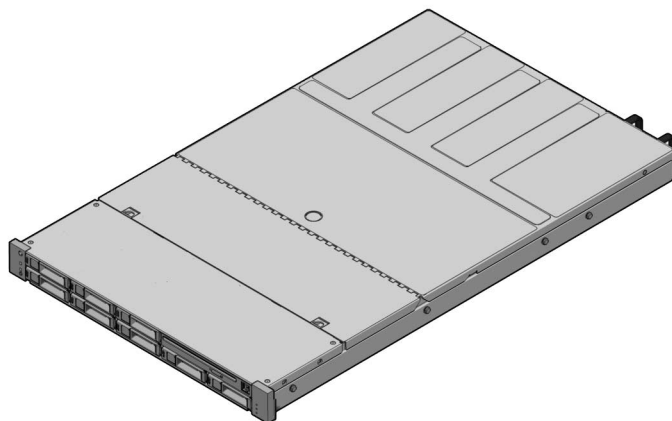


Sun Fire™ X4150 Server Product Notes



Sun Microsystems, Inc.
www.sun.com

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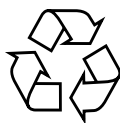
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Sun Fire X4150 Server Product Notes

This document contains late-breaking information and issues for the Sun Fire™ X4150 server.

Note – The information in the English version of the Product Notes might be more up-to-date than the translated versions.

The following issues are covered in these product notes:

- [“Supported Operating Systems” on page 2](#)
- [“Tools and Drivers CD/DVD” on page 4](#)
- [“Critical Issues” on page 14](#)
- [“Hardware and BIOS” on page 14](#)
- [“System Management Issues” on page 26](#)
- [“Diagnostics Issues” on page 38](#)
- [“Sun Installation Assistant Issues” on page 40](#)
- [“Solaris OS Issues” on page 45](#)
- [“Linux Issues” on page 49](#)
- [“Windows Issues” on page 51](#)
- [“VMware Issues” on page 53](#)
- [“LSI 3081E Host Bus Adapter Issues” on page 54](#)
- [“StorageTek SAS Controller Issues” on page 55](#)
- [“Sun 10G Network Adapter Issues” on page 57](#)
- [“Documentation Issues” on page 57](#)
- [“Fixed Issues” on page 61](#)

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Software Information

This section contains the following software information:

- [“Supported Operating Systems” on page 2](#)
- [“Software Options” on page 2](#)
- [“Important: CPLD Update Might Be Required Before Firmware Update” on page 11](#)

Supported Operating Systems

The following operating systems versions are supported on the Sun Fire X4150 server:

- Red Hat Enterprise Linux (RHEL 32-bit/64-bit) 4.5, 4.6, 4.7, 4.8, 5.1, 5.2, 5.3, 5.4
- SUSE Linux Enterprise Server (SLES) 9 SP4 (64-bit), SLES) 10 SP1 (64-bit); SLES 10 SP2 (64-bit), SLES 10 SP3 (64-bit/XEN), SLES 11 (64-bit)
- Windows Server 2003 EE R2 SP2 (32-bit/64-bit),
- Windows Server 2008 (32-bit/64-bit), Windows Server 2008 R2 (64-bit)
- Solaris™ OS 10 5/08, Solaris OS 10 10/08, Solaris OS 10 5/09, Solaris 10 10/09
- VMware ESX/ESXi 3.5U5, VMware ESX/ESXi 4.0U1
- OpenSolaris 2009.06
- Oracle Enterprise Linux (OEL) 4.8, 5.3 (32-bit/64-bit)

Note – Additional information for servers with preinstalled Windows 2003 Server can be found in [“Windows Issues” on page 51](#).

Software Options

The following software can be ordered to ship with your system or downloaded:

- “Software Supplemental” on page 3
- “Tools and Drivers CD/DVD” on page 4
- “Sun Validation Test Suite” on page 10
- “Sun Installation Assistant” on page 11

Software Supplemental

The software supplemental releases include BIOS and ILOM updates only. The Tools and Drivers CD is not updated for these releases. You can download the supplemental software updates at:

<http://www.sun.com/servers/x64/x4150/downloads.jsp>

Software Supplemental 3.0.2

Sun Fire X4150 Software Supplemental 3.0.2 firmware package is now available for download.

The firmware versions include:

- BIOS: 1ADQW062
- ILOM: 3.0.3.30 build r48374

The following issue was introduced in 3.0.3.30 build r48374: [“Correctable Errors Incorrectly Listed in the ILOM SEL as a Critical Error”](#) on page 37.

Note – Refer to [“Issues Fixed in Software Supplemental 3.0.2”](#) on page 62 for information on issues that have been fixed with this release.

Software Supplemental 3.0.1

Sun Fire X4150 and X4250 Software Supplemental 3.0.1 firmware package is now available for download.

The firmware versions include:

- BIOS: 1ADQW061
- ILOM: 3.0.3.30 r47608

Note – Refer to [“Issues Fixed in Software Supplemental 3.0.1”](#) on page 62 for information on issues that have been fixed with this release.

Software Supplemental 2.2.2

Sun Fire X4150 and X4250 Software Supplemental 2.2.2 firmware package is now available for download.

The firmware versions include:

- BIOS: 1ADQW060
- ILOM: 2.0.2.10 r42701

Note – Refer to “[Issues Fixed in Software Supplemental 2.2.2](#)” on page 63 for information on issues that have been fixed with this release.

Tools and Drivers CD/DVD

The Tools and Drivers CD/DVD includes firmware and software for the Sun Fire X4150 server. The Tools and Drivers CD or DVD is offered as an option to order with your system. Latest versions of the Tools and Drivers CD/DVD images are available at the following download site:

<http://www.sun.com/servers/x64/x4150/downloads.jsp>

Note – See “[Important: CPLD Update Might Be Required Before Firmware Update](#)” on page 11 before updating your system firmware.

Tools and Drivers DVD Version 3.2.0

The most recent software update is Tools and Drivers DVD Version 3.2.0.

The updates for Tools and Drivers 3.2.0 include:

- ILOM version: 3.0.6.15 Build r52422
- BIOS: 3B65
- Sun StorageTek SAS RAID HBA Firmware Update:
 - Firmware version: 16732
 - Sun StorageTek SAS RAID HBA Drivers for Windows (16732), Linux (1.1.5-2463)
- Additional driver updates include:
 - RHEL 5.4 (32-bit/64-bit)
 - Solaris OS 10 10/09

- SLES 11 SP3 (64-bit/XEN)
- OEL 4.8 and 5.3 (32-bit/64-bit)
- Intel NIC Driver 14.8
- AST2000 Driver 090

Additional software updates include:

- SunVTS Diagnostics CD Bootable CD 7.0 ps7
- Sun Installation Assistant 2.3.17.0
- Sun StorageTek PCIe SAS RAID Host Bus Adapter ASM: 17551

Tools and Drivers DVD Version 3.1.1

The most recent software update is Tools and Drivers DVD Version 3.1.1.

The updates for Tools and Drivers 3.1.1 include:

- ILOM version: 3.0.6.15 Build r50607
- BIOS: 1ADQW065
- Sun StorageTek SAS RAID HBA Firmware Update:
 - Firmware version: 16732
 - Sun StorageTek SAS RAID HBA Drivers for Windows (16732), Linux (1.1.5-2463)
- Additional driver updates include:
 - RHEL 4.8 (32-bit/64-bit), Solaris 10 10/09, SLES10 SP3(64-bit/XEN), Windows 2008 Server R2 (64-bit)
 - Intel NIC Driver 14.3 for Windows Server 2008
 - AST2000 driver 089
- ipmitool 1.8.10.2
- PC Check: 6.23s

Additional software updates include:

- SunVTS Diagnostics CD Bootable CD 7.0 ps7
- Sun Installation Assistant 2.3.14.0
- Sun StorageTek PCIe SAS RAID Host Bus Adapter ASM: 17551

Note – Refer to [“Issues Fixed in Tools and Drivers DVD 3.1.1” on page 65](#) for information on issues that have been fixed with this release.

For further information on the ILOM 3.x, refer to the ILOM 3.0 documentation included in the Sun Fire X4150 server documentation set.

Tools and Drivers DVD Version 3.1.0.

The most recent software update is Tools and Drivers DVD Version 3.1.0.

The updates for Tools and Drivers 3.1.0 include:

- ILOM version: 3.0.6.15
- BIOS: 1ADQW063
- Sun StorageTek SAS RAID HBA Firmware Update:
 - Firmware version: 16732
 - Sun StorageTek SAS RAID HBA Drivers for Windows (16732), Linux (1.1.5-2463)
- Additional driver updates include:
 - RHEL 4.8 (32-bit/64-bit), Solaris 10 10/09, SLES10 SP3(64-bit/XEN), Windows 2008 Server R2 (64-bit)
 - Intel NIC Driver 14.3 for Windows Server 2008
 - AST2000 driver 089
- ipmitool 1.8.10.2
- PC Check: 6.23s

Additional software updates include:

- SunVTS Diagnostics CD Bootable CD 7.0 ps7
- Sun Installation Assistant 2.3.14.0
- Sun StorageTek PCIe SAS RAID Host Bus Adapter ASM: 17551

Note – Refer to [“Issues Fixed in Tools and Drivers DVD 3.1.0” on page 65](#) for information on issues that have been fixed with this release.

For further information on the ILOM 3.x, refer to the ILOM 3.0 documentation included in the Sun Fire X4150 server documentation set.

The following sections contain information on previous Tools and Drivers CD/DVD updates.

Tools and Drivers DVD v3.0

The updates for Tools and Drivers 3.0.0 include:

- ILOM version: 3.0.3.30
- BIOS: 1ADQW060
- Sun StorageTek SAS RAID HBA Firmware Update:
 - Firmware version: 15872
 - Sun StorageTek SAS RAID HBA Drivers (Windows: 15882, Linux: 2459, Solaris: 15872)
- Additional driver updates include:
 - RHEL 5.3 (32-bit/64-bit)
 - Intel NIC Driver 13.5
 - AST2000 Driver 088
 - PC Check: 6.22s
- ipmitool 1.8.10.0

Diagnostics CD Bootable CD Update: SunVTS 7.0 ps4 is also included in this software update.

Note – Refer to [“Issues Fixed in Tools and Drivers DVD 3.0.0”](#) on page 67 for information on issues that have been fixed with this release.

Tools and Drivers DVD v2.2.1

Tools and Drivers DVD 2.2.1 is the latest ILOM and BIOS update for the Sun Fire X4150 server. The firmware versions include:

- ILOM: 2.0.2.10r40317
- BIOS: 1ADQW058

Note – Refer to [“Issues Fixed in Tools and Drivers DVD Version 2.2.1”](#) on page 67 for information on issues that have been fixed with this release.

Tools and Drivers DVD v2.2.0

The firmware versions for this DVD include:

- ILOM: 2.0.2.10 r39321
- BIOS: 1ADQW057

Note – Refer to [“Issues Fixed in Tools and Drivers DVD Version 2.2.0”](#) on page 68 for information on issues that have been fixed with this release.

Tools and Drivers DVD v2.1.0

The firmware versions for Tools and Drivers CD 2.1.0 include:

- BIOS version: 1ADQW054
- SP version: 2.0.2.6

Prior to installing any supported E0 stepping CPU on an ILOM system, you must first upgrade the system to 1ADQW054 BIOS. Refer to [“Identifying E0 Stepping Processors”](#) on page 19.

Note – Refer to [“Issues Fixed in Tools and Drivers DVD Version 2.1.0”](#) on page 69 for information on issues that have been fixed with this release.

Tools and Drivers CD v2.0

Tools and Drivers CD 2.0 contains firmware for both Embedded Lights Out Manager (ELOM) and Integrated Lights Out Manager (ILOM) and supports ELOM to ILOM migration.

Note – If you are using the Qimonda Memory 2GB/DDR2 HYS72T256421EFA-3S-C2 then you must update to ILOM BIOS 1ADQW052 or ELOM BIOS 1ADQW027.

