIMM errors using Cisco IMC GUI

You can determine the type of DIMM errors being experienced using the Cisco IMC GUI.

Procedure

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

Step 2 On the **Server** tab, click **Inventory**.

Step 3 In the **Inventory** pane, click the **Memory** tab.

Step 4 In the **Memory Summary** area, review the summary information about memory.
A list of DIMMs are displayed. Corrupt or bad DIMMs are displayed as **Failed**.

Step 5 Replace the corrupt or bad DIMM with a good DIMM.

Troubleshooting Degraded DIMM Errors

DIMMs with correctable errors are not disabled and are available for the OS to use. The total memory and effective memory are the same (memory mirroring is taken into account). These correctable errors are reported in Cisco IMC as degraded.

If you see a correctable error reported in Cisco IMC, the problem can be corrected by resetting the BMC. Resetting the BMC just hides the DIMM with correctable error. However, to troubleshoot the DIMM physically, see Troubleshooting Inoperable DIMMs Errors, on page 15

Use the following Cisco IMC CLI commands to reset BMC:

Procedure

	Command or Action	Purpose
Step 1	Server # **scope chassis**	Enters chassis configuration mode.
Step 2	Server /chassis # **show dimm**	Displays if there are any correctable DIMMs. Correctable DIMMs display capacity as **Failed**. Clear the DIMM error flag by running the error correctable code (ECC) command.
Step 3	Server /chassis # **scope reset-ecc**	Enters error correctable code configuration mode.
Step 4	Server /chassis/reset-ecc # **set enabled yes**	Enables ECC.
Step 5	Server /chassis/reset-ecc * # **commit**	Commits the transaction to the system configuration.

The following example shows how to view and reset the DIMM error flag:

```
Server/ scope chassis
Server /chassis # show dimm
Name                Capacity        Channel Speed (MHz) Channel Type
------------------- --------------- ------------------- ---------------
DIMM_A1             Failed          NA                  NA
DIMM_A2             Ignored/Disa... NA                  NA
DIMM_B1             16384 MB        1866                DDR3
DIMM_B2             16384 MB        1866                DDR3
DIMM_C1             16384 MB        1866                DDR3
DIMM_C2             16384 MB        1866                DDR3
DIMM_D1             16384 MB        1866                DDR3
DIMM_D2             16384 MB        1866                DDR3
DIMM_E1             16384 MB        1866                DDR3
DIMM_E2             16384 MB        1866                DDR3
DIMM_F1             16384 MB        1866                DDR3
DIMM_F2             16384 MB        1866                DDR3
DIMM_G1             16384 MB        1866                DDR3
DIMM_G2             16384 MB        1866                DDR3
DIMM_H1             16384 MB        1866                DDR3
DIMM_H2             16384 MB        1866                DDR3


Clear DIMM Error flag:
Server/chassis# top
Server/chassis# scope reset-ecc
Server/chassis /reset-ecc # set enabled yes
Server/chassis /reset-ecc *# commit
```

Troubleshooting Inoperable DIMMs Errors

DIMMs with uncorrectable errors are disabled and the OS on the server does not see that memory. If a DIMM or DIMMs fail while the system is up, the OS could crash unexpectedly. Cisco IMC shows the DIMMs as inoperable in the case of uncorrectable DIMM errors. These errors are not correctable using the software. You can identify a bad DIMM and remove it to allow the server to boot. For example, the BIOS fails to pass the POST due to one or more bad DIMMs.

To view and identify a bad DIMM using the Cisco IMC GUI, see Troubleshooting DIMM errors using Cisco IMC GUI, on page 14

Procedure

Step 1 Remove the inoperable DIMM from the system.

Step 2 Install a single DIMM (preferably a tested good DIMM) or a DIMM pair in the first usable slot for the first processor (minimum requirement for POST success).

Step 3 Re-attempt to boot the system.

Step 4 If the BIOS POST is still unsuccessful, repeat steps 1 through 3 using a different DIMM in step 2.

Step 5 If the BIOS POST is successful, continue adding memory. Follow the population rules for that server model. If the system can successfully pass the BIOS POST in some memory configurations but not others, use that information to help isolate the source of the problem.

