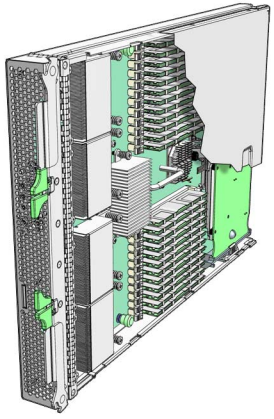
Sun Blade™ X6450 Server Module Product Notes



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Preface

This document describes hardware issues, software issues, and documentation issues for the Sun Blade™ X6450 server module.

These product notes are intended to providelate-breaking information about the system, as well as workarounds for problems you might encounter when installing, configuring, or operating your Sun Blade X6450 server module. This information is designed for system administrators who are experienced with the installation and configuration of the basic system components and software.

Issues include information that you should know about, such as prerequisites, tips, troubleshooting hints, and change requests. Change requests have tracking numbers shown in parentheses.

Product Updates and Drivers

For product updates for the Sun Blade X6450 server module, go to:

http://www.sun.com/servers/blades/downloads.jsp

Related Documentation

For a description of the document set for the Sun Blade X6450 modular system, see the *Where To Find Documentation* sheet that is packed with your system and also posted at the product's documentation site. See the following URL, then navigate to your product.

http://docs.sun.com

Translated versions of some of these documents are available at the web site described above in French, Simplified Chinese, Traditional Chinese, Korean, and Japanese. English documentation is revised more frequently and might be more up-to-date than the translated documentation.

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Sun Blade X6450 Server Module Product Notes, 820-3538-23

CHAPTER 1

Introduction

This chapter provides a brief summary of software available on your server and other features. This chapter covers the following topics:

- "Supported Browsers" on page 1
- "CRUs and FRUs" on page 1
- "Firmware Versions" on page 5
- "Documentation Errata" on page 5
- "Tools and Drivers CD Image is Too Large for a CD" on page 5

Supported Browsers

The Integrated Lights Out Manager (ILOM) web GUI and the Embedded Lights Out Manager (ELOM) web GUI are supported by Mozilla Firefox and Internet Explorer running on Linux, Solaris and Windows platforms.

CRUs and FRUs

The following table shows the CRUs and FRUs.

TABLE 1-1 CRU and FRU List

Part	CRU or FRU
FRU, Blade, No CPU/Memory (motherboard)	FRU
Quad-Core Intel Xeon L7445, 2.13GHz, 1066FSB, 12MB L3 cache 50W	FRU
Six-Core Intel Xeon L7455, 2.13GHz, 1066FSB, 12MB L3 cache, 65W	FRU
Quad-Core Intel Xeon E7440, 2.40GHz, 1066FSB, 16MB L3 cache, 90W	FRU
Six-Core Intel Xeon E7450, 2.40GHz, 1066FSB, 12MB L3 cache, 90W	FRU
CPU chip Dual-Core, 2.93GHz, 1066 MHz, 80W (Xeon E7220)	FRU
CPU chip Quad-Core, 1.86GHz, 1066MHz, 50W (Xeon L7345)	FRU
CPU chip Quad-Core, 2.13GHz, 1066MHz, 80W (Xeon E7320)	FRU
CPU chip Quad-Core, 2.40GHz, 1066MHz, 80W (Xeon E7340)	FRU
32GB SATA SSD	FRU
2 x 2GB, DIMM kit	CRU
2 x 4GB, DIMM kit	CRU
2 x 8GB DIMM kit	CRU
16GB Compact Flash	CRU
32GB Compact Flash	CRU
Coin battery	CRU
Sun Blade RAID 5 Expansion Module card (without battery)	CRU
Battery for Sun Blade RAID 5 Expansion Module	CRU
Sun Blade RAID 0/1 Expansion Module	CRU
Sun Dual 10GbE Fabric Expansion Module	CRU
PCIe Pass Through Fabric Expansion Module	CRU
Cable kit	CRU

TABLE 1-2 Supported Operating Systems for 7200 and 7300-Series Processors

Supported OS	Required Patches
Solaris 10 8/07 (64-bit)	
Solaris 10 5/08 (64-bit)	
Solaris 10 10/08 (64-bit)	
Solaris 10 5/09 (64-bit)	
OpenSolaris 2009.06	
Red Hat Enterprise Linux 5 Update 1 64-bit	
Red Hat Enterprise Linux 5 Update 2 64-bit	
Red Hat Enterprise Linux 5 Update 3 64-bit	
Red Hat Enterprise Linux 5 Update 4 64-bit	
Red Hat Enterprise Linux 4 Update 6 64-bit	
Red Hat Enterprise Linux 4 Update 7 64-bit	
Red Hat Enterprise Linux 4 Update 8 64-bit	
SUSE Linux Enterprise Server 10 SP1 64-bit	
SUSE Linux Enterprise Server 10 SP2 64-bit	
SUSE Linux Enterprise Server 10 SP3 64-bit	
SUSE Linux Enterprise Server 9 SP4 64-bit	
Win 2003 SE & EE (64-bit)	
Windows 2008 R2	
Windows Server 2003 SE&EE(32bit/64bit)	
Windows Server 2008 SP2(32bit)	
Windows Server 2008 R2	
VMware ESX 3.0.2 or later (7200-series processors only)	ESX-1003524
VMware ESX 3.5 or later (7200-series processors only)	ESX350-200802412-BG
VMware ESXi 3.5 u2 or later	
VMware ESX 4.0	
VMware ESXi 4.0 or later	

TABLE 1-3 Supported Operating Systems and Required Patches for 7400-Series Processors

Supported OS	Required Patches
Solaris 10 5/08 (64-bit)	127112-12, 137112-06 125370-06, and 138076-02
Solaris 10 10/08 (64-bit)	
Solaris 10 5/09 (64-bit)	
OpenSolaris 2009.06	
Red Hat Enterprise Linux 5 Update 2 64-bit	
Red Hat Enterprise Linux 5 Update 3 64-bit	
Red Hat Enterprise Linux 5 Update 4 64-bit	
Red Hat Enterprise Linux 4 Update 7 64-bit	
Red Hat Enterprise Linux 4 Update 8 64-bit	
SUSE Linux Enterprise Server 10 SP2 64-bit	
SUSE Linux Enterprise Server 10 SP3 64-bi	
SUSE Linux Enterprise Server 9 SP4 64-bit	
Windows Server 2003 SE&EE(32bit/64bit)	
Windows Server 2008 SP2(32bit)	
Windows Server 2008 R2	
Win 2003 SE & EE (64-bit)	
Windows 2008 R2	
VMware ESX 3.5 U2 or later	
VMware ESXi 3.5 u2 or later	
VMware ESX 4.0	
VMware ESXi 4.0 or later	

Firmware Versions

TABLE 1-4 lists the latest released versions of the server module firmware.