The firmware versions for ILOM and ELOM are listed in [TABLE 1](#):

TABLE 1 Tools and Drivers CD 2.0 Firmware Versions

Firmware Type	ILOM	ELOM
BIOS version	1ADQW052	1ADQW026
SP version	2.0.2.6	4.0.10

Please note the following regarding the ELOM firmware:

- If you do not want to transition to ILOM at this time, you can update your system to the ELOM firmware version shown in the table.
- If you do plan to transition to ILOM, you first need to update ELOM with the following transitional ELOM firmware file: X4150-026-450.

Refer to the *ELOM-to-ILOM Migration User's Guide* for information on migrating from ELOM to ILOM.

Tools and Drivers DVD v1.3.3

Tools and Drivers DVD 1.3.3 is the latest ELOM update for the Sun Fire X4150 server.

Note – This Tools and Drivers DVD is an update for ELOM only. If you are running ILOM, use the ILOM version on the Tools and Drivers DVD v 2.1.0.

The firmware versions include:

- BIOS version: 1ADQW027
- SP version: 4.0.11

Prior to installing any supported E0 stepping CPU on an ELOM system, you must first upgrade the system to 1ADQW027 BIOS. Refer to [“Identifying E0 Stepping Processors” on page 19](#).

Note – Refer to [“Issues Fixed in Tools and Drivers CD Version 1.3.3” on page 70](#) for information on issues that have been fixed with this release.

Tools and Drivers CD v1.3.2

Tools and Drivers CD 1.3.2 contains the following updates:

- BIOS version 1ADQW026
- SP version 4.0.10

Note – To see issues that have been fixed with Tools and Drivers CD version 1.3.2, please see [“Issues Fixed in Tools and Drivers CD Version 1.3.2” on page 71](#).

Tools and Drivers CD v1.3.1

Tools and Drivers CD 1.3.1 contains the following updates:

- BIOS version 1ADQW025
- SP version 4.0.09

Note – To see issues that have been fixed with Tools and Drivers CD version 1.3.1, please see [“Issues Fixed in Tools and Drivers CD Version 1.3.1” on page 71.](#)

Tools and Drivers CD v1.2

Tools and Drivers CD 1.2 contains the following updates:

- BIOS version 1ADQW020
- SP version 4.0.06
- Windows 2003Reburn_1.2.zip file (contains Sun StorageTek RAID driver 5.2.0.15583)

Note – The Sun StorageTek RAID driver 5.2.0.15583 contains support for the Serial General Purpose Input/Output (SGPIO) driver, but the SGPIO driver is not WHQL certified for Windows Server 2003 32-bit.

Tools and Drivers CD v1.1

The following feature enhancements have been added to the Sun Fire X4150 Tools and Drivers v1.1 CD:

- Support for Intel Xeon 5200 and 5400 series processors
- AutoRun utility for installation of Windows drivers

Note – Make sure to read [“Important: CPLD Update Might Be Required Before Firmware Update” on page 11](#) before using the Tools and Drivers CD v1.1.

Sun Validation Test Suite

Sun Validation Test Suite (SunVTS) provides a comprehensive diagnostic tool that tests and validates Sun hardware by verifying the connectivity and functionality of most hardware controllers and devices on Sun platforms. SunVTS software can be tailored with modifiable test instances and processor-affinity features.

SunVTS is an orderable software option and can also be downloaded from:

<http://www.sun.com/oem/products/vts/>

For the most up-to-date information on SunVTS software, go to:

<http://docs.sun.com/app/docs/prod/test.validate>

Make sure to read the most recent product Release Notes before running SunVTS on your server.

Sun Installation Assistant

The Sun Installation Assistant (SIA) is a tool supported for use with x64 Sun Fire and Sun Blade servers that assists in the installation of supported Linux and Microsoft Windows operating systems (OS) and firmware updates. With SIA, you can install the OS, the appropriate drivers, and if necessary, additional system software by simply booting the SIA media and following the prompts.

SIA is an orderable software option and can also be downloaded from the Sun Download page at:

<http://www.sun.com/download/index.jsp>

Updates to the SIA program can be obtained easily during the SIA installation by using the Remote Update option in the SIA.

For more information on the Sun Installation Assistant, see the *Sun Installation Assistant for Windows and Linux User's Guide For Sun Fire and Sun Blade Series Servers*.

Important: CPLD Update Might Be Required Before Firmware Update

Starting with the release of the Sun Fire X4150 Tools and Drivers v1.1 CD, support is included for Intel Xeon 5200 and 5400 series processors. This support requires a CPLD, BIOS and SP firmware update. To perform this update, first update the CPLD, then update the BIOS and SP firmware.

Updating the CPLD is needed if you are running ELOM only. If you are running ILOM, you only need to install Solaris patches.



Caution – The CPLD *must* be updated before the firmware. You must perform these procedures exactly as described to ensure correct operation of your server.

The upgrade must be performed exactly in this order.

1. Update the system CPLD, BIOS and SP firmware. (ELOM only)
See [“Updating the CPLD” on page 12](#).

2. Install the Solaris patches (ELOM and ILOM).
See [“Installing Solaris Patches” on page 13](#).
3. Reboot Solaris.
4. Replace the shipped processors with the new Intel Xeon 5300 or 5400 series processors.
Refer to the *Sun Fire X4150 Server Service Manual* for information on removing and installing the processors.

▼ Updating the CPLD

1. **Start the Embedded LOM (ELOM) SP web GUI by typing the IP address of the SP into a browser.**
See the *Embedded Lights Out Manager Administration Guide* for instructions on using the ELOM web GUI.
2. **Copy the file `/remoteflash/elom/CPLD/s92v063.jbc` to the local drive from the Tools and Drivers version 1.1 CD.**
3. **Log in to the SP.**
4. **Click on the Maintenance Tab and choose Firmware Update.**
Shut the server down if you are prompted.
The Firmware Update screen is displayed.
5. **From the CPLD Update option, click Browse and navigate to the location of the flash file.**
6. **Click Update.**
The firmware uploads.
7. **After the firmware is uploaded, you are asked to remove AC power for 10 seconds to allow the CPLD to be loaded.**
Power the server off and then restart the server.
8. **After the CPLD update is finished, the BIOS/SP can be updated from the bootable Tools and Drivers version 1.1 CD or through the documented TFTP interface and Web Interface.**
See the *Embedded Lights Out Manager Administration Guide*.

▼ Installing Solaris Patches

1. Download the needed patches.

There are two ways to download the needed patches. The first method is preferred because it provides the latest version of the patches.

- Download the latest version of the following patches from <http://sunsolve.sun.com/>: 125370 and 127112

Note – 125370 also requires the following additional patches: 118344-14 and 123840-04 (or greater). 127112 requires the following additional patches: 118344-14, 118855-36, 118919-21, 120012-14, 123840-04, and 125370-06 (or greater).

- Copy the patches from the Tools and Drivers CD.
- a. Mount the Tools and Drivers CD in your Solaris system.
- b. Locate the patches that provide support for the Intel Xeon 5200 and 5400 series processors. Access the following directory in the Sun Fire X4150 Tools and Drivers v1.1 CD:

```
/<DVD_DRIVE>/drivers/sx86/patches
```
- c. Create a new directory, as required.
- d. Copy both patches to the Solaris system.
- e. Reboot the system and enter Single User Mode.

Refer to Solaris OS documentation on www.docs.sun.com
- f. Copy both patch directories, 125370-06 and 127112-05, to your Solaris system.

2. Run the following commands to add the patches in this order, as there are dependencies.

a. **patchadd 125370-xx**

b. **patchadd 127112-xx**

Where *xx* is the latest version of each patch. If you are using the patches from the Tools and Drivers CD, the patch versions are 125370-06 and 127112-05.

3. Reboot the server.

Allow the system to fully boot to the OS, as this installs the Kernel Patches.

4. After the system OS load is finished, shut down the server and then install the new processors.

Critical Issues

Serial Console ttya/ttyb for Preinstalled Solaris Has Changed

The serial console settings for Solaris preinstalled distributions has changed for the release of the Tools and Drivers 1.3.1 CD and beyond.

Make the following changes in the BIOS, as needed, if using Tools and Drivers CD 1.3.1 and beyond.

- **To configure preinstalled Solaris using ttya: Set the External Serial Port to SP and the External Serial Port Config to COM1 (default setting).**
- **To configure preinstalled Solaris using ttyb: Set the External Serial Port to SYSTEM and the External Serial Port to Config to COM2.**

Hardware and BIOS

The following issues apply to the Sun Fire X4150 server hardware and BIOS:

- [“Hard Drives Can Be Difficult to Remove From Right-Side Drive Bays” on page 15](#)
- [“32GB SSD Available for Sun Fire X4150” on page 16](#)
- [“Enabling Open I/O AT Feature in BIOS Setup Menu” on page 18](#)
- [“Serial Console Does Not Show the Host Reboot After the Sharing Owner Is Set in ILOM” on page 18](#)
- [“Possible Firmware Update Needed for Qimonda DIMMs” on page 18](#)
- [“Identifying E0 Stepping Processors” on page 19](#)
- [“BIOS Serial Port Default Settings Have Changed for Tools and Drivers CD 1.3.1” on page 19](#)
- [“Use of the F12 Key with Remote Keyboard” on page 24](#)
- [“Update LSI 3081E Firmware to the Latest Version” on page 24](#)
- [“DIMM Population Rules” on page 24](#)
- [“Scripting the SP/BIOS Flash Process” on page 25](#)

- [“Front USB Port Cable Limitations” on page 25](#)
- [“Prevent Inadvertent Disconnection of the DVD Assembly When Removing USB Front Panel Devices” on page 25](#)

Hard Drives Can Be Difficult to Remove From Right-Side Drive Bays

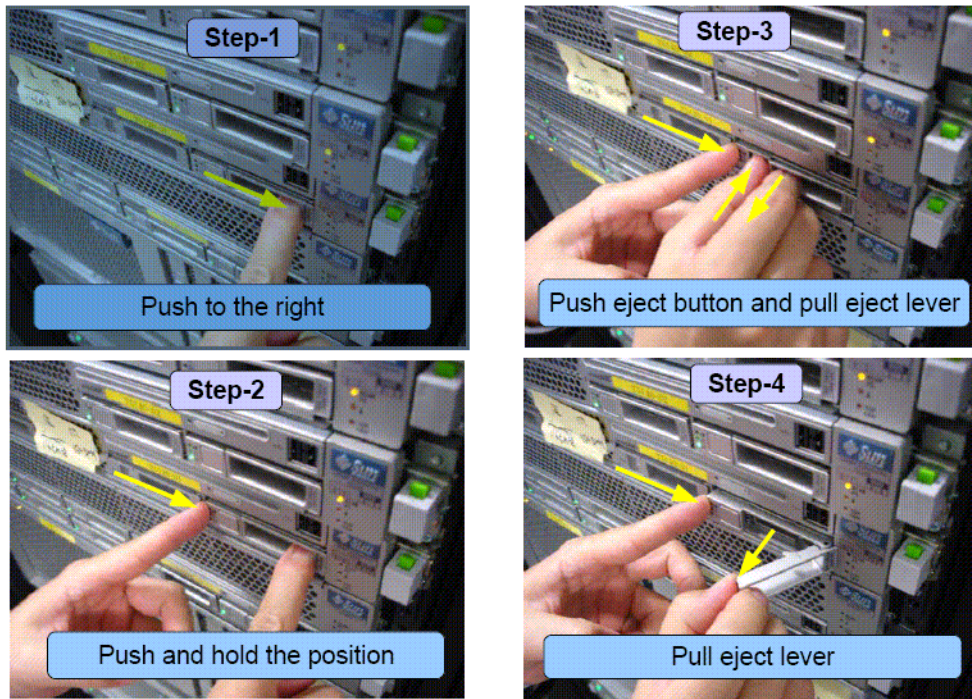
Hard Drives in the right-side drive bays can be difficult to remove.

▼ Workaround

Until a mechanical fix is implemented, use the following procedure to remove hard drives from right-side drive bays.