Recommended Solutions for DIMM Issues

The following table lists guidelines and recommended solutions for troubleshooting DIMM issues.

Table 4: DIMM Issues

Issue	Recommended Solution
DIMM is not recognized.	Verify that the DIMM is in a slot that supports an active CPU. Verify that the DIMM is sourced from Cisco. Third-party memory is not supported in Cisco UCS.
DIMM does not fit in slot.	Verify that the DIMM is supported on that server model. Verify that the DIMM is oriented correctly in the slot. DIMMs and their slots are keyed and only seat in one of the two possible orientations.
The DIMM is reported as bad in the SEL, POST, or LEDs, or the DIMM is reported as inoperable in Cisco IMC.	Verify that the DIMM is supported on that server model. Verify that the DIMM is populated in its slot according to the population rules for that server model. Verify that the DIMM is seated fully and correctly in its slot. Reseat it to assure a good contact and rerun POST. Verify that the DIMM is the problem by trying it in a slot that is known to be functioning correctly. Verify that the slot for the DIMM is not damaged by trying a DIMM that is known to be functioning correctly in the slot. Reset the BMC.

Issue	Recommended Solution
The DIMM is reported as degraded in the GUI or CLI, or is running slower than expected.	Reset the BMC. Reseat the rack server in the chassis.
The DIMM is reported as overheating.	Verify that the DIMM is seated fully and correctly in its slot. Reseat it to assure a good contact and rerun POST. Verify that all empty HDD bays, server slots, and power supply bays use blanking covers to assure that the air is flowing as designed. Verify that the server air baffles are installed to assure that the air is flowing as designed. Verify that any needed CPU air blockers are installed to assure that the air is flowing as designed.

Troubleshooting Server and Memory Issues

Table 5: Server and Memory Issues

Issue	Recommended Solution
Server Related Issues	
Every several days, the server requires a hard boot.	• For instructions on updating the BIOS, go to: http://www.cisco.com/en/US/products/ps10493/prod_installation_guides_list.html • For CIMC upgrade instructions in the GUI or CLI configuration guides for the correct FW release, go to: http://www.cisco.com/en/US/products/ps10739/products_installation_and_configuration_guides_list.html
Host is unreachable via IP, the CIMC works but KVM shows a blank screen.	Upgrade the CIMC firmware and BIOS.
Memory Configuration Issues	
Memory fault LED is amber on a new server.	Upgrade the CIMC and BIOS.

Memory errors on a previously working server.	• Replace any DIMM with a reported error. • Upgrade the BIOS.

Troubleshooting Communication Issues

“No Signal” on vKVM and Physical Video Connection

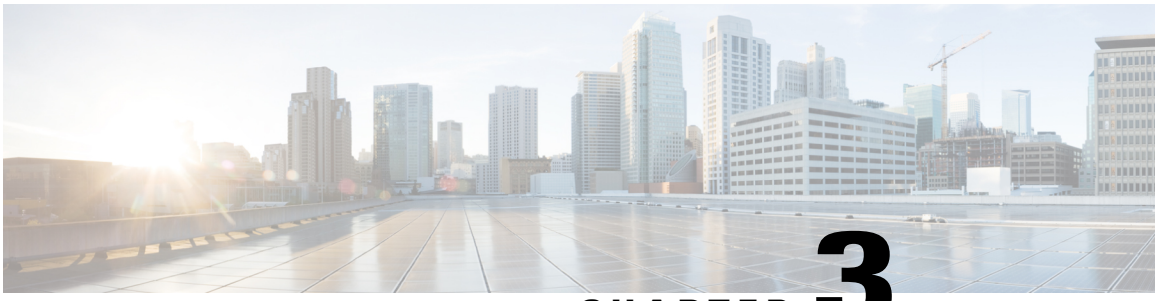
If immediately at boot you receive a “No Signal” message from the vKVM and physical video connection, the PCI riser card might not be properly seated to the motherboard. To resolve the issue, complete these steps:

Procedure

Step 1 Power off the server and disconnect the power cord.

Step 2 Confirm that all cards are properly seated.

Step 3 Connect the power cord and power on the server.