TABLE 1-4 X6450 Firmware Versions

Hardware	ILOM	ELOM
BIOS	S95_3B28	S95_3A08
SP	3.0.6.13	4.0.28
CPLD	5082	5061
REM (option card)	16795	16732

Documentation Errata

The Sun Blade RAID 5 Expansion Module is sometimes referred to as the Sun Blade RAID Expansion Module.

The Sun Blade RAID 0/1 G2 Expansion Module is sometimes referred to as the Sun Blade RAID 0/1 Expansion Module.

Tools and Drivers CD Image is Too Large for a CD

The tools and drivers image is too large to fit on a CD. Instead, burn the image to a DVD.

CHAPTER 2

BIOS Issues

This chapter describes BIOS issues related to the Sun Blade X6450 server module.

Checksum Error Message Appears when Updating BIOS and ELOM Firmware (6629176)

During the BIOS and ELOM firmware update, the screen *might* display the message:

```
Error (0005) : CMOS Checksum Bad
Press F2 to run SETUP
Press F1 to load default values and continue.
```

Note – The checksum error is not a problem. The message just indicates that the checksum for the new BIOS is different from the original.

If the RKVM screen does *not* display a checksum message, you are finished; the system boots.

If the RKVM screen does display a checksum message:

- To load the default (optimal) values and continue, do nothing. The system resets the BIOS settings back to defaults and boots after 5 seconds.

or

- To change settings in the BIOS, follow these steps:

1. **Press F2.**
2. **When the BIOS main menu appears, press F9.**
   - Pressing F9 loads the defaults. You *must* do this prior to editing the settings.

3. **Change the settings as you wish.**
4. **Save your settings and exit.**

PCIe Express Module Option ROM is Disabled by Default (6606356)

To boot from a PCIe Express Module, enable the PCIe Express Module option ROM in the BIOS. Use the following steps:

1. **During system startup, press F2 to change BIOS settings.**

   The BIOS main menu appears.
2. **Navigate to Boot -> Boot Settings Configuration.**
3. **Select Enable PEM 0/1 FUN* Option ROM.**

CHAPTER 3

Hardware Issues

This chapter describes hardware issues related to the Sun Blade X6450 server module.

Fans Run In High Speed Mode

Under some conditions, the fans run in high speed mode when the temperature conditions do not require it. This causes excess noise, power consumption, and wear on the fans.

Workaround

Upgrade to ILOM 3.0 as described in "Upgrading or Migrating From ELOM To ILOM 2.0 or ILOM 3.0" on page 36.

ILOM Might Report DIMM Errors Incorrectly

The ILOM provides DIMM FRU information in the web GUI, the CLI, and the IPMI interfaces.

In some cases, if you do not follow the DIMM population rules, the ILOM might report the DIMM FRU information incorrectly. For example, the DIMM FRU might be blank, or the memory location might be reported inaccurately.

Workaround

Look at the DIMM information in IPMItool.

Populate the DIMMs correctly as described in the service label and in the *Sun Blade X6450 Service Manual*.

Revision 2 Motherboard Supports LV FBDIMMs.

The X6450 hardware now has a second version, a new motherboard that supports LV FBDIMMs. The original version does not support these DIMMs. The version 2 motherboard is physically different, with a new 3-pin jumper. Its FRU ID is F540-7821-01. Refer to the *Sun Blade X6450 Server Module Service Manual* (part number 820-3539) for details.

Dongle Cable Connection

If you have a dongle cable connected to a server module, make sure to remove it before closing the door of a rack cabinet. The dongle might be damaged if it is not removed before the cabinet door is closed.

Hot-plug of the PCIe Express Module X7284A-Z Does Not Work Reliably (6687123)

Hot-plug functionality on the Sun Blade X6450 server module with the PCIe Express Module X7284A-Z does not work reliably. Do not attempt to hot-plug this Express Module.

Hot Plug X1108A-Z Does Not Work (6818703)

After plugging this board in, you must power it off, either using the power button on the board, or by powering off the chassis.

Hot Plugging PCIe EM Cards Can Cause 10 GbE Ports to be Unavailable

If you hot plug the following PCIe EM boards into a new slot, the IO ports might be unavailable. The affected boards include:

- Sun StorageTek Dual 4Gb FC Dual GbE HBA(QLogic) SG-XPCIE2FCGBE-Q-Z

- Sun StorageTek Dual 4Gb FC Dual GbE HBA(Emulex) SG-XPCIE2FCGBE-E-Z
- 1GbE Quad Port ExpressModule – Copper (Intel) X7284A-Z
- InfiniBand PEM X4216A-Z and X1288A-Z

Note – This problem does not affect boards that are removed, then hotplugged into their original slot.

The following Microsoft white paper provides additional information, even though even though this issue affects Linux and Solaris operating systems as well:

`http://www.microsoft.com/whdc/connect/pci/bios_hotplugpcie.mspx`

Workaround

Place the board in the proper slot then power-cycle the host.

CHAPTER 4

Software Issues

This chapter describes software issues related to the Sun Blade X6450 server module.

Delay Before Server Can Be Powered On After Software Upgrade (6893973)

After performing a software upgrade, there is a delay of about three minutes before the server can be powered on.

Workaround

Wait three minutes or more before powering on a server after a software upgrade.

PCCheck Cannot Run Multiple Times (6875913)

If you stop and start the host more than once, PCcheck does not run after the first time, and an error message appears in dmesg:

```
BotReqHandler() : BOT Reset Request Called
ERROR: UsbWriteData(): Transmission timeout for Device 0 EP 2 for
DataSize 0xD
Error in Sending CSW for EP2
WARNING:Wakeup for Sleep Struct(0xc71be6dc) Called after timeout
ERROR: UsbWriteData(): Transmission timeout for Device 0 EP 2 for
DataSize 0x24
Error in Sending SCSI_INQUIRY
```

Workaround

Retry several times until it runs.

SUSE Linux With CF Card Reports HD Errors

On systems with a CF card, SUSE 10/9 reports errors.

For example:

```
dmesg |grep -i fail
hda: drive_cmd: status=0x51 { DriveReady SeekComplete Error }
hda: drive_cmd: error=0x04 { DriveStatusError }
or you might see...
Error attaching device data
aer: probe of 0000:00:02.0:pcie01 failed with error 1
aer: probe of 0000:00:03.0:pcie01 failed with error 2
```

These messages can be ignored. They do not affect system performance.