1. **Press the drive to the right. See Step 1 in the following figure.**
2. **Push in on the drive, while holding it pressed to the right. See Step 2 in the following figure.**
3. **Press the drive eject button and pull on the eject lever. See Step 3 in the following figure.**
4. **Use the eject lever to slide the drive out of the bay.**

FIGURE 1 Removing Hard Drives From Right-Side Bays



32GB SSD Available for Sun Fire X4150

32GB solid state drives (SSDs) are now available for the Sun Fire X4150 server. Read the following guidelines before installing SSDs on the server.

There are two configurations for SSDs on the Sun Fire X4150 server that are currently supported:

- [“SSD Configuration With No SAS Drives Installed” on page 17](#)
- [“SSD Configuration With SAS Drives Installed” on page 17](#)

Note – Some of the procedures for cabling HDDs are documented in the *Sun Fire X4150 Server Service Manual*. The service manual will be updated with more detailed information on installing SSDs at a later date.

SSD Configuration With No SAS Drives Installed

Use the following guidelines for installing SSDs when you don't plan to install additional SAS drives:

- The server must be running a minimum BIOS version 1ADQW057.
- A maximum of 4 SSDs are currently supported.
- Use cable kit (X)6389A to connect the SSD drives to the motherboard.
This kit needs to be ordered separately when the SSDs are ordered.
- Use the following guidelines to install the SSDs:
For HDD slots 0-3:
 - Drives 0-3 plug into the Enterprise South Bridge (ESB) connection on the motherboard.
 - SSDs or fillers must be used for drive slots 0-3.
 - No SAS HDD can be plugged into slots 0-3, as the ESB does not work with SAS.
For HDD slots 4-7:
 - No drives can be installed in these slots.
 - Filler panels must be installed in these slots.

SSD Configuration With SAS Drives Installed

Use the following guidelines for installing SSDs when you do plan to install additional SAS drives:

- The server must be running a minimum BIOS version 1ADQW057.
- A maximum of 4 SSDs can be installed.
- Use cable kit (X)6388A and a SAS HBA to install the drives.
These items need to be ordered separately when the SSDs are ordered.
- Use an HBA to connect the SATA drives.
- Use the following guidelines to install the SSDs and additional drives:
For HDD slots 0-3:
 - Drives 0-3 plug into the Enterprise South Bridge (ESB) connection on the motherboard, using the longer cable with the right angle disk backplane connector from cable kit (X)6388A.
 - SSDs or fillers must be used for drive slots 0-3.
 - No SAS HDD can be plugged into slots 0-3, as the ESB does not work with SAS.
For HDD slots 4-7:

- Slots 4-7 can be populated with SAS drives.
- The backplane cable for drives 4-7 is plugged into HBA card port 0 using the shorter cable from cable kit (X)6388A.
- HBA port 1 is unpopulated.

Enabling Open I/O AT Feature in BIOS Setup Menu

If you are running Intel I/O AT test tool, you need to enable the feature in the BIOS menu first.

- **In the BIOS Setup menu, select Advanced -> PCI Configuration -> Crystal Beach/DMA to enable the feature.**

Serial Console Does Not Show the Host Reboot After the Sharing Owner Is Set in ILOM

When you change the serial port sharing owner in the ILOM WebGUI or CLI from the SP to the host, the connect serial port connects, but you see no output.

This issue will be fixed in a future BIOS release.

▼ Workaround

Change the serial port sharing from SP to System using the BIOS menu directly, as follows:

1. **In the BIOS setup menu, select Server -> External Serial Port**
2. **Change the External Serial Port selection from "SP" to "System".**

Possible Firmware Update Needed for Qimonda DIMMs

If you are using the Qimonda Memory 2GB/DDR2 HYS72T256421EFA-3S-C2, your server must be running the one of following BIOS versions:

- ILOM BIOS 1ADQW052. or later
- EL0M BIOS 1ADQW027 or later

Identifying E0 Stepping Processors

If you have an E0 stepping processor installed in your system, the BIOS has already been updated. If you receive an E0 stepping processor as a separate option, you can identify the processor by the labeling on the box. Refer to [TABLE 2](#) for a listing of the product codes that identify each E0 stepping processor.

Note – Prior to installing any supported E0 stepping CPU, you must first upgrade the system to 1ADQW054 BIOS (for ILOM systems) or 1ADQW027 BIOS (for ELOM systems). See [“Tools and Drivers CD/DVD” on page 4](#) for more information.

TABLE 2 Product Code Identifiers for E0 Processors

Processor Selection	E-0 Product Code
Dual-Core Intel Xeon X5260 processor (6MB L2, 3.33 GHz, 1333 MHz FSB, 80W), RoHS-5.	AT80573KJ0936M
Quad-Core Intel Xeon E5410 processor (2x6MB L2, 2.33 GHz, 1333 MHz FSB, 80W), RoHS-5.	AT80574KJ053N
Quad-Core Intel Xeon E5440 processor (2x6MB L2, 2.83 GHz, 1333 MHz FSB, 80W), RoHS-5.	AT80574KJ073N
Quad-Core Intel Xeon X5460 processor (2x6MB L2, 3.16 GHz, 1333 MHz FSB, 120W), RoHS-5.	AT80574KJ087N
Quad-Core Intel Xeon L5420 processor (2x6MB L2, 2.5 Ghz, 1333 MHz FSB, 50W), RoHS-5.	AT80574JJ060N
Quad-Core Intel Xeon E5450 processor (2x6MB L2, 3.0 GHz, 1333 MHz FSB, 80W), RoHS-5.	AT80574KJ080N
Dual-Core Intel Xeon X5270 processor (6MB L2, 3.5 Ghz, 1333 MHz FSB, 80W), RoHS-5.	AT80573KJ1006M
Quad-Core Intel Xeon L5430 processor (2x6MB L2, 2.66 Ghz, 1333 MHz FSB, 50W), RoHS-5.	AT80574JJ067N
Quad-Core Intel Xeon X5470 processor (2x6MB L2, 3.33 GHz, 1333 MHz FSB, 120W), RoHS-5.	AT80574KJ093N

BIOS Serial Port Default Settings Have Changed for Tools and Drivers CD 1.3.1

The BIOS serial port default settings have changed in the Tools and Drivers CD 1.3.1 firmware update. If you are using the serial console, you might need to change your default settings.

Prior to the 1.3.1 release, the default settings were COM2/TTYB/115200 and this version of the firmware changes these to the more accepted defaults of COM1/TTYA/9600. If you have reconfigured an existing installation to match the previous defaults of COM2/TTYB/115200, you will need to change your settings.

Note – For new installations of Solaris 10 8/07 or Solaris 10 5/08 with this firmware update already applied, you do not need to make these changes.

If the serial console was configured and running to display output of the OS on any release prior to 1.3.1, the OS output will no longer be displayed unless the changes are made prior to updating the firmware. The following sections contain instructions for changing the serial console settings for the firmware version that you are using:

- [“Red Hat Linux Enterprise Server \(RHEL\)” on page 20](#)
- [“SuSE Linux Enterprise Server \(SLES\)” on page 21](#)
- [“Solaris 10 OS” on page 23](#)

Red Hat Linux Enterprise Server (RHEL)

Minimum versions for this procedure are RHEL 3.7 and RHEL 4.3.

Use the procedure that corresponds to the firmware version that you are using:

- [“Tools and Drivers CD Versions Earlier Than 1.3.1” on page 20](#)
- [“Tools and Drivers CD Versions 1.3.1 or Later” on page 21](#)

Tools and Drivers CD Versions Earlier Than 1.3.1

1. Use a text editor to edit the `/etc/grub.conf` file.

2. Append the following to the kernel boot parameter line:

```
console=tty1 console=ttyS1, 115200
```

For example, the new kernel boot parameter line should look similar to this:

```
kernel /vmlinuz-2.x.x ro root=LABEL/1 rhgb quiet console=tty1  
console=ttyS1, 115200
```

3. Edit `/etc/securetty`.

a. Add the `ttyS1` to the bottom of the file.

b. Save and exit the file.

4. Edit `/etc/inittab`.

- a. **Change** `id:5:initdefault:` to `id:3:initdefault:`
- b. Under the section “Run gettys in standard runlevels” add the following as the first line:

```
co:2345:respawn:/sbin/agetty ttyS1 115200 vt100B
```

- c. **Save and exit the file.**

5. Reboot.

Tools and Drivers CD Versions 1.3.1 or Later

1. **Use a text editor to edit the** `/etc/grub.conf` **file.**
2. **Append the following to the kernel boot parameter line:**

```
console=tty0 console=ttyS0, 9600
```

For example, the new kernel boot parameter line should look similar to this:

```
kernel /vmlinuz-2.x.x ro root=LABEL/1 rhgb quiet console=tty1  
console=ttyS0, 9600
```

3. **Edit** `/etc/securetty`.

- a. **Add the** `ttyS0` **to the bottom of the file.**

- b. **Save and exit the file.**

4. **Edit** `/etc/inittab`.

- a. **Change** `id:5:initdefault:` to `id:3:initdefault:`

- b. Under the section “Run gettys in standard runlevels” add the following as the first line:

```
co:2345:respawn:/sbin/agetty ttyS0 9600 vt100B
```

- c. **Save and exit the file.**

5. Reboot.

SuSE Linux Enterprise Server (SLES)

Minimum versions for this procedure is SLES 10 SP1 64-bit.

Use the procedure that corresponds to the firmware version that you are using:

- [“Tools and Drivers CD Versions Earlier Than 1.3.1” on page 22](#)
- [“Tools and Drivers CD Versions 1.3.1 or Later” on page 22](#)

Tools and Drivers CD Versions Earlier Than 1.3.1

1. **Use a text editor to edit the `/boot/grub/menu.lst` file.**

2. **Append the following to the kernel boot parameter line:**

```
console=ttyS1, 115200
```

For example, the new kernel boot parameter line should look similar to this:

```
kernel /boot/vmlinuz root=/dev/sda2 resume=/dev/sda1  
splash:silent showps console=tty0 console=ttyS1, 115200
```

3. **Edit the `/etc/securetty` file.**

- a. **Add `ttyS1` to the bottom of the file.**

- b. **Save and exit the file.**

4. **Edit the `/etc/inittab` file.**

- a. **Change `id:5:initdefault:` to `id:3:initdefault:`**

- b. **Under “`getty-programs for normal runlevels`” add the following line:**

```
S0:12345:respawn:/sbin/agetty -L 115200 ttyS1 vt100
```

5. **Save and exit the file.**

6. **Reboot.**

Tools and Drivers CD Versions 1.3.1 or Later

1. **Use a text editor to edit the `/boot/grub/menu.lst` file.**

2. **Append the following to the kernel boot parameter line:**

```
console=ttyS0, 9600
```

For example, the new kernel boot parameter line should look similar to this:

```
kernel /boot/vmlinuz root=/dev/sda2 resume=/dev/sda1  
splash:silent showps console=tty0 console=ttyS0, 9600
```

3. **Edit the `/etc/securetty` file.**

- a. **Add `ttyS0` to the bottom of the file.**

- b. **Save and exit the file.**

4. **Edit the `/etc/inittab` file.**

- a. **Change `id:5:initdefault:` to `id:3:initdefault:`**

b. Under “**getty-programs for normal runlevels**” add the following line:

```
S0:12345:respawn:/sbin/agetty -L 9600 ttyS0 vt100
```

5. Save and exit the file.

6. Reboot.

Solaris 10 OS

Use the procedure that corresponds to the firmware version that you are using:

- [“Tools and Drivers CD Versions Earlier Than 1.3.1” on page 23](#)
- [“Tools and Drivers CD Versions 1.3.1 or Later” on page 23](#)

Tools and Drivers CD Versions Earlier Than 1.3.1

1. Edit the `/boot/solaris/bootenv.rc` file to read:

```
setprop console "ttyb"  
setprop ttyb-mode 115200,8,n,1,-
```

2. Edit the `/boot/grub/menu.lst` file to read:

```
kernel /platform/i86pc/multiboot -B console=ttyb
```

3. Edit the `/kernel/drv/asy.conf` file and add the following:

```
name="asy" parent="isa" reg=1,0x2f8,8 interrupts=3;
```

4. Edit the `/var/svc/manifest/system/console-login.xml` file to read:

```
<propval name='label' type='astring' value='115200' />
```

5. Save and exit the file.

6. Reboot the system using the following command:

```
reboot -r
```

Tools and Drivers CD Versions 1.3.1 or Later

1. Edit the `/boot/solaris/bootenv.rc` file to read:

```
setprop console "ttya"  
setprop ttya-mode 9600,8,n,1,-
```

2. Edit the `/boot/grub/menu.lst` file to read:

```
kernel /platform/i86pc/multiboot -B console=ttya
```

3. Edit the /kernel/drv/asy.conf file and add the following:

```
name="asy" parent="isa" reg=1,0x2f8,8 interrupts=3;
```

4. Edit the /var/svc/manifest/system/console-login.xml file to read:

```
<propval name='label' type='astring' value='9600' />
```

5. Save and exit the file.

6. Reboot the system using the following command:

```
reboot -r
```

Use of the F12 Key with Remote Keyboard

When using a remote keyboard (a keyboard other than one that is locally connected to the system) with the Sun Blade X4150 server, pressing the F12 key opens the BIOS Setup Menu.