CHAPTER 3

Troubleshooting Utilities

This chapter includes the following sections:

- Troubleshooting Problems with Host Upgrade Utility, page 19
- Troubleshooting Problems with Cisco UCS Server Configuration Utility (SCU), page 19

Troubleshooting Problems with Host Upgrade Utility

The following table elaborates on problems that you might encounter with Host Upgrade Utility.

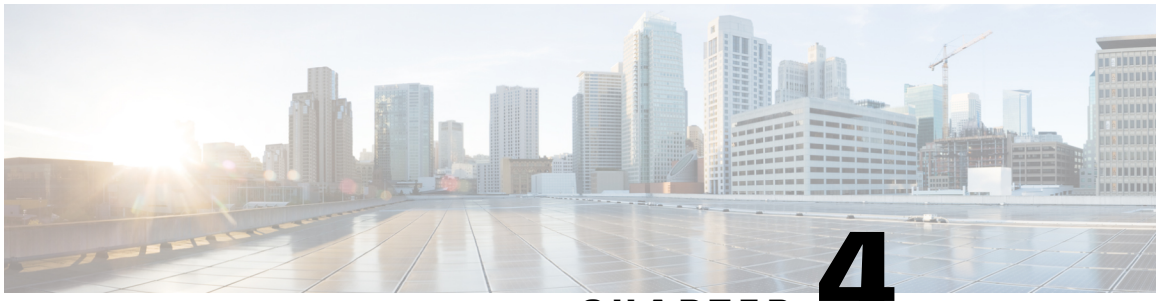
While upgrading firmware, the Host Upgrade Utility screen might freeze or black out.	Press **Return** to exit the utility.

Troubleshooting Problems with Cisco UCS Server Configuration Utility (SCU)

The following table elaborates on the problems that you could face while working with Cisco UCS SCU, and the recommended solutions.

Issue	Recommended Solution
SCU displays the following error message even when a virtual USB device is mapped or when a physical USB device is connected: `No USB Disk on Key detected`	• For USB devices that are mapped through Vmedia, use the USB reset option from the Vmedia user interface. (**Virtual Media Session** > **Details** > **USB Reset**) • For USB devices that are physically connected, check the vendor or product information. Try connecting a different USB device.

Issue	Recommended Solution
After installing Microsoft Windows operating systems, the KVM mouse does not work. The Windows Device Manager displays a yellow bang for the USB human interface device.	Determine the version of the CIMC running in your environment. Older versions of the CIMC would cause this issue.
After the RAID configuration process is complete, the new disks that are created are not updated in the Inventory data.	
Network tests in the Diagnostic tool run on only Broadcom and Intel cards	
Installing Microsoft Windows 2008 fails and the following error message is displayed: `Selected disk has MBR partition table. On EFI systems, Windows can only be installed to GPT disks.`	This problem occurs when the EFI CDROM device for virtual drives is used to boot the Windows 2008 image. Use the CDROM device from BIOS 'CDROM order'.
After installing a Microsoft Windows operating system using UCS SCU, the Windows Device Manager shows some devices with a yellow bang.	This problem occurs because of: • The devices are not supported by Cisco UCS SCU. • You have not selected the device drivers in the SCU GUI.
The Windows set up fails and the following error message is displayed: `Inaccessible boot device`	This error is displayed when you have not selected a device driver for a boot controller in the user interface.
Installation of the RHEL 6 is interrupted and the following error message is displayed:	This error is displayed when the DHCP option is selected during the installation, and DHCP does not provide an IP address.



CHAPTER 4

Contacting Customer Support

This chapter includes the following sections:

- Gathering Information Before Calling Support, page 21
- Using the Cisco CIMC GUI to Export Technical Support Data, page 21
- Using the Cisco CIMC GUI to Display SEL Events, page 23
- Using Cisco IMC GUI to Display Sensor Readings, page 23
- Using Cisco IMC GUI to Display CIMC Log , page 23
- Using Command Line Interface (CLI) to Collect show-tech Details, page 24

Gathering Information Before Calling Support

If you cannot isolate the issue to a particular component, consider the following questions. They can be helpful when you contact the Cisco Technical Assistance Center (TAC).