Creating SSH Key During Upgrade to SW3.0 Takes Awhile

While upgrading to SW3.0, it can take about five minutes to create the SSH key. The screen displays:

```
SSH RSA Host Key files don't exist. Creating...

Starting sshd
```

Workaround

While this might take awhile, it should still work. No action is necessary.

Solaris x86 X-Server Fails To Start

The Solaris x86 X-Server might fail to start after it is enabled with the dtconfig -e command.

Workaround

Add the following option to the `xorg.conf` file:

```
Option "NoDDC" "True"
```

Windows 2003 LAN Issue

When using Receive Side Scaling (RSS) in Windows Server 2003 SP2, the interface fails, but shows no indication of failure other than a blank IP address, 0 packets received from the adapter, and a blank ARP table.

Workaround 1

Disable and re-enablethe interface to restore normal operation.

Workaround 2

Install the Installpack from the SW 2.0.3 or later ISO image. For example:

`/windows/w2k3/packages/InstallPack_2_0_3.exe`

Note – SW2.0.3 is released as a downloadable ISO image only. It will not be released on physical media (DVD or CD).

For more details, please refer to the following Intel doc.

Intel® 82563EB/82564EB Gigabit Ethernet PHY– Customer letter for ESB2 / Gilgal issues – Customer Communications – 07-Nov-2008.

Server Modules Equipped with Additional Memory Take Longer to Run POST

A server module that is fully populated with DIMMs can take up to three additional minutes to boot, due to the time required to run POST tests on the DIMMs.

VMware ESX/ESXi 3.5 u2 Health Status is Sometimes Reported Inconsistently

VMware ESX/ESXi releases provide a health status and monitoring feature. Incompatibility between the ILOM and VMware IPMI interfaces causes ILOM IPMI sensors to be partially displayed in the VMware health status window. Sensors might also appear and disappear, and updates occur slowly.

Workaround

Use the ILOM GUI, CLI, SNMP, or IPMI interfaces to monitor server health. Also, the ILOM provides remote syslog and remote alert interfaces to enable remote monitoring.

VMware ESX 3.5 Process Uses 100% of Core

The VMware ESX 3.5 process occasionally uses 100% of a core.

For example:

```
# cat /proc/vmware/interrupts
Vector PCPU 0   PCPU 1   PCPU 2   PCPU 3   PCPU 4   PCPU 5   PCPU 6   PCPU 7
0x21:  7442833       0        0        0        0        0        0        0
VMK ACPI Interrupt
```

Workaround

1. **Edit the file /**`etc/vmware/esx.conf` **and add the line** `/vmkernel/mpsIntRouting = "TRUE".`
2. **Reboot the system.**

Arrow Keys Do Not Work When Using RKVM on SunRay

The arrow keys do not work when using an RKVM on a SunRay.

Workaround

Use alternative keystrokes, or remap the arrow keystrokes in the SunRay X session.

Keyboard Alt Key Appears Stuck in RKVM on RHEL4 and ESX 3.5 u2

During RKVM sessions with RHEL4 and ESX 3.5 u2, the Alt key appears stuck.

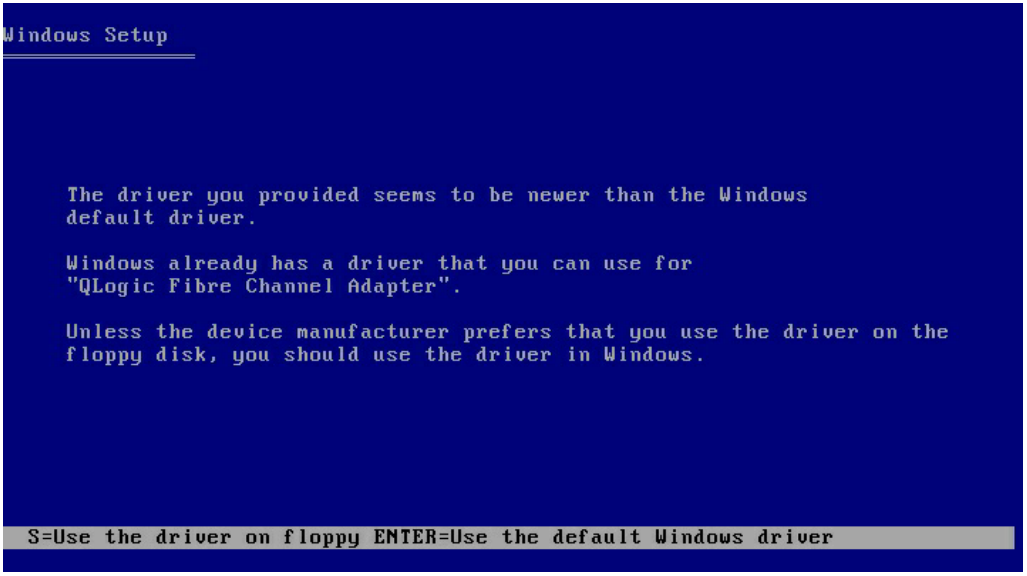
Workaround

- **From the javaRconsole menu:**
  - Select **`Keyboard ->Left Alt Key`**.
  - Deselect **`Keyboard ->Left Alt Key`**.

When Installing Windows OS Use the Drivers on the Tools and Drivers DVD Exclusively

If you are installing the Windows OS with the QLogic Fibre Channel Adapter, do not use the drivers on the Windows DVD.

When the installation wizard informs you "The driver you provided seems to be newer than the Windows default driver.", select "S" to use the driver on the DVD.



With Solaris 10 8/07, Oracle Floating Point Processes can Generate Unexpected SIGFPE Signals and Exit

These are not actual floating point errors and the unexpected exit can cause data corruption.

Solution

Two patches to the Solaris OS must be applied, *in sequence*: patch 125370-06, followed by 127112-10.

Pc-Check Test `User Pattern Test` Does Not Finish

The Pc-Check test `User Pattern Test` does not finish.

Workaround

There is no functional impact. If this problem is seen, simply exit the test.

RHEL 5.0 Panics During Boot With More Than 64 GB Memory

The message `Panic on CPU0: Not enough RAM for domain 0 allocation` is displayed. This panic is caused by certain allocations taking up too much memory in the lower memory of the kernel.

Solution

To fix the problem, update the OS with Red Hat Security Advisory RHSA-2007:0099, or later, which contains a fix for this issue.

`https://rhn.redhat.com/errata/RHSA-2007-0099.html`

Workaround

If you are unable to update the kernel successfully, there is a workaround available. Boot with the system with the kernel parameters `dom0_mem=512M mem=64G`. For example, in `/boot/grub/grub.conf` file, enter the parameter like this:

```
title Red Hat Enterprise Linux Server (2.6.18-8.el5xen)
  root (hd0,0)
  kernel /xen.gz-2.6.18-4.el5 dom0_mem=512M mem=64G
  module /vmlinuz-2.6.18-4.el5xen ro root=LABEL=/
  module /initrd-2.6.18-4.el5xen.img
```

Flood of Interrupts with VMware ESX 3.5

When using ESX 3.5 there is an interrupt flooding at vector 0x21 which results in more than 90% usage of one core.