Note – Use Ctrl+N on a remote keyboard to enter a PXE menu instead of pressing F12. If you accidentally press F12, you will enter the BIOS Setup Menu.

This issue will be fixed with the ILOM update of Sun Fire X4150 server.

Update LSI 3081E Firmware to the Latest Version

Make sure that the LSI 3081E SAS HBA firmware is up to date.

Use the latest LSI 3081E firmware found on the Tools and Drivers CD version 1.3.2 or later, which can be downloaded from:

<http://www.sun.com/servers/x64/x4150/downloads.jsp>

DIMM Population Rules

- DIMMs must be populated in identical pairs.
- DIMM pairs are populated in the following DIMM slot order: A0/B0, C0/D0, A1/B1, C1/D1, etc.
- DIMMs within a given pair must be identical with respect to size, speed, and organization.

However, DIMM capacities can be different between different DIMM pairs. For example, a valid mixed DIMM configuration may have 1GB DIMMs installed in DIMM Slots A0/B0, and 2GB DIMMs installed in DIMM slots C0/D0.

DIMMS should be installed with the largest module pair size first. For example, (4) 4GB DIMMs and (4) 2GB DIMMS should be installed as follows: A0/B0=4G, C0/D0=4G, A1/B1=2G, C1/D1=2G

Scripting the SP/BIOS Flash Process

The SP/BIOS flash process includes an “Update Successful” message when the service processor (SP) flash finishes. This message signals the end of the SP flash activity *only*. At this point in the process, the BIOS has *not* been flashed and premature termination of the process (for example, a manual reboot) will result in BIOS corruption. To avoid corrupting the BIOS review the flash sequence below:

Note – Before writing a script to flash the BIOS/SP remotely, observe the sequence in real-time and test the script on a single system before updating all systems.

1. SP begins the flash process.
2. SP completes the flash process.
3. CLI returns an Update Successful message.
4. The system reboots and the BIOS begins the flash process.
5. The BIOS flash process finishes.

Front USB Port Cable Limitations

The front panel USB ports support only a 3-meter cable to an attached device.

Prevent Inadvertent Disconnection of the DVD Assembly When Removing USB Front Panel Devices

The DVD/USB container assembly can be inadvertently disconnected from the disk backplane when a direct-connect USB device or USB cable is pulled from a front panel USB port.

Workaround

Apply counter-pressure to the DVD assembly when removing a USB device. In addition, do not remove a USB device when the DVD is operating. This issue will be addressed in the future with a redesigned DVD assembly.

Important Note on Inserting a Hard Disk Drive

When inserting a hard disk drive, do not extend the lever past 70 degrees. If the lever is extended past 70 degrees on insertion there is a risk that the right most tab will break off. The end result of accidentally breaking off the tab is purely cosmetic—the drive will still function properly if fully inserted.

System Management Issues

With Tools and Drivers CD 2.0, you now have the option to install either ELOM or ILOM system management software on your system.

Refer to the following documentation for additional information on system management for the Sun Fire X4150 server:

- ELOM information: *Embedded Lights Out Manager Administration Guide for the Sun Fire X4150 Server*
- ILOM information: *Integrated Lights Out Manager 2.0 User's Guide*
- ELOM to ILOM transition: *ELOM-to-ILOM Migration User's Guide*

The issues in this section fall into one of three categories:

- “ILOM 3.0 Issues” on page 26
- “ILOM and ELOM System Management Issues” on page 28
- “ELOM System Management Issues” on page 34
- “ILOM System Management Issues” on page 36

ILOM 3.0 Issues

The following issues are specific to ILOM 3.0. Additional ILOM 3.0 information is available in *Sun Integrated Lights Out Manager (ILOM) Feature Updates and Release Notes*. This document is available at:

<http://docs.sun.com/app/docs/coll/ilom3.0>

The System Shuts Down When CPU Temperature Rises Without SEL or LED Notification (6790299)

When the CPU temperature reaches its upper critical limit, the system shuts down, though there is no event logged in the system event log (SEL) and the Tempfail LED does not light.

Do Not Start New Flash Process While SP Is Already in a Flash Process (6778713)

While the SP is being updated (flashed), do not start a new flash process. Wait until the current flash is completed before you start a new one.

ILOM Update To or From ILOM 3.0 Causes BIOS Version to Not Be Viewable (6789995)

When ILOM is downgraded from ILOM 3.0 to ILOM 2.0 or upgraded from ILOM 2.0 to 3.0, the BIOS version might not appear in the Firmware Upgrade section of the web interface. [TABLE 3](#) indicates when you can expect to see the BIOS version viewable in the Firmware Upgrade section of the ILOM web interface.

TABLE 3 When BIOS Viewable in Web Interface

ILOM State	BIOS Update Required?	Existing BIOS Version Viewable in Web Interface?	New BIOS Version Viewable in Web Interface?
Upgraded from 2.0 to 3.0	Optional	No	Yes
Downgraded from 3.0 to 2.0	Mandatory	No	No

Workaround

If you can not get the BIOS version from web interface while it is updating, you can view the BIOS version connected with the ILOM version from these product notes. See [“Tools and Drivers CD/DVD” on page 4](#).

If the BIOS is currently running and not in update mode, you can obtain the BIOS version from BIOS Setup utility or ILOM CLI.

ILOM and ELOM System Management Issues

The issues in this section apply whether you are running ILOM or ELOM. The following issues are included in this section:

- [“The SP Does Not Retain IP Information After Migrating to the Transitional ELOM With Tools and Drivers CD 1.0 Firmware” on page 28](#)
- [“Gateway Address Might Not Be Persistent Across Reboots” on page 29](#)
- [“Changing the SP netmask Causes Routing Table Flush” on page 29](#)
- [“Some Virtual USB Flash Devices Do Not Mount in Solaris OS” on page 29](#)
- [“IPMITool 1.8.9.4 or Later Needed to Correctly Display Memory Errors” on page 30](#)
- [“The Sun Splash Screen in the Serial Console Does Not Display” on page 30](#)
- [“SP Settings Might Revert to Factory Defaults After an Unsaved Update from the Web GUI or CLI” on page 30](#)
- [“Minimum Supported Version for a Remote Sparc System” on page 30](#)
- [“Solaris Remote Console Session Requires Java Plugin” on page 31](#)
- [“Pop-up Blocker Must Be Disabled to Run Remote Console on Firefox” on page 31](#)
- [“Remote Console and Virtual Devices on Solaris” on page 32](#)
- [“No Java Support for Red Hat Enterprise Linux 5” on page 32](#)
- [“Virtual Media Considered a USB Device” on page 32](#)
- [“Enable Virtual CD-ROM During Bootup” on page 32](#)
- [“OS Installation Over a Remote Console Requires Unmount and Remount of the Virtual CD-ROM” on page 32](#)
- [“OS Installation Stops During a Remount of the CD-ROM” on page 32](#)
- [“Minimum Supported Browsers” on page 33](#)
- [“Configuring Java Runtime Environment for Each Browser” on page 33](#)
- [“Streaming Video and KVMs Over IP” on page 33](#)
- [“CD-ROM Direction Must Be Enabled for Floppy Redirection to Work \(6666094\)” on page 34](#)

The SP Does Not Retain IP Information After Migrating to the Transitional ELOM With Tools and Drivers CD 1.0 Firmware

This issue applies to the ELOM to ILOM migration process.

If you migrate to the transitional ELOM from the firmware provided in Tools and Drivers CD release 1.0 (BIOS 1ADQW011 and SP 0.88), the SP will not retain IP information after migrating to the transitional ELOM.

Workaround

After updating transitional ELOM, log in to the CLI via serial console and fix the IP address in `/SP/network`.

You can then continue with the migration to ILOM process.

Refer to the *ELOM-to-ILOM Migration User's Guide* for more information on the migration process.

Gateway Address Might Not Be Persistent Across Reboots

The Gateway address in the SP might not be persistent across SP reboots (power cycles). Make sure that the Gateway address is persistent by power cycling the SP (remove AC power, then power up the system) and checking if the Gateway address is retained. If it is not, then you must set the Gateway address via the CLI.

If the Gateway address is not persistent, then upon the reboot to the transitional ELOM during an ILOM update, the SP might not be reachable.

Changing the SP netmask Causes Routing Table Flush

If you change the IP address or netmask of the service processor (SP), the routing table changes after you update the SP network configuration. Therefore, you need to re-enter the gateway information or reset the SP.

Some Virtual USB Flash Devices Do Not Mount in Solaris OS

For some USB flash devices, the virtual device appears to be mounted in the ELOM, but is not actually be mounted.

This issue is under investigation.

IPMITool 1.8.9.4 or Later Needed to Correctly Display Memory Errors

ipmitool 1.8.9.4 can be obtained from `utilities/ipmitool` directory from Tools and Drivers CD.

The Sun Splash Screen in the Serial Console Does Not Display

When booting the system with the console output directed to the serial port, the Sun splash screen will not appear and you will not see the prompt to press F2 to enter the BIOS Setup utility. Use the following procedure to disable the Sun splash screen:

▼ Disabling the Sun Splash Screen

1. **Press the F2 key to enter the BIOS Setup Utility.**
2. **Select Boot -> Boot Setting Configuration.**
3. **Set the boot setting to** `quiet boot - disable`.

This will enable a prompt to press F2.

SP Settings Might Revert to Factory Defaults After an Unsaved Update from the Web GUI or CLI

When updating the SP from the server management web GUI or CLI, be sure to use the `SaveFlag` (CLI) or `Save Configuration` (web GUI) commands to save the updated information. If not, the factory default settings will be used instead. For example, if static IP addressing is configured for the SP and a future update to the SP configurations was not saved, the SP may revert to the default of DHCP addressing.

Minimum Supported Version for a Remote Sparc System

When running the web GUI from a Sparc-based system, Solaris 10 OS is the minimum version that is supported.

Solaris Remote Console Session Requires Java Plugin

When you launch a Remote Console session on a Solaris system, the system prompts you for a decision regarding the `javaRKVM.jnlp` file. You have the following two options:

- If you are logged in as root, choose the option to open this file with its default application.
- If you are logged in as a user other than root, do the following:

1. Choose the option to save the file.

2. The `javaRKVM.jnlp` file will be downloaded and must be run manually.

The download manager will display the location of this file.

3. Move the `javaRKVM.jnlp` file to the `/tmp` directory.

```
% mv /location_of_javaRKVM.JNLP/javaRKVM.JNLP /tmp
```

Where `location_of_javaRKVM.JNLP` is the directory where `javaRKVM.JNLP` resides.

4. To find the location of the `javaws` application, type the following in a terminal window:

```
% which javaws
```

5. Execute the following command from the terminal window:

```
% /location_of_javaws/javaws /tmp/javaRKVM.JNLP
```

Where `location_of_javaws` is the directory where `javaws` resides.