- Was the server working before the problem occurred?
- Was this a newly installed server?
- Was this server installed onsite or did it arrive assembled from Cisco?
- Has the memory been reseated?
- Was the server powered off or moved from one location to another?
- Have there been any recent hardware or software upgrades? If so, list them.

When contacting Cisco TAC for issues, you should always capture the tech-support output from the Cisco CIMC CLI or the Technical Support Data from the Cisco CIMC GUI.

Using the Cisco CIMC GUI to Export Technical Support Data

You can generate a summary report that contains configuration information, logs, and diagnostics from the Cisco CIMC GUI.

To generate a summary report, follow these steps:

Procedure

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

Step 2 On the **Admin** tab, click **Utilities**.

Step 3 In the **Actions** area of the **Utilities** pane, click **Export Technical Support Data**.

Step 4 In the **Export Technical Support Data** dialog box, complete these fields:

Name	Description
Export Technical Support Data to drop-down list	The remote server type. This can be one of the following: • **TFTP Server** • **FTP Server** • **SFTP Server** • **SCP Server** • **HTTP Server** **Note** If you chose SCP or SFTP as the remote server type while performing this action, a pop-up window is displayed with the message *Server (RSA) key fingerprint is <server_finger_print _ID> Do you wish to continue?*. Click Yes or No depending on the authenticity of the server fingerprint. The fingerprint is based on the host's public key and helps you to identify or verify the host you are connecting to.
Server IP/Hostname field	The IP address or hostname of the server on which the support data file should be stored. Depending on the setting in the **Export Technical Support Data to** drop-down list, the name of the field may vary.
Path and Filename field	The path and filename should use when exporting the file to the remote server. **Note** If the server includes any of the supported network adapter cards, the data file also includes technical support data from the adapter card.
Username	The username the system should use to log in to the remote server. This field does not apply if the protocol is TFTP or HTTP.
Password	The password for the remote server username. This field does not apply if the protocol is TFTP or HTTP.

Step 5 Click **Export.**

Using the Cisco CIMC GUI to Display SEL Events

To display the System Event Log (SEL) events, follow these steps:

Procedure

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

Step 2 On the **Server** tab, click **System Event Log**.

Step 3 To review the information for each event in the log, navigate the log using these options:

- From the **Entries Per Page** drop-down list, choose the number of system events to display on each page.
- Click **<Newer** or **Older>** to move through the pages, or click **<<Newest** to move to the top of the list. By default, the newest system events are displayed at the top of the list.

Using Cisco IMC GUI to Display Sensor Readings

On the Cisco IMC GUI, complete these steps to display the sensor readings:

Procedure

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

Step 2 On the **Server** tab, click **Sensors**.

Step 3 View various sensors by clicking the desired sensor.

Using Cisco IMC GUI to Display CIMC Log

On the Cisco IMC GUI, complete these steps to view the CIMC log:

Procedure

Step 1 In the **Navigation** pane, click the **Admin** tab

Step 2 On the **Admin** tab, click **CIMC Log**.

Step 3 On the **Entries Per Page** drop-down list, select the number of CIMC events to display on each page.

Using Command Line Interface (CLI) to Collect show-tech Details

On the CLI enter:

```
~ # scope cimc
~ /cimc # scope
firmware
log
network
tech-support
~ /cimc # scope tech-support
~ /cimc/tech-support # set tftp-ip 192.168.1.1
~ /cimc/tech-support *# set path \techsupport\showtech
~ /cimc/tech-support *# commit
~ /cimc/tech-support *# start
```

These are descriptions of some of the key fields within the show-tech command:

- var/—Contains detailed logs, and status of all monitored services. It also contains services information files such as the configuration of SOL and IPMI sensor alarms.
- var/log—Contains the rolling volatile log messages.
- obfl/—Contains the rolling non-volatile log messages.
- met/—Non-volatile configuration and SEL.
- mp/—The show tech-support text files, along with BIOS tech-support text files. The text files contain all process, network, system, mezzanine, and BIOS state information.
- mctool—Gets basic information on the state of the CIMC.
- network—Gets current network configuration and socket information.
- obfl—Gets live obfl
- messages—Gets live /var/log/messages file
- alarms—Lists sensors in alarm states.
- sensors—Current sensor readings from IPMI.
- power—Current power state of the x86.



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