This issue has been fixed with BIOS version 3A08 of SW release 1.0.1.

Solaris OS Will not Install on 1 TByte RAID

The Solaris OS cannot be installed on a RAID array larger than one terabyte.

The Solaris installer OS doesn't support it.

Workaround

There is no workaround for this issue.

Reduced Network Performance With Solaris 10 5/08

Servers running the Solaris 10 5/08 OS may experience reduced network performance.

Workaround

Add patch 137112-06.

x86: i86_mwait Function Does Not Function as Designed (6736444)

Systems with the Intel® Xeon® Processor MP7400 series running the Solaris 10 10/08 OS might experience slightly reduced performance or increased power consumption under light utilization due to an issue where the CPUs might not idle fully.

No error message is displayed.

Workaround

Add the following line to `/etc/system` file:

```
set idle_cpu_prefer_mwait=0
```

Reboot the system.

Ctrl+Alt+Delete Does not Work for SLES10 SP1

When using RKVM, the Ctrl+Alt+Delete hot key does not function for the SLES10 SP1 OS.

Workaround

Use SP to reset your system, or reboot it using OS commands.

CHAPTER 5

SIA Issues

This chapter describes issues related to the Sun Installation Assistant (SIA).

SIA supports the following operating systems:

- Red Hat Enterprise Linux 4 Update 6,7 and 8, 32 bit and 64-bit
- Red Hat Enterprise Linux 5 Update 1, 2 and 3, 64-bit
- SUSE Linux Enterprise Server 10 SP1 and SP2 64-bit
- Windows Server 2003 Enterprise Edition
- Windows Server 2003 Enterprise x64 Edition
- Windows Server 2003 Standard Edition
- Windows Server 2003 Standard x64 Edition
- Windows Server 2008 x64 Edition
- Windows Server 2008 x86 Edition
- Windows Server 2008 R2

Installing Windows 2003 on Compact Flash with SIA Is Not Supported

You cannot install Windows 2003 on compact flash using SIA.

This is fixed in SIA 2.3.10.0, which is included in SW3.1.

Installing Windows 2003 on External Storage Using an Emulex PCI EM Card Not Supported

Installing Windows 2003 on external storage using the 4Gb FC Dual Port PCI EM card SG-XPCIE2FC-EB4-Z (Emulex) is not supported with SIA.

Workaround

You can use a different card, the 4Gb FC Dual Port PCI EM card SG-XPCIE2FC-QB4-Z (Qlogic), to install Windows 2003 on external storage.

Problem With Installing Linux on External Storage if a Compact Flash is in the Server Blade

When installing Red Hat or SLES on external storage with a compact flash in the blade, the boot loader is written by default to the compact flash.

If you prefer to have the boot loader on the external disk, you can choose one of two alternative workarounds:

Workaround 1

Remove the compact flash from the server blade. Then the Master Boot Record (MBR) is written to external storage by default.

Workaround 2

Configure the MBR during Linux installation.

Example configuration for Red Hat:

1. **In the Boot Loader Configuration window:**
   a. **Check the** `Configure` **advanced boot loader options check box on the bottom of the page.**
   b. **Click the** `Next` **button.**
2. **Click the** `Change Drive Order` **button in the next window.**
3. **Use the arrow keys to move the boot disk device you want to the top of the list and then choose OK.**

4. **In the Install Boot Loader record on: list, select the Master Boot Record (MBR) device, click** `Next`**, and then follow the installation instructions.**

Example configuration for Sles10 SP1:

1. **In the** `Installation Settings` **dialog box, choose the Expert tab.**
2. **Check the** `Partition` **section check box and change the configuration, if needed.**
3. **Select** `Booting section for Boot Loader Settings`**. Choose the** `Boot Loader Installation` **tab and click the** `Other` **button. Select** `Edit Configuration Files`**.**
4. **In the** `Contents` **section of** `/boot/grub/device.map`**, change the order of the devices by changing the number in** `hd<x>`**. For example, edit** `hd0` **and change it to** `hd1` **for** `/dev/hda`**; edit** `hd1` **and change it to** `hd0` **for** `/dev/sda`**. Then, save the configuration.**
5. **Next, click Filename list and select the file** `/boot/grub/menu.lst`**. Change all** `hd0` **and** `hd1` **entries in the file according to the new** `/boot/grub/device.map` **(for example, to** `hd1` **and** `hd0`**).**
6. **Save the new configuration and proceed with the OS installation.**

Problem Using Monitor When Installing SLES 10

If a Sun monitor is directly attached to a system on which SIA is being used to install SLES 10 SP1, that monitor might shut down with "out of frequency" after the first boot and `YaST` starts. Once `YaST` is completed and it boots with the regular login screen, the monitor comes back.

Workaround

Use RKVM to view the screen output.

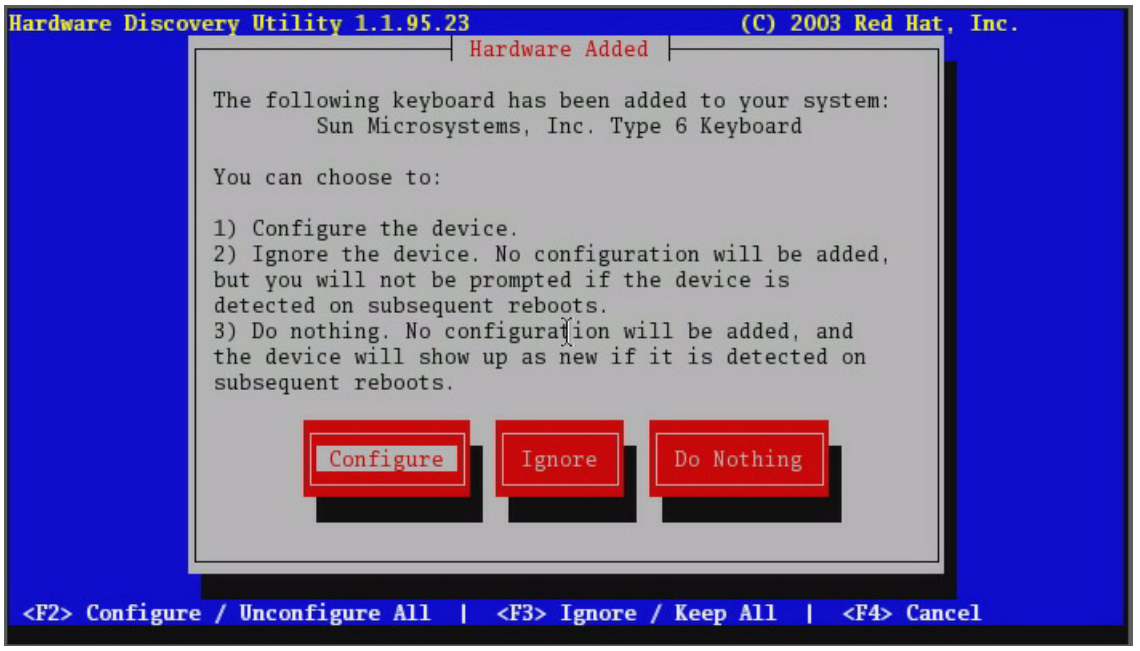
Configuration During Red Hat 4.7 Installation