For example, assume the `javaws` application is run from the `/usr/bin` directory:

```
% /usr/bin/javaws /tmp/javaRKVM.JNLP
```

This will open a Remote Console session. Once the remote console window is closed, the `/tmp/javaRKVM.jnlp` is removed.

Pop-up Blocker Must Be Disabled to Run Remote Console on Firefox

If you have a pop-up blocker enabled in the browser that is running the Remote Console through the ELOM web GUI, the Remote Console is blocked from launching on Firefox. If you do not see the Remote Console, check to see if the built in pop-up blocker has blocked it.

Remote Console and Virtual Devices on Solaris

If you are running Solaris on your Remote Console system, you must log into the operating system as root (superuser) to mount any virtual devices.

No Java Support for Red Hat Enterprise Linux 5

There is no Java support for Red Hat Enterprise Linux 5.

Virtual Media Considered a USB Device

Virtual media will be considered as a USB device, and will be listed as CD-ROM device. This setting will over-rule the CD-ROM currently set.

Enable Virtual CD-ROM During Bootup

In order to enable virtual CD-ROM during bootup:

▼ Enabling Virtual CD-ROM During Bootup

1. **Press F2 to enter into BIOS menu.**
2. **Select Boot -> CD/DVD Drives.**
3. **Select Virtual CDRom as the first drive.**

OS Installation Over a Remote Console Requires Unmount and Remount of the Virtual CD-ROM

When installing an operating system remotely using an RKMVS session, each CD request from an installation requires the user to unmount and mount the virtual CD-ROM. When a virtual CD is ejected, the OS treats it as a USB device removal, and the CD must be mounted again to continue the installation.

OS Installation Stops During a Remount of the CD-ROM

The remounting of the CD during an operating system installation causes an error and the OS cannot access the CD. This will be fixed in a future release.

Minimum Supported Browsers

The following table shows the minimum versions that are supported for running the ELOM web GUI for the Sun Fire X4150 server on Solaris OS, Linux and Windows operating systems.

TABLE 4 Version Numbers for Browsers

	Solaris x86	RHEL 32-bit	RHEL 64-bit	SLES 32-bit	SLES 64-bit	Windows
Mozilla	1.7	1.7.12	1.7.13	1.7.8	1.7.13	N/A
Firefox	1.5.0.4	1.0.7	1.5.0.4	1.5.0.4	1.5.0.4	1.5.0.4
Internet Explorer	N/A	N/A	N/A	N/A	N/A	6

Configuring Java Runtime Environment for Each Browser

Java Runtime Environment (JRE) 5 Update 7 is the minimum supported version for the browsers to run the ELOM web GUI. Follow the steps below to download the JRE 5 Update 7 for Mozilla and Firefox browsers.

▼ Configuring the Java Runtime Environment

1. Go to the following URL:

<http://www.java.sun.com/>

2. Click on the Get Java Software button.

3. Click Download Now in the new window that opens.

The web site displays the appropriate plug-in options for the operating system that you are running.

4. Click Download to download the appropriate plug-in.

Installation instructions and plug-in verification are also available on this site.

Streaming Video and KVMS Over IP

The keyboard, video, mouse and storage (KVMS) over IP feature of the ELOM SP is designed for administering your system. Applications requiring heavy video bandwidth (for example, watching videos) will not perform well with KVMS over IP.

CD-ROM Direction Must Be Enabled for Floppy Redirection to Work (6666094)

Before attempting a floppy device/floppy image redirection in the Remote Console, you must first redirect the CDROM device or CDROM image and leave it redirected while the floppy is redirected.

ELOM System Management Issues

The issues in this section apply to ELOM. The following issues are included in this section:

- [“ELOM Does Not Allow Passwords With Non-alphanumeric Characters”](#) on page 34
- [“Set Local Clock With Every SP Reset”](#) on page 34
- [“IPMITool 1.8.8 Returns Incorrect Memory Information”](#) on page 35
- [“IPMITool Commands Might Not Be Able to Establish a Network Connection to the SP”](#) on page 35
- [“Disabling the Web Interface Time-out Function”](#) on page 35
- [“Remote Console Mouse Performance on Solaris OS”](#) on page 36
- [“Mounting a CD-ROM Does Not Work Properly if Run from a Sun Fire X4150 System”](#) on page 36
- [“Cannot Issue Solaris OS Break Command Through Serial Console”](#) on page 36

ELOM Does Not Allow Passwords With Non-alphanumeric Characters

Passwords for the ELOM must be alphanumeric only. A fix is planned for a later release of the firmware.

Set Local Clock With Every SP Reset

When SP is reset, the system clock is set back to 1970/1/1 00:00. The SP clock will not reset unless the OS is booted.

▼ Workaround

1. **Log in to the ELOM web GUI.**

2. Click the Configuration main tab.
3. Click the Clock Setting submenu tab.
4. Select the NTP server radio button for clock synchronization.
5. Enter the NTP server IP address in the IP address field.
6. Click Submit.

IPMITool 1.8.8 Returns Incorrect Memory Information

Direct Reading of the SPD memory is not supported in IPMITool 1.8.8. Using the `IPMITool fru print` command will result in a return of incorrect memory information. An updated IPMITool utility is required for this to work properly. Software support has been added for the server.

IPMITool Commands Might Not Be Able to Establish a Network Connection to the SP

If the SP firmware becomes corrupt, IPMITool commands might not complete or fail to establish a LAN session connection.

Workaround: Using the SP update utility on the Tools and Drivers CD, reflash the SP firmware using the following command.

```
upfw s92xxx.bin
```

Where *xxx* is the current version of the SP firmware.

Note – This will set the SP back to factory defaults and will remove all current settings, including users and permissions and rules. Use this procedure with caution.

Disabling the Web Interface Time-out Function

It is best to disable the web GUI time-out function when performing remote installations.

▼ Disabling the Web Interface Time-out Function

1. Login to the ELOM web GUI.

2. Click the Control Tab.
3. Set timeout to disabled.

Remote Console Mouse Performance on Solaris OS

When running the Remote Console on the Solaris 10 operating system, the mouse performance might be slow. To fix this issue:

1. Log in to the ELOM web GUI and start the Remote Console.
2. Using the Remote Console window, run the following in a Solaris terminal window on the Sun Fire X4150 system:

```
type 'xset m 1 1'
```

The mouse performance issue should be resolved.

Mounting a CD-ROM Does Not Work Properly if Run from a Sun Fire X4150 System

Running an RKVMS session from a Sun Fire X4150 system running Solaris will not allow the user to mount a Virtual Device. This must be done from a remote Solaris system. This is being investigated.

Cannot Issue Solaris OS Break Command Through Serial Console

A Solaris OS break command entered through the ELOM serial console will not work correctly.

Workaround

Either connect a monitor to the VGA port or initiate an web GUI remote console session and enter the break command through one of those two methods.

ILOM System Management Issues

The issues in this section apply to ILOM. The following issues are included in this section:

- “Correctable Errors Incorrectly Listed in the ILOM SEL as a Critical Error” on page 37
- “Must Be Physically Present When Logging Into Serial Console With the Default Account” on page 37
- “Time on SP Resets to January 1, 1970, When the System is Power-Cycled (6739395, 6739868)” on page 37
- “Selecting the Web Interface Time-out Duration” on page 38
- “Selecting Mouse Mode Settings According to Host OS” on page 38
- “Switch Control Between Local Mouse and Host Mouse” on page 38

Correctable Errors Incorrectly Listed in the ILOM SEL as a Critical Error

Correctable errors detected by the background scrubber in ILOM: 3.0.3.30 build r48374 are incorrectly listed in the ILOM system event log (SEL) as a critical error with the following description:

```
Memory Scrub Failed
```

These messages are caused by Correctable ECC Error, which should have a severity of minor, not critical. This SEL message will be fixed in a future release.

Must Be Physically Present When Logging Into Serial Console With the Default Account

Physical presence is required when you try to log in with default account from the serial console. You will need to press the Locate button twice for the system to recognize your physical presence.

Time on SP Resets to January 1, 1970, When the System is Power-Cycled (6739395, 6739868)

ILOM stores the time in a file every 15 minutes. After the system reboots, the time is restored to whatever time was last written to that file plus a small delta. So in most cases, major events have timestamps that are monotonically increasing.

During the boot process, the date might temporarily be displayed as January 1, 1970. This will automatically change to the current time once the boot process reaches the timestamp file check.

▼ Selecting the Web Interface Time-out Duration

It is best to select the web interface time-out duration when performing remote installations. To choose the web interface time-out duration:

1. **Login to the ILOM web interface.**
2. **Click the System Information Tab and click the Session Time-out Tab.**
3. **Set timeout to be 15 minutes, 30 minutes, 1 hour, or 3 hours.**
4. **Click apply.**

▼ Selecting Mouse Mode Settings According to Host OS

You need to select the correct mouse mode corresponding to the host OS in order for your local mouse to manage the host remotely via the ILOM web interface.

1. **Select the appropriate mouse mode:**
 - Select Absolute mouse mode if your host is running Windows OS or Solaris.
 - Select Relative mouse mode for Linux OS.
2. **Reset the SP to apply this change.**

Switch Control Between Local Mouse and Host Mouse

In order to switch control between local mouse and host mouse, you can press "Alt +m".

Diagnostics Issues

The following topics are contained in this section:

- ["SunVTS Issues" on page 38](#)
- ["Pc-Check Issues" on page 39](#)

SunVTS Issues

The following issue applies to SunVTS diagnostics software.

SunVTS 7.0 ps2 Does Not Support Network Loopback Testing

Running the "Network" test on the X4150 platform will fail due to lack of support in Solaris OS for the ESB-2 NIC loopback operations.

This will be fixed in a future version of SunVTS 7.0.

Pc-Check Issues

The following issues apply to the Pc-Check diagnostics software.

The following issues are contained in this section:

- ["Pc-Check Fails to Identify RAID Devices" on page 39](#)
- ["Pc-Check Will Hang When Running Keyboard LED Test" on page 39](#)
- ["Serial Port Test Fails" on page 40](#)
- ["Selecting StandBy Power in APM Menu Fails to Recover" on page 40](#)
- ["Keyboard Input Lost After Running USB Controller Test" on page 40](#)
- ["System Hangs After Interrupt Controller Test" on page 40](#)
- ["User Has to Agree to the Licensing Terms Every Time" on page 40](#)

Pc-Check Fails to Identify RAID Devices

After creating a RAID 1 device in the BIOS, the Pc-Check diagnostics software fails to identify the device as a RAID device. Pc-Check cannot identify that the device is a RAID device, but Pc-Check can run all HDD tests.

Pc-Check Will Hang When Running Keyboard LED Test

The text for the keyboard LED test is not included in the diagnostics scripts. It can only be run manually. This issue is under investigation and you should not attempt to run this test until a fix is available.

Serial Port Test Fails

This issue is under investigation and you should not attempt to run this test until a fix is available.

Selecting StandBy Power in APM Menu Fails to Recover

This issue is under investigation and you should not attempt to run this test until a fix is available.

Keyboard Input Lost After Running USB Controller Test

This issue is under investigation and you should not attempt to run this test until a fix is available.

System Hangs After Interrupt Controller Test

This issue is under investigation and you should not attempt to run this test until a fix is available.

User Has to Agree to the Licensing Terms Every Time

This issue is under investigation.

Sun Installation Assistant Issues

The following issues are related to the use of Sun Installation Assistant (SIA) for installing an OS on the server:

[“Full Power Cycle Needed After Expander Firmware Upgrade \(6900072\)” on page 41](#)

- “Minimum SIA Version Required For Windows Server 2008” on page 41
- “SIA Installation Fails If the .iso Image Is Too Large” on page 42
- “RHEL 5.2 Installation Fails With dmraid” on page 42
- “Installing Windows 2003 Using SIA From a NFS Share or FTP Share Does Not Work” on page 42
- “Monitor Resolution Might Need to be Reset After Installing Linux Using SIA” on page 42
- “Unusable Network Drivers for RHELv5.1 64-bit With Sun Installation Assistant” on page 43

Full Power Cycle Needed After Expander Firmware Upgrade (6900072)

The *SIA 2.3 User's Guide* states:

How to Upgrade Expander Firmware

After selecting the expander(s) to upgrade, click Next.