When installing Red Hat 4.7, kudzu might display a screen asking you to configure one of the following:

- 4Gb FC Dual Port PCIe EM card SG-XPCIE2FC-EB4-Z (Emulex)
- IDE controller (Intel Co. 631xESB/632xESB/3100 Chipset SATA IDE Controller)
- Keyboard

FIGURE 5-1 shows an example of a this screen for a keyboard.

FIGURE 5-1 Keyboard Screen



Note – This problem is fixed in SIA 2.2.15.0, which is included in SW3.0.

Workaround

None needed. The kudzu configuration is problem-free. In any case, Red Hat boots normally even if no configuration is done.

SIA Does Not Install Tools During Post Install (Windows 2008 32/64 Bit)

SIA does not install tools (SSTRM, Intel NIC Teaming, and Sun IPMITool) during post install.

Workaround

Use the Tools and Driver DVD to install tools, as described in the *Sun Blade X6450 Operating System Installation Guide*.

Installation from Network Location Fails (Windows 2008 32/64 Bit)

Using SIA to install Windows 2008 from an ISO file on a network (the Network Share method) does not work.

This issue is fixed in SIA 2.3.10.0, which is included in SW3.1.

Sun Dual 10GbE FEM Driver Not Installed (SLES 10 SP1)

When installing SLES 10 SP1, the driver for the Sun Dual 10GbE Fabric Expansion Module driver is not installed.

Workaround

Download the driver from the sun website and install manually after SLES installation finished.

System BIOS and ILOM Upgrade With Inband Interface Doesn't Work (CR 6893972)

The selection "System BIOS and ILOM Upgrade (uses inband interface)" does not work.

This is a new SIA 2.3 feature that is not functional in SW 3.1 (SIA 2.3.10.0).

Workaround

Select " System BIOS and ILOM Upgrade (uses network)" to upgrade BIOS and ILOM.

SP Recovery Feature Is Not Functional (CR 6894003)

This is a new SIA 2.3 feature, but it is not functional in SW 3.1 (SIA 2.3.10.0).

Workaround

Use the Tools & Drivers DVD to recover BIOS and ILOM. See the PDF in the firmware directory for instructions

The Next Button on the System Information Page Doesn't Work Correctly When Clicked Multiple Times (CR 6891807)

The System Information page can take a long time to display its information. If you click the Next button while waiting, the SIA CD hangs and the Next button fails to respond.

Workaround

Don't click any buttons until the System Information page has displayed all its information.

If the system hangs, reboot it.

System Information Error - Can't Show the Storage Device Information of the CF Card (CR 6891791)

If you insert a CF card into the CF slot, then remove other storage and launch SIA, the Storage Device section on the System Information page is empty.

There is no workaround at this time.

It Takes a Long Time to Enter the Next Step on Some Pages (CR 6890464)

While doing an OS installation, after SIA identifies the OS and lists the option cards, when you click Next, it can take a long time to display the next page.

This problem is intermittant.

Workaround

Reboot the system and try again.

CHAPTER 6

Service Processor Issues

This chapter describes the service processor issues.

It is divided into the following sections:

- "General Service Processor Issues" on page 31- Issues that affect systems with both ILOM and ELOM service processors.
- "CMM Service Processor Issues" on page 39 - Issues that affect the Chassis Management Module (CMM).
- "ELOM Service Processor Issues" on page 43- Issues that affect systems with ELOM service processors only.
- "ILOM Service Processor Issues" on page 46 - Issues that affect systems with ILOM service processors only.

General Service Processor Issues

This section describes service processor issues that affect systems regardless of the type of service processor.

ILOM Does Not Recognize Message From BIOS Warning of Unsupported DIMM (6764365)

The ILOM does not recognize messages from the BIOS warning that unsupported DIMMs are installed.

This is fixed in SW3.1.

Floppy Image Does Not Appear During Redirection With RHEL Host (6828797)

The contents of the floppy drive do not appear during redirection with a RHEL host.

Workaround

1. **Enter the following commands:**

   $ **echo 2 >/sys/module/scsi_mod/max_luns**

   $ **cat /sys/module/scsi_mod/max_luns**

2. **Try to select the floppy contents again.**

   The floppy contents appear.

Image Does Not Appear During Redirection of DVD from Solaris to RHEL (6876387)

If you redirect a physical DVD or image file from Solaris to RHEL, when you select the CDROM icon, it appears empty.

Workaround

1. **Use the `lsscsi` command to check the device name of the DVD.**

   The system displays output similar to this:

   ```
   [5:0:0:0] cd/dvd AMI     Virtual CDROM    1.00   /dev/scd1
   ```

   Note the device name, `/dev/scd1`.

2. **Mount the device on a new or existing directory. For example:**

   # **mount /dev/scd1 /mnt**

   The DVD contents appear under `/mnt`.

CLI Command `stop/SYS` Does Not Work After Upgrade to SW3.0 (687471)

After upgrading to SW3.0, the CLI command `stop/SYS` does not work.

Workaround

Use the GUI or the `stop -f /SYS` command.

JavaRConsole Does Not Support Swedish or Finnish Keyboards (6781995 and 6824306)

Remote JavaRconsole sessions do not support Swedish or Finnish keyboards.

Workaround

Upgrade to SW3.1.

JavaRconsole Does Not Support Swiss-French Keyboards (6753081)

Remote JavaRconsole sessions do not support Swiss-French keyboards.

Workaround 1

Upgrade to SW3.1

Workaround 2

Use a French keyboard.

'Upgrade Succeeded' Message Does Not Appear In Event Log (6875008)

After upgrading (flashing) the SP image to 3.0.6.13, the message that the upgrade succeeded does not appear in the event log.

This is fixed in SW3.1.