Follow the on-screen instructions until the upgrade has completed. Upgraded code will not be used by the system until after a reboot.

Note – To ensure that the expander firmware upgrade will take effect, after the upgrade has completed, unplug the power cord and plug it back in.

Minimum SIA Version Required For Windows Server 2008

In order to install Windows Server 2008 on a Sun Fire X4150 server using SIA, you will need to use SIA version 2.2.1 or later.

For further information on using SIA to install an operating system onto the server, see *Sun Installation Assistant for Windows and Linux User's Guide* available on <http://docs.sun.com>.

SIA Installation Fails If the .iso Image Is Too Large

If the .iso image size of the operating system being installed is bigger than the /tmp file size, the SIA installation will fail.

This only occurs if the http or ftp installation method is used.

RHEL 5.2 Installation Fails With dmraid

Red Hat Enterprise Linux (RHEL) 5.2 installation via SIA fails when disks with legacy dmraid information are used.

Workaround

Use a clean RHEL disk without legacy dmraid information.

Installing Windows 2003 Using SIA From a NFS Share or FTP Share Does Not Work

Installing Windows 2003 from a NFS share or FTP share does not work with SIA.

Note – This is planned to be fixed in a future release of SIA.

Monitor Resolution Might Need to be Reset After Installing Linux Using SIA

For most Linux installations using SIA, the monitor resolution will need to be reset during the first-time-boot configuration, which runs after the OS installation is completed.

To reset the monitor resolution:

1. **Configure the type (make/model) of the monitor.**
2. **Set the correct monitor resolution.**

Unusable Network Drivers for RHELv5.1 64-bit With Sun Installation Assistant

After installing and configuring Red Hat Enterprise Linux (RHEL) v. 5.1 (64-bit), the network devices are there and mapped as expected, but the interfaces are non-functional.

This issue occurs with the following configuration:

- Network cables are not plugged into all NICs.
If the network cables are plugged in all NICs, this problem does not occur.
- User chooses to activate all NICs on boot.
If user chooses to activate only the NIC with network cable plugged, this problem will not occur.
- User configures all NICs with static IP addresses.
This problem will not occur if DHCP is chosen.
- User configures the same network/gateway for all NICs.
If different networks are configured for different NICs, this problem is not seen.

▼ Workaround

After booting the installed system, perform the following:

1. Log in as root.
2. Enter the **ifdown** command for all the interfaces.

```
ifdown eth0
ifdown eth1
ifdown eth2
ifdown eth3
```
3. Enter the **ifup** command for the interface with network cable plugged in.
For example:

```
ifup eth0
```


At this point, the network should be up and running.
4. To make this configuration persistent across reboots, you can make only the interface with network cable active on boot by doing the following:
 - a. Change to the `network-scripts` directory.

```
cd /etc/sysconfig/network-scripts
```

- b. For the NICs that are not being used, edit the `cfg-eth[1...n]` file and change the line `ONBOOT=yes` to `ONBOOT=no`.

Note – Keep the `ONBOOT=yes` setting for the NIC with the network cable.

Solaris OS Issues

This section contains issues that apply to Sun Fire X4150 servers running the Solaris 10 operating system.

Issues contained in this section:

- [“Do Not Install the STK 15872 Driver for Solaris 10 5/09” on page 45](#)
- [“Performing an Initial Installation of Solaris 10 8/07 With 5200/5400 Xeon Processors Installed” on page 45](#)
- [“Kernel Panic Might Occur During Reboot on Solaris 10 11/06 OS Systems if More Than One HDD Is Present” on page 47](#)
- [“Solaris 10 OS PreInstall Issues” on page 47](#)
- [“Telnet Vulnerability” on page 48](#)
- [“Solaris Xserver and NIC Interfaces” on page 48](#)
- [“Some KVM Switches Out of Sync Following a Solaris OS Installation” on page 48](#)

Do Not Install the STK 15872 Driver for Solaris 10 5/09

Do not install the driver from the Tools and Drivers CD if you are running Solaris 10 5/09. The Sun StorageTek RAID driver is included in the Solaris 10 5/09 distribution. The STK 15872 driver on the Tools and Drivers CD can be used for previous versions of Solaris.

Performing an Initial Installation of Solaris 10 8/07 With 5200/5400 Xeon Processors Installed

For Solaris 10 8/07 to operate on the server with 5200 or 5400 Xeon processors, two patches are required for the OS to boot: 125370-06 and 127112-05. 125370-06 and 127112-05 are the minimum revisions required, but it is recommended that you apply the latest revisions of these patches.

Note – 125370 also requires the following additional patches: 118344-14, 123840-04 (or greater) and 127112 requires the following additional patches: 118344-14, 118855-36, 118919-21, 120012-14, 123840-04, 125370-06 (or greater).

After installing the OS, the system will not boot into Solaris normally until the required patches are applied. To be able to install the patches, you need to boot the system into 32-bit mode instead of the normal 64-bit mode.

▼ Booting Into 32-bit mode and Applying the Patches

1. After installing the Solaris OS, let the system reset normally, remove the Solaris CD/DVD (if inserted), and wait for the system to present the GRUB menu.
2. At the GRUB menu, before the menu times out and automatically attempts to boot the newly installed operating system, use the arrow keys to highlight the Solaris 10 8/07 s10x_u4wos_12b X86 entry and press **e** to edit this boot command.

A second menu with two choices appears.

3. Highlight the line containing `kernel /platform/i86pc/multiboot` and press **e** again to edit the entry.

You will now be able to edit the boot command.

4. Add **kernel/unix** to the end of the line so it looks like this:

```
grub edit> kernel /platform/i86pc/multiboot kernel/unix
```

5. Press Return, highlight the command that you just edited, and then press **b** to boot into Solaris 32-bit mode.

6. After Solaris finishes booting, log in and download the latest 125370 and 127112 patches to the system from <http://sunsolve.sun.com/>.

7. Now since the kernel patch should be installed in single user mode halt the system and perform the same steps as above to edit the GRUB boot command but this time edit the line so that it looks like this:

```
grub edit> kernel /platform/i86pc/multiboot kernel/unix -s
```

This will boot the system into 32-bit single user mode.

The system will prompt for the root password, and then give you a shell prompt.

8. At the prompt, run the following commands to add the patches, in this order, as there are dependencies.

a. **patchadd 125370-xx**

b. **patchadd 127112-xx**

Where *xx* is the latest version of each patch.

9. When the patches are finished installing, reboot the server.

You should now be able to let the system boot normally into 64-bit Solaris OS.

When Solaris 10 5/08 is released, these steps will not be necessary, since the required patches will have been integrated into this updated release.

Kernel Panic Might Occur During Reboot on Solaris 10 11/06 OS Systems if More Than One HDD Is Present

This error may occur on the Sun Fire X4150 server running Solaris 10 11/06 OS with more than one hard disk drive present:

```
Panic cannot mount root path.
```

```
Skipping System dump, no dump device configured  
rebooting.....
```

This is a known issue and bug CR 6584147 is being actively worked on for a resolution.

Workaround

A reboot of the system will clear this error.

In the rare case where the error is not cleared by a reboot, please boot into Single User mode to clear the error and, once successfully booted, reboot the system. Should this scenario also be unsuccessful in clearing the error, power off and boot the system into Failsafe mode. Once in Failsafe mode, a reboot should clear the error.

Solaris 10 OS PreInstall Issues

The Sun Fire X4150 server with Solaris 10 11/06 OS has a number of patches included to support the Sun StorageTek SAS controller. Please note that if the preinstalled image is removed from HD0, you *must* use the Solaris Recovery DVD supplied with the Sun Fire X4150 server to reinstall the operating system because it includes support for your controller and hard disk drives. This issue will be resolved with the Solaris 10 8/07 OS release.

Telnet Vulnerability

Solaris 10 OS 6/06 and 11/06 distributions have telnet vulnerability issue in the `in.telnetd(1M)` daemon that may allow unauthorized remote users to gain access to a Solaris host. A patch is available on the Tools and Drivers CD v2.0. Patch 120069-02 addresses the Solaris 10 6/06 and 11/06 telnet vulnerability issue. Apply the patch manually or run the `install.sh` script on all Solaris 10 6/06 and 11/06 distributions. For more information, please refer to Sun Security Alert 102802. This patch will be incorporated into the Solaris preinstall image at a later date.

Solaris Xserver and NIC Interfaces

In order to start the Solaris Xserver, all of the configured network interface cards (NIC) must be connected to the network. If a NIC is not configured, it does not need to be connected.

Some KVM Switches Out of Sync Following a Solaris OS Installation

When installing Solaris 10 6/06 in a rack with a KVM switch, the monitor might go out of sync when the xserver starts to log into the operating system.

▼ Workarounds

Any one of the following can be used as a workaround.

- **Install the Solaris OS in text mode, then do the following:**

- a. Run the `install.sh` script from the Tools and Drivers CD.

- b. Reboot the server.

Running `install.sh` resolves the issue, as it installs the updated AST2000 VGA driver. See the *Sun Fire X4150 Server Operating System Installation Guide*, 820-1853, for additional instructions on running the `install.sh` script for Solaris.

- **Use KVMS over IP with the ELOM web GUI.**

See the *Embedded Lights-Out Management Administration Guide*, 819-6588, for additional instructions on KVMS over IP.

- **Install Solaris in GUI mode, then do the following:**

- a. Boot failsafe or kill the Xserver prior to starting.

b. Run the `install.sh` script on the Tools and Drivers CD.

See the *Sun Fire X4150 Server Operating System Installation Guide*, 820-1853, for additional instructions on running the `install.sh` script for Solaris.

Linux Issues

The following issues apply to Sun Fire X4150 servers running the supported Red Hat or SUSE Linux operating systems.

- [“Need to Install LSI Driver on SLES Systems Manually” on page 49](#)
- [“Keystrokes Auto-Repeat” on page 49](#)
- [“Mounting a Virtual USB Drive in RHEL5” on page 50](#)

Need to Install LSI Driver on SLES Systems Manually

LSI drivers need to be manually installed on SLES systems.

▼ Installing the LSI Drivers Manually

1. Locate and download the LSI drivers from the Tools and Drivers CD.

- a. Go to the `\drivers\linux\RAID\LSI\drivers` directory.**
- b. Copy the `RHEL4_SLES9.tar.gz` or `RHEL5_SLES10.tar.gz` file to your system.**
- c. Unzip and untar the file and locate the `mptlinux-xxx.rpm` file.**

2. Use the `rpm -i mptlinux-xxxxx.rpm` to install the driver.

The command `install.sh` will not install this driver.

Keystrokes Auto-Repeat

When typing characters on a Linux operating system running on the Sun Fire X4150 server, the keystrokes will auto-repeat. You can use the following workaround or install an updated kernel from Red Hat, see RHSA-2006:0710-7 at the following URL:

▼ Workaround

1. Select Preferences - > Keyboard from the desktop menu.
2. Uncheck the selection: keyboard repeats when key is held down.

▼ Mounting a Virtual USB Drive in RHEL5

1. Edit the file `/usr/share/hal/fdi/policy/10osvendor/20-storagemethods-fdii`.
2. Search for the following string: `<match key="volume.fsusage" string="filesystem">`, which precedes the following commands:

```
<append key="volume.mount.valid_options" type="strlist">codepage=</append>
<append key="volume.mount.valid_options" type="strlist">iocharset=</append>
<append key="volume.mount.valid_options" type="strlist">umask=
</append>
<append key="volume.mount.valid_options" type="strlist">uid=
</append>
</match>
</match>
```

3. Enter the following below the commands listed in step 2:

```
<!-- Added for the issue that virtual ISO image can't be
shown -->
<!-- as an icon when this virtual device is inserted to REHL5
system -->

<match key="@block.storage_device:storage.vendor" string=
"Virtual">
<match key="@block.storage_device:storage.model" string=
"DVD/CD-ROM">
<match key="info.category" string="volume">
<match key="block.is_volume" bool="true">
<match key="volume.fsusage" string="">
<merge key="volume.fsusage" type="string">filesystem</merge>
<merge key="volume.fstype" type="string">iso9660</merge>
</match>
</match>
```

```
</match>  
</match>  
</match>
```

4. Reboot the system.

Windows Issues

The following issues apply to Sun Fire X4150 servers running the supported Windows Server operating systems.

- [“LSI MegaRaid Storage Manager Does Not Work Properly With Intel Network Connections in Windows 2003 64-bit” on page 51](#)
- [“Adaptec Driver Cannot Be Updated With the Tools and Drivers CD v2.2.1 \(and earlier\) Auto Install” on page 52](#)
- [“Installing the Operating System to Enable Reburn Test” on page 52](#)
- [“Initial Setup of the Factory-Installed Windows Server 2003 R2 Operating System” on page 52](#)
- [“Recovering the Windows Server 2003 Operating System” on page 53](#)

LSI MegaRaid Storage Manager Does Not Work Properly With Intel Network Connections in Windows 2003 64-bit

After installing the MegaRaid Storage Manager and Intel Network Connections (NIC Teaming), the `mrmonitor` service stops unexpectedly and cannot start. This affects servers running Windows Server 2003 64-bit.

Workaround

Do not install the NIC Teaming software if the LSI Storage Manager software is required.

Adaptec Driver Cannot Be Updated With the Tools and Drivers CD v2.2.1 (and earlier) Auto Install

The Adaptec driver cannot be updated with the Tools and Drivers CD v2.2.1 (and earlier) auto install on Windows Server 2003 (32-bit/64-bit) and Windows Server 2008 (32-bit/64b-bit).

▼ Workaround

Manually install this driver as follows:

1. **Open the Windows Device Manager.**
2. **Right click the device with yellow question mark.**
3. **Choose Update Driver.**
4. **Find the driver in** `\drivers\windows\RAID\StorageTEK\2003` **or** `\drivers\windows\RAID\StorageTEK\2008`.
5. **Click OK to install the driver.**

Installing the Operating System to Enable Reburn Test

In order to be able to run the reburn diagnostics test, you must install the OS on the C: drive of the server.

Initial Setup of the Factory-Installed Windows Server 2003 R2 Operating System

Servers shipped with the factory-installed Windows Server 2003 R2 operating system include a Getting Started Guide. Read this guide before performing the initial setup of the Windows Server 2003 R2 operating system. For initial setup procedure, refer to the *Sun x64 Servers Windows 2003 R2 Preinstall Release Notes*.

Recovering the Windows Server 2003 Operating System

If you need to restore your system to the default factory-installed Windows operating system, follow the directions in the *Sun x64 Servers Windows Server 2003 R2 Recovery Installation Guide* enclosed in the optional recovery media kit and posted online. If you do not have the recovery media kit, contact your support representative.

VMware Issues

Virtual Machines Running ESX 3.5 Might Hang After ILOM Migration

For ESX 3.5 installed with multiple virtual machines (VMs) booted and operational, you might encounter the following issue after migrating from ELOM to ILOM.

After shutting down the VMs and upgrading to ILOM, when the ESX host is booted, the VMs hang at 95% of the startup process, and a yellow bang appears. The following message is displayed in the "Summary" tab in VI:

```
msg.uuid.moved:The location of this virtual machine's
configuration file has changed since it was last powered on.
If the virtual machine has been copied, you should create a new
unique identifier (UUID). If it has been moved, you should keep
its old identifier.
If you are not sure, create a new identifier.
What do you want to do?
```

- **Select KEEP.**

The virtual machine now boots as expected with the same identifier and will operate properly.

LSI 3081E Host Bus Adapter Issues

The following issues relate to Sun Fire X4150 servers with the LSI 3081E HBA installed.

- [“HDD Space Required When Upgrading to a Mirror Configuration” on page 54](#)
- [“Only Upgrade Path That Supports Data Merging” on page 54](#)
- [“Server Might Hang With RAID Configuration in Sync Mode” on page 54](#)

HDD Space Required When Upgrading to a Mirror Configuration

You must leave 100 MB of free unpartitioned space at the end of the hard disk if you plan on upgrading to a mirrored configuration.

Only Upgrade Path That Supports Data Merging

The only upgrade path that supports data merging is from a single disk to a mirror. This is a limitation of the card. If you wish to upgrade from a single disk to an IMe (Integrated Mirror Extension) or an IMS (Integrated Mirror Stripe), the operating system and its data will be lost and a reinstall/restore will be required.

Server Might Hang With RAID Configuration in Sync Mode

When a RAID set of disks is in sync mode, the server might hang if a reboot is issued. This hang will cause the disk to lose its RAID configuration. Do not reboot while a sync is in progress. This issue is being investigated.

StorageTek SAS Controller Issues

The following issues relate to Sun Fire X4150 servers with the Sun StorageTek SAS Controller installed.

- [“Use StorageTek BIOS Setup Utility to Initialize Drives and Create Array Before Accessing with the OS” on page 56](#)
- [“RPM Must be Installed Before Installing StorageTek Management Software on Red Hat Linux 5” on page 56](#)

HBA Driver and Firmware Upgrades to 16732 Firmware

The controller firmware can be flashed using Adaptec Storage Manager (ASM) or the flash utility (AFU) that is included on the Tools and Driver CD

Use one of the following procedures to flash the firmware:

- [“Using AFU To Flash Firmware with CD” on page 55](#)
- [“Using AFU To Flash Firmware with Floppy” on page 56](#)

▼ Using AFU To Flash Firmware with CD

1. **Boot from the Sun Fire X4150 Server Tools and Drivers DVD.**
2. **At the main menu screen prompt, enter 3 to go into DOS.**
3. **Change the directory to `firmware\SST\` .**
4. **Type `flash.bat`, then press Enter to launch the SRL card firmware update GUI.**
5. **In the Adaptec flash utility, select Controller, and then select the operation ‘Update flash images’.**
6. **Make sure that the directory for the flash image is correct, and press OK to begin flash new firmware for your card.**

▼ Using AFU To Flash Firmware with Floppy

1. **Copy each *.ufi file individually to a separate floppy disk.**

If you don't do this, you might encounter read errors from one of the files when flashing the controller.

2. **Shut down the operating system and reboot to DOS from a bootable floppy disk.**
3. **Insert the floppy with the update files.**
4. **Run the flash utility program named AFU.EXE to backup the current BIOS and flash the new BIOS image.**

For instructions on how to update the firmware using Adaptec Storage Manager (ASM), refer to the ASM User's Guide or the ASM online help.

Use StorageTek BIOS Setup Utility to Initialize Drives and Create Array Before Accessing with the OS

Before the operating system can use hard disks attached to a StorageTek SAS Controller, the drives must first be initialized and the array created using the StorageTek BIOS setup utility. The StorageTek BIOS setup utility can be accessed using the CTRL-A keystroke combination during server POST.

RPM Must be Installed Before Installing StorageTek Management Software on Red Hat Linux 5

To install the StorageTek Management Software on Red Hat Linux 5, an rpm must first be installed. This is because Java is not supported in Red Hat Linux 5. Use the rpm that applies to your operating system installation:

- `xorg-x11-deprecated-libs-6.8.1-23.i386.rpm` for 32 bit OS
- `xorg-x11-deprecated-libs-6.8.1-23.EL.x86_64.rpm` for 64bit OS

They can be found in the `/drivers/linux/RAID/StorageTEK/MGMT/version` folder on the Tools and Drivers CD. Copy the appropriate rpm file to your Red Hat 5 system and run the **rpm -install** command.

Sun 10G Network Adapter Issues

The following issues relate to Sun Fire X4150 servers with the Sun 10G Network Adapter installed.

- [“Sun 10G Network Adapter Might Require a Firmware Update to Version 3.12” on page 57](#)

Sun 10G Network Adapter Might Require a Firmware Update to Version 3.12

The Sun 10G network adapter may require a firmware update to version 3.12 or later for correct operation in the Sun Fire x4150. The link for this firmware update is below.

<http://www.sun.com:80/download/products.xml?id=45a593ce>

Documentation Issues

The following issues apply to the Sun Fire X4150 server documentation:

- [“New Operating System Installation Guides Now Available” on page 58](#)
- [“Windows Operating System Installation Guide Now Available” on page 58](#)
- [“Tools and Drivers CD 1.3.1 CD Updates for Operating System Installation Guide” on page 58](#)
- [“Power Supply LED Illustration in Service Manual Is Incorrect” on page 60](#)
- [“Incorrect Jumper Description in Service Manual” on page 61](#)
- [“Note on USB Floppy Drive for Operating System Installation Guide” on page 64](#)

New Operating System Installation Guides Now Available

An updated installation guide for Solaris 10, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES), and VMware ESX Server operating systems is now available. This document combines operating system installation for the Sun Fire X4150, Sun Fire X4250, and Sun Fire X4450 servers. This document is available at:

<http://docs.sun.com/app/docs/prod/sf.x4150>

Windows Operating System Installation Guide Now Available

The following document is now available: *Sun Fire X4150, X4250 and X4450 Servers Windows Operating System Installation Guide*.

The information in this document supersedes the information in the *Sun Fire X4150 Server Operating System Installation Guide*.

Both documents are available at:

<http://docs.sun.com/app/docs/prod/sf.x4150>

Tools and Drivers CD 1.3.1 CD Updates for Operating System Installation Guide

These notes are specific to BIOS 025 in Tools and Drivers CD 1.3.1. If you are using an older BIOS, you need to implement the instructions in the *Sun Fire X4150, X4250, and X4450 Servers Operating System Installation Guide* for serial redirection when installing Solaris 10 OS.

ELOM now supports the default serial redirection of TTYA/COM1 versus the older method (pre -1.3.1 Tools and Drivers CD) that was TTYB/COM2.

Now the Solaris PreInstall and Jumpstart will not require an edit to the kernel mini-root to install via serial console.

Note the following regarding items in the *Sun Fire X4150, X4250, and X4450 Servers Operating System Installation Guide*, 820-1853-14:

- Page: 9 OS Installation Methods

For systems with firmware from Tools and Drivers 1.2 (BIOS 020) and before use the current OS installation method in the documentation.

For systems with firmware level from Tools and Drivers CD 1.3.1 (BIOS 025) and later, refer [TABLE 5](#) on Solaris installation methods.

TABLE 5 Installation Methods

Method	Description	Instructions
Install from DVD or CD-ROM media.	Use the Solaris Installation Program on the CD or DVD media to install one server interactively.	Follow the instructions for x86 installation in <i>Solaris 10 Installation Guide: Basic Installations</i> at: http://docs.sun.com/app/docs/doc/817-0544
Install from the network by using PXE.	Use PXE to install the Solaris OS over the network from remote DVD or CD images or to automate the installation process and install several systems with a JumpStart installation. To boot over the network by using PXE, you need to set up an install server and a DHCP server, and configure the BIOS on each server to boot from the network.	Follow the instructions for an x86 PXE installation, in <i>Solaris 10 Installation Guide: Network-Based Installations</i> at: http://docs.sun.com/app/docs/doc/817-5504
Boot from the preinstalled image.	Depending on your configuration, a Solaris OS image may be preinstalled on a hard drive.	<i>Sun Fire X4150 Server Installation Guide</i>
Install from a serial console.	Use a serial console to install the Solaris OS in a PXE-based network installation.	Follow the instructions for an x86 PXE installation in <i>Solaris 10 Installation Guide: Network-Based Installations</i> at: http://docs.sun.com/app/docs/doc/817-5504
Perform a diskless boot.	Boot the Solaris OS on a server without a hard drive. Use this method with a PXE-based network installation.	Follow the instructions for an x86 PXE installation in <i>Solaris 10 Installation Guide: Network-Based Installations</i> at: http://docs.sun.com/app/docs/doc/817-5504

The instructions in this section are only relevant for Sun Fire X4150 server firmware 1.2 and below as the default serial redirection settings were TTYB/COM2.