Exiting BIOS while Preserving BIOS Options Causes JRC To Lose Connection (6878636)

During a Java Remote Console session, if you configure the BIOS, then select Save Changes and Exit, the JRC session might be disconnected.

This is fixed in SW3.1.

Can Not Set Locate LED To Blink Using ipmitool (6876420)

Using `ipmitool ... chassis identify 0` should cause the locate LED to blink, but it does not.

This is fixed in SW3.1.

Default User Can't Login to SP When check_physical_presence Is True (6875869)

The default user can't login to the SP when `check_physical_presence` is true.

This is fixed in SW3.1

SEL Log Incorrectly Reports "Correctable ECC Logging Limit Reached" (6855049)

The SEL log incorrectly reports "Correctable ECC logging limit reached" when it encounters a single correctable error. It also lights the fault LED, indicating incorrectly that a DIMM has failed.

Workaround

Upgrade to SW3.0 or later. It continues to report correctable errors when they occur, but it does not report that the logging limit is reached until it encounters 24 correctable errors in 24 hours, which is normal behavior.

Delaying BIOS Upgrade During Firmware Update Can Corrupt BIOS (CR 6813514)

The ILOM SP firmware upgrade procedure includes an option to delay the BIOS update until the host is reset. This allows you to update the firmware without resetting the host.

Three scenarios can cause this to corrupt your BIOS:

- If you select this option, then power down the host and remove the server module from its slot before the BIOS update is complete.
- If you select this option, then power down the host and power on the server module immediately before the BIOS update is complete.
- If you start another SP firmware update before the BIOS update has been completed.

Workaround 1

Do not select the Delay BIOS Update option.

Workaround 2

If you use the Delay BIOS Update option, ensure that no one removes the server module from its slot, powers on the host, or attempts to update the SP firmware until after the host has been reset and the BIOS update is complete.

After the host is powered off, the BIOS update might take three to four minutes.

Command to Clear CMOS Doesn't Work

The ILOM and ELOM documentation states that you sould clear CMOS if you can't get output to the serial console after updating your ILOM firmware.

This command does not work.

It will be fixed in the next release.

Workaround

Use the procedure in the *Sun Blade X6450 Server Module Service Manual*.

Upgrading or Migrating From ELOM To ILOM 2.0 or ILOM 3.0

Your server module might be equipped with one of three service processors: ELOM, ILOM 2.0, or ILOM 3.0.

If you wish, you can upgrade (migrate) your ELOM service processor to ILOM 2.0 or ILOM 3.0.

▼ To Migrate from ELOM to ILOM 2.0

- **Use the instructions in the** *ELOM-to-ILOM Migration User's Guide***.**

  Some of the file names in the *ELOM-to-ILOM Migration User's Guide* are out of date. For example, the following files have been updated for SW2.0.3:

  `6450i20.bin` has been replaced by `6450i203.bin`

  `3B16.bat` has been replaced by `3B19.bat`

Caution – Filenames are sometimes updated more often than the documentation. Always use the files that came with the release you are installing, unless you receive specific instructions to do otherwise.

Caution – When you migrate from ELOM to ILOM 2.0, always migrate to ILOM 2.0.3. or later. Do not migrate to an earlier ILOM. We recommend that you migrate to the latest available version.

▼ To Migrate from ELOM to ILOM 3.0

1. **Migrate from ELOM to ILOM 2.0 as described in** "To Migrate from ELOM to ILOM 2.0" on page 36**.**
2. **Upgrade from ILOM 2.0 to ILOM 3.0 as described in the** *Sun Integrated Lights Out Manager Supplement for Sun Blade X6450 Server Module* **and in the ILOM 3.0 documentation collection.**

The Existing BIOS Version Is Incorrect When Migrating from ILOM 2.0 to ILOM 3.0

During the ILOM 2.0 to ILOM 3.0 migration procedure, when you are updating the firmware, the existing BIOS version is listed as “unknown.”

This does not indicate a problem or a failure. You can ignore it.

Simultaneous Firmare Update (Flash) Sessions Could Cause Both To Fail

If you attempt to update (flash) the SP firmware from two different sessions at the same time, they will probably both fail and leave your SP in an unstable state.

Note – An SP firmware update takes about six minutes. Once it has started, you should not do anything else with the SP until it is finished.

Workaround

If your SP becomes unusable after updating the firmware, use the instructions in the corresponding documentation collection, and in the ILOM supplement documentation collection to recover.

Use the Video Connector When Migrating from ELOM to ILOM or from ILOM to ELOM

The Elom-to-Ilom Migration Guide states that you should connect a serial terminal to the dongle to do conversions. This is incorrect. Instead, connect a video monitor to the video connector on the dongle when doing the conversions.

Workaround

Connect a video monitor to the dongle cable to do the conversions.

`socflash` ILOM Recovery Utility Might Fail in Some Circumstances (6743159)

The ILOM supports the `socflash` recovery utility, which can be used to recover ILOM from DOS on newer server modules. However, in some circumstances, for example, when upgrading from ELOM to ILOM, `socflash` might fail with write errors.

Workaround

Use the `afudos` tool to flash the ILOM BIOS first. If the problem persists, retry the `socflash`.

See the *Sun Integrated Lights Out Manager for Sun Blade X6450 Server Module* for details.

Transition of ELOM to ILOM Does Not Work on Firefox 3.0.1

You cannot use Firefox 3.0.1 to transition from the ELOM to the ILOM.

Workaround

Use Firefox 2.x.x or IE 7.0.5730.11.

The Remote Console Session Times Out While a Storage Device is Mounted

After you have mounted a storage device through the web GUI remote console application, the web GUI session might time out, and the remote console connection to the mounted remote storage might be lost.

Workaround

Disable the session time out in the web GUI when using remote storage device using remote console application.

CMM Service Processor Issues

This section describes service processor issues that affect the Chassis Management Module (CMM).

Single-Sign On from the CMM to the Server Module ILOM Does Not Work (CR 6828014)

The single-sign on feature from the CMM to the server module ILOM does not work.

Workaround

Sign on directly to the server module's ILOM.

CMM Reports Chassis Serial Number in The Wrong Field in a Sun Blade 6000 Chassis (CR 6837867)

On a Sun Blade 6000 chassis, when you enter the show `/CH -d property` command, the CMM displays the chassis serial number in the `fru_serial_number` field. The information in the `product_serial_number` field is irrelevant.

For example:

```
-> show /CH -d property
  /CH
    Properties:
        type = Chassis
        ipmi_name = /CH
        product_name = SUN BLADE 6000 MODULAR SYSTEM
        product_part_number = 541-1983-07
        product_serial_number = 0111APO-0814YT06B4
        product_manufacturer = SUN MICROSYSTEMS
        fru_serial_number = 1005LCB-0802YM04JU
        fault_state = OK
        clear_fault_action = (none)
        power_state = On
-> version
```

```
CMM firmware 3.0.3.32
CMM firmware build number: 43452
CMM firmware date: Mon Mar 23 13:43:16 PDT 2009
CMM filesystem version: 0.1.22
```

You can also display the chassis serial number from a server module's ILOM using the `show /SYS/MIDPLANE` command. For example:

```
-> show /SYS/MIDPLANE/

 /SYS/MIDPLANE
    Targets:

    Properties:
        type = Chassis
        ipmi_name = MIDPLANE
        product_name = SUN BLADE 6000 MODULAR SYSTEM
        product_part_number = 541-1983-07
        product_serial_number = 1005LCB-0802YM04JU
        product_manufacturer = SUN MICROSYSTEMS

    Commands:
        cd
        show
```

This display shows the chassis serial number in the `product_serial_number` field. Note that this number is identical to the `fru_serial_number` displayed by the CMM.

```
        product_serial_number = 1005LCB-0802YM04JU
```

CMM Information Missing

Earlier versions of the CMM fail to provide the following information:

- Fan speed
- PSU Information
- NEM information
- CMM FRU information

Workaround

Upgrade to CMM SW3.0. See the ILOM documentation collection for details.

CMM Shows X6450 Server Module with Hard Disk Drives

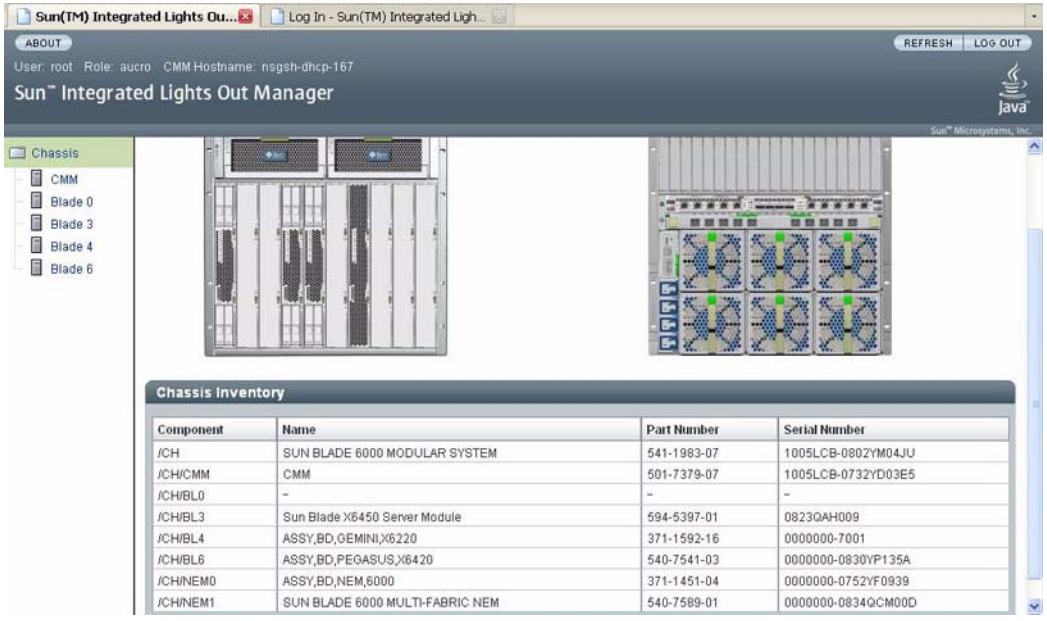
When you open the CMM, it displays pictures of the chassis and the components in the chassis. These pictures include a frontal view that includes pictures of the server modules.

The picture of the X6450 mistakenly shows the server module with four hard drives. This is incorrect.

In FIGURE 6-1, the CMM displays a chassis with an X6450 server module in BL3.

- The chassis inventory shows an X6450 server module in BL3.
- The picture of the front of the chassis shows (incorrectly) a server module with hard disk drives in BL3.

FIGURE 6-1 CMM With Incorrect Picture of X6450 Server Module



Incorrect Server Module Power Management Calculation Prevents Server Module From Powering On (6742133)

The CMM manages the power budget for the chassis. When an X6450 server module is inserted, cold booted, or the SP is reset, it reports its power requirements to the CMM.

Occasionally, the CMM incorrectly records that a X6450 server module requires 593W.

Normally, this will not cause any problems. However, in certain rare circumstances, this problem might be duplicated in many of the server modules in the chassis. If the total requested power exceeds the power allowance for the chassis, when a server module is inserted, cold booted, or the SP is reset, the host will fail to power on.

This problem is fixed in SW3.0.

Workaround 1

1. **Power off the host.**
2. **Either reseat the server module, or reset the SP.**

   See the service processor documentation for details.

Workaround 2

- **Enter the following CMM command:**

  -> **`set /CMM/powermgmt/advanced/reserve_psus=0`**

  See the service processor documentation for details.

Note – Because fully-configured X6450 server modules do not use more than 50% of the available power, the PSU can still be safely hotplugged.

ELOM Service Processor Issues

Mouse Redirection in Remote Console May Not Be Optimal

Mouse activity on the Remote Console may be unstable.

Workaround

▼ For Solaris and Linux

1. **In the X-Window user interface, open a terminal session.**
2. **Disable the hardware acceleration function with this command:**

   ```
   xset m 0
   ```

3. **Press the mouse sync icon in the RKVM application.**

▼ For Windows

1. **In the Control Panel, select** `Mouse Setting`**.**
2. **Select the** `Pointer Option` **tab.**
3. **Deselect** `Enhance Pointer Precision`**.**
4. **Press the mouse sync icon in the RKVM application.**

CLI Path Changes With `start /SYS` Command

With ELOM, when the command `start` is issued in `/SYS`, the CLI path will change to `/SP/AgentInfo`. This has no impact.

Workaround

None needed.

Chassis Fan Failure Is Not Logged in SEL As a Warning

Chassis fan failures are not logged in BMC system event log (SEL) as a warning.

This does not impact the server module.

Workaround

Check the chassis status using the SP. Refer to the *Sun Blade X6450 Server Module Embedded Lights Out Manager Administration Guide* for more information.

Cannot Access Remote Console From ELOM Web GUI

The Remote Console Java application fails to launch through the ELOM web GUI.

Workaround

The Remote Console application requires JRE 1.6 or later.

Update the Java version on the host running the web browser and try again.

Server Module BMC IP Address Can Be Set From BIOS

To set the IP address from the BIOS:

1. **Boot the Sun Blade 6450 Server Module and enter the BIOS set up menu.**
2. **Select the** `Server` **tab and press** `Enter`.
3. **Select** `Set AST2000 LAN Configuration` **and press** `Enter`.
4. **Select** `IP Address` **and press** `Enter`.

5. **Choose the desired** `IP Address Mode`**:** `DHCP` **or** `Static`**.**
6. **If** `Static` **then enter the IP address in the** `IP Address` **field.**
7. **Press the** `Escape` **key to go back, then select** `Subnet Mask`**.**
8. **Press** `F10` **to save the settings, then reboot.**

Note – The IP Address Mode does not change to the default (DHCP) when optimal defaults are loaded in the BIOS by pressing the F9 key. If the mode has been changed to Static, you can change it to DHCP manually from the `Server` tab of the BIOS set up menu.

Server Module Fails to Boot Because Insufficient Power Capacity Is Available

When you add a server module to a chassis, the CMM calculates the amount of power it requires. If the chassis cannot provide sufficient power:

- The CMM prevents the server module from booting and places an entry in its error log.
- The amber service required LED on the front panel of the server module blinks.

If your X6450 server module does not boot after initial installation:

- Check to see if the amber service required LED is blinking.
- Check the X6450 error log to see if the CMM is preventing the X6450 server module from booting due to insufficient power capacity.
- Reconfigure the X6450 or the chassis to provide sufficient power.

Note – Previous releases of the X6450 server module required that you calculate the amount of power available, and the amount of power required by the X6450 server module. The CMM now does this automatically.

Calculating Power Consumption for Arbitrary Configurations

For any arbitrary configuration, you can use the power consumption per component information immediately below to calculate the power consumption per blade. With this, you can determine the number of blades that can be powered up simultaneously.

Base Blade: 80 Watts

CPU: 50 Watts for the L7345 CPU; 80 Watts for the E7220, E7320, and E7340 CPUs

DIMM: 13 Watts each

FEM: 15 Watts if FEM is populated

REM: 15 Watts if REM is populated

EM slot (PCIe Express Module) (2 per blade): 15 Watts each (static allocation, not based on presence of EM module)

Note – Power supply redundancy can be sacrificed to populate more blades in either the 6000 or 6048 chassis.

For mixed blade configurations, visit the Power Calculator web sites at:

http://www.sun.com/servers/blades/6000chassis/calc/index.jsp

http://www.sun.com/servers/blades/6048chassis/calc/index.jsp

ILOM Service Processor Issues

This section describes service processor issues that affect systems with an ILOM service processor.

ILOM 3.0 Only Supports Five User Sessions

ILOM 3.0 memory can only support five user sessions. If additional user sessions are created, it might terminate existing sessions. Also, under some conditions, it might crash the BIOS.

Unrecoverable Diskette Failure Message Appears in SEL Log After Upgrade to 3.0.3.33

An unrecoverable diskette failure message appears in the SEL log after upgrading the SP to SP3.0.3.33.

This message can be ignored. It will be fixed in a future release.

False Hotplug Chassis Events in SEL Log (6742169)

You might occasionally see false hot-insertion or hot-removal events in the web GUI or the CLI event log. For example:

```
Event ID    Class    Type    Severity    Date/Time    Description
5    Chassis    Action    major    Tue Sep 2 22:11:14 2008    Hot insertion of /SYS/PS0
4    Chassis    Action    major    Tue Sep 2 22:11:13 2008    Hot removal of /SYS/PEM0
3    Chassis    Action    major    Tue Sep 2 22:11:05 2008    Hot removal of /SYS/PS0
2    Chassis    Action    major    Tue Sep 2 22:11:05 2008    Hot insertion of /SYS/PEM0
```

You can disregard these events.

To be sure of hotplug events, use the IPMI SEL. It should always have the correct hotplug events. For example:

```
ipmitool -H MY.BLADE.IP.ADDR -U root -P changeme sel elist
```

shows component's PRSNT sensor as `Present` or `Absent`.

SLES 9 Cannot Be Installed with RKVM In GUI Mode

On systems equipped with ILOM, SLES 9 cannot be installed with RKVM in GUI mode because SLES 9 can't start the X server.

Workaround

Continue the installation in text mode.

Ignore Data-3 Portion of DIMM Error Message

When viewed using IPMItool version 1.8.9.4 or later (as provided with the service processor), DIMM error messages look like the following:

```
26 | Pre-Init Time-stamp   | Memory | Uncorrectable Error | Asserted
| OEM Data-2 0xb5 OEM Data-3 0x0b
```

The Data-2 value identifies the faulty DIMM (channel B, slot 5 in this case). Ignore the Data-3 portion of the message.

Delay Before Green LED Responding to Power Button Push (6721024)

After you push the power button, there is a 5 to 6 second delay before the green LED responds.

OK To Remove LED is OFF During Flash Upgrade

On systems with an ILOM service processor, the OK to remove LED is OFF during a flash upgrade. This is unlike the behavior of systems with an ELOM service processor, where the OK to remove LED is ON during a flash upgrade.

Resetting SP Root Password Using J23 Jumper Does Not Work (6742739)

The jumper-based method of resetting the ILOM root password described in the service processor documentation does not work on the X6450 server module.

Workaround

Either:

- Use BIOS Setup -> BMC Password Reset to reset the ILOM root password, or
- Use the socflash ILOM recovery utility to restore the ILOM to the default configuration.

Graceful Shutdown of Host OS Does Not Work With Some Operating Systems (6723745)

The ILOM (GUI, CLI, and IPMI) performs a graceful OS shutdown by initiating an ACPI short button press.

Certain operating systems do not honor the ACPI short button press. For example, this might be the case when the console is logged in.

Workaround

Modify the operating system configuration, or login to the operating system to perform a graceful shutdown.

Green Power LED Works Differently with ILOM

On server modules equipped with an ILOM service processor, when the server module is plugged in:

- The three status LEDs blink three times at 1Hz.
- The green LED blinks at 1Hz during POST.
- After post the green LED either:
  - Stays on if the server module is powered on.
  - Blinks 2.9 sec off/.1 sec on if the server module is on standby power.

Mouse Does Not Work During Remote Session (CR 6730145)

Older versions of Linux do not support the ILOM's default absolute mouse mode.

With older versions of Linux on your server, if you configure a remote management session and the mouse doesn't work, you must reset the ILOM mouse mode from `absolute` to `relative`.

Workaround

1. **Click the Mouse Mode Settings tab.**
2. **Select Relative Mouse Mode.**
3. **Select Save.**

The ILOM displays a message, then reboots itself. When the ILOM has rebooted, you can re-establish the remote session and the mouse will work.

Note – In order to switch control between the local mouse and the host mouse, press **`Alt +m`**.