Tools and Driver release 1.3 and later now have the default serial port set to TTYA/COM1 (Solaris defaults), so the instructions in this section are not needed.

Power Supply LED Illustration in Service Manual Is Incorrect

The *Sun Fire X4150 Server Service Manual*, 820-1852-10, has an incorrect description and diagram of the LEDs located on the system's power supply.

Figure 3-8 on page 3-14 of the PDF version shows an image of the power supply where the icons next to the LEDs are incorrect. The "Figure Legend" beneath this image is also incorrect.

The correct order of the LEDs and LED functions are show in the following table.

Figure Legend

Legend	LED	Symbol	Color	Lights when
1	DC Present		Green	DC power is available.
2	Service Required		Amber	The power supply is faulty. The front and rear panel Service Required LEDs are also lit if the system detects a power supply fault.
3	AC Present		Green	The power supply is plugged in and AC power is available, regardless of system power state.

This will be corrected in a future version of the Service Manual.

Incorrect Jumper Description in Service Manual

The *Sun Fire X4150 Server Service Manual*, 820-1852-10, contains errors in the procedure to reset BIOS password using a jumper.

Pages 4-33 through 4-35 refer to using jumper J33 to reset the CMOS NVRAM and change the BIOS password. This is incorrect.

The correct jumper is J23 to both reset the CMOS NVRAM and BIOS password. This jumper is located near the CR 2032 battery, below the PCIe riser 0.

The remainder of the procedure is correct, and can be followed using the J23 jumper.

Fixed Issues

The following issues have been resolved:

Issues Fixed in Sun Fire X4150 and X4250 Software Supplemental

Refer to the following sections for information on issues that have been fixed in the software supplemental releases:

- [“Issues Fixed In Software Supplemental 3.2.0” on page 61](#)
- [“Issues Fixed in Software Supplemental 3.0.2” on page 62](#)
- [“Issues Fixed in Software Supplemental 3.0.1” on page 62](#)
- [“Issues Fixed in Software Supplemental 2.2.2” on page 63](#)

Issues Fixed In Software Supplemental 3.2.0

The following issue has been fixed in Sun Fire X4150 and X4250 Software Supplemental 3.2.0:

VMWare issues fixed:

- CR 6871221: A server running VMware ESX 4.0 hangs due to a BIOS error.

ILOM Issues fixed:

- CR 6887273: ILOM 3.0 Daylight Savings time is inconsistent

- CR 6870405: ILOM 3.0.6.0 does not report DIMM location when encountering Memory Configuration Errors
- CR 6911547: Sun Fire X4450's manufactured prior to August 2008 returned the wrong Product Serial number from the ILOM Service Tag.

Upgrading to the current version of ILOM (3.0.3.30 and above) corrects the Product Serial number automatically.

If you find that the product serial number is not the same as the chassis serial number on your Sun Fire X4150/X4250/X4450 systems, upgrade your ILOM to the latest version to fix this problem.

The SEL log in CLI or the Web interface reminds you to reboot ILOM to make the change take effect. This correction check happens every time ILOM reboots. If the reboot is not successful, repeat the ILOM reboot to retry.

- CR 6900133: SYS serial part number is changed after ILOM is upgraded from 2.0.2.10 to 3.0.3.30.

Note – The `fru_serial_number` was added to show chassis serial number to avoid confusion when the chassis serial number is different from that of the product.

- CR 6877870: ILOM does not allow # character in snmp community string.
- CR 6892806: System hangs during SAS HBA initialization

BIOS issues fixed:

- CR 6840570: An SMM fix, identified by Intel.
- CR 6893582: SP unusable after repeated cold reset using `ipmitool`.
- CR 6773429: Space of `/coredump` was not managed, so `logmgr.log` will not always have enough space

Issues Fixed in Software Supplemental 3.0.2

The following issue has been fixed in Sun Fire X4150 and X4250 Software Supplemental 3.0.2:

BIOS issue fixed:

- CR 6871221: A server running VMware ESX 4.0 hangs due to a BIOS error.

Issues Fixed in Software Supplemental 3.0.1

The following issues have been fixed in Sun Fire X4150 and X4250 Software Supplemental 3.0.1:

ILOM issues fixed:

- CR6823488 Cannot add an SSH key for automatic password authentication.
- CR6848980 Unable to run `ipmitool -I open sunoem led get` command and view sensors or LEDs via the web at the same time.
- CR6823516 The number 5 cannot be set as a value for retries under `/SP/clients/dns`.
- CR6862166 BMC IP cannot be changed from DHCP to Static in the BIOS setup menu.

BIOS issues fixed:

- CR6870328: Support is needed for Windows 2008 R2 and WLK 1.4 test.
- CR6852923: Modify the system support CLTT mode.
- CR6818362: Windows text-mode setup is unable to correctly detect serial console redirection.

Issues Fixed in Software Supplemental 2.2.2

The following issues have been fixed in Sun Fire X4150 and X4250 Software Supplemental 2.2.2:

- CR6805642: Severity of PSU AC lost presence should be critical, not minor.
- CR6804558: Sun Fire X4150 does not boot OS with full 64 GB memory and 2 dual 10-Gigabit Ethernet Fiber XFP cards (501-7283) installed.

Correction to Documentation Describing How To Install Intel PROSET Teaming Utility

The *Sun Fire X4150 Server Operating System Installation Guide* (820-1853-11) includes directions on installing NIC teaming drivers in Windows 2003 Server that are inaccurate. Please follow the instructions listed below for proper NIC teaming software installation:

▼ NIC Teaming Software Installation

1. **Install the Ethernet drivers from the Tools and Drivers CD version 1.1, using your preferred method:**
 - a. **Autorun** — Insert the Tools and Drivers CD and from the Autorun menu, choose `Install/Update` drivers and optional packages.
 - b. **Manually** — Access the Ethernet properties and update the driver manually through Device Manager.
2. Once the Ethernet cards have been installed and IP addresses assigned, run the Proset installer.
3. The installer is found on the Tools and Drivers CD (starting at version 1.1) in the following location:
`drivers\windows\IntelNic\2003\PROSET\2003_xx`
where `xx` is 32 or 64 bit, use the `PROSETDX.msi` installer.
4. Follow the instructions on your screen and choose the `Advanced Network Features` from the displayed list of options.
5. To access the PROSET Teaming options, access the Ethernet card through Device Manager and choose `Properties`.
6. The new tabs installed will be `Teaming` and `VLAN`.

Note on USB Floppy Drive for Operating System Installation Guide

In the Sun Fire X4150 Server OS Installation Guide, 820-1853-11, Chapter 5, note that when installing Windows Server 2003 using the Sun StorageTek Driver diskette, the external USB floppy drive must be certified for use with 32-bit or 64-bit Windows Server 2003.

Issues Fixed in Tools and Drivers CD/DVDs

The following sections list issues that have been fixed in the Tools and Drivers CDs/DVDs:

- [“Issues Fixed in Tools and Drivers DVD 3.1.1” on page 65](#)
- [“Issues Fixed in Tools and Drivers DVD 3.1.0” on page 65](#)
- [“Issues Fixed in Tools and Drivers DVD 3.0.0” on page 67](#)
- [“Issues Fixed in Tools and Drivers DVD Version 2.2.1” on page 67](#)
- [“Issues Fixed in Tools and Drivers DVD Version 2.2.0” on page 68](#)
- [“Issues Fixed in Tools and Drivers DVD Version 2.1.0” on page 69](#)
- [“Issues Fixed in Tools and Drivers DVD Version 2.0” on page 70](#)
- [“Issues Fixed in Tools and Drivers CD Version 1.3.3” on page 70](#)
- [“Issues Fixed in Tools and Drivers CD Version 1.3.2” on page 71](#)
- [“Issues Fixed in Tools and Drivers CD Version 1.3.1” on page 71](#)

To correct the following issues, download the latest Tools and Drivers CD/DVD from

<http://www.sun.com/servers/x64/x4150/downloads.jsp>

Issues Fixed in Tools and Drivers DVD 3.1.1

The following BIOS issues have been fixed in Sun Fire X4150 3.1.1 DVD

- 6905018: System Serial Number shows "To Be Filled By OEM" in BIOS set up menu

Issues Fixed in Tools and Drivers DVD 3.1.0

The following BIOS issues have been fixed in Sun Fire X4150 3.1.0 DVD:

- 6881539: When the BIOS finds a DIMM correctable error during memory initialization, the BIOS disables the DIMM.
- 6902797: The BIOS and SP treat all memory scrub errors as critical, though there should be two types: correctable and uncorrectable.

The following ILOM issues have been fixed in Sun Fire X4150 3.1.0 DVD:

- 6810948: Green LED does not blink while SP boots and during the system POST.
- 6862498: Add virtual DIMM presence sensors.
- 6848936: Enable `sensor_history_sys_vps_feature`.

- 6727934: Available power shows 1350 watts but the PSU only has 1100 watts.
- 6713949: Console redirection fails to start.
- 6893206: `xvmoc-compliance-test` fails when a product name has a blank at the end of the string.
- 6687590: Back panel and Locate and Alert LEDs are on when the SP comes up.

Remote KVM Does Not Respond Under Some Circumstances (6818246)

The Remote KVM does respond if the connection is terminated ungracefully due to any of the following actions:

- Changing the SP's management IP address with any existing Java Remote Console (JRC) client sessions running.
- Unplugging a KVMS session JRC client
- Disconnecting the network between a JRC client and the SP.

If the remote KVM session does not respond due to any of these conditions, either reset SP or wait 30 minutes for the remote session to restart.

Issues Fixed in Tools and Drivers DVD 3.0.0

The following issues have been fixed in Sun Fire X4150 3.00 DVD:

ILOM Issues fixed:

- 6773373: Varying the value of serial port sharing from SP cannot be reflected by BIOS
- 6787990: Added chassis intrusion inventory for Sun Fire X4150 and X4250 platforms.
- 6789637: Severity of memory configuration error should be minor.
- 6777523: CLI showed the nonexistent target /SYS/FB1/FM3. This should be hidden.

BIOS issues fixed:

- 6804558: Server will not boot the OS with full 64GB memory and 2 dual 10-Gigabit Ethernet Fiber XFP cards (501-7283)
- 6770829: BIOS should provide CSD ACPI structures to the OS.
- 6794234: BIOS splash screen duration is too quick for serial console redirect display to render.
- 6773373: Varying the value of serial port sharing from SP can not be reflected by BIOS.
- 6825225: Unable to update static IP address in BIOS.

Issues Fixed in Tools and Drivers DVD Version 2.2.1

- CR6771518: The severity should not be critical with a "single-bit error".
Some non-critical events are marked as "critical". These events are changed to "minor" in Tools and Drivers DVD 2.2.1.

- CR6758579: Receiving memory errors in SEL log to non-decodable address.
There are some non-decodable addresses of memory error events sent from the BIOS. This will be fixed to define a field to support the number of DIMM errors.
- CR6767086: Chassis "no usable memory" event appears with incorrect sensor name.
When you power on the system with no usable memory (no DIMMs), the BIOS reports "no usable memory" and does not power on. The message that appears in the event log uses the incorrect sensor name.
- CR6768737: BIOS Restore on AC Power Loss "Last State" setting does not work.
When the "Restore on AC Power Loss" is set to "Last State" from BIOS menu, the last state is not restored.
- CR6774048: BIOS sends a hard reset SEL log while system power is on or the system is power cycled.
When performing a "power on" action, the BIOS will send out a "initiated by hard reset" event long. This is changed to "initiated by power up" in Tools and Drivers CD 2.2.1.

Issues Fixed in Tools and Drivers DVD Version 2.2.0

BIOS Issues Fixed

The following issues have been fixed with the BIOS update included on this Tools and Drivers CD:

- CR6787270: There are some problems with configuring the Intel Quad Gigabit Ethernet card
- CR6728704: When the Solaris prtdiag command is run, cards are shown in the wrong slots.
- CR 6743812: When the server is populated with a maximum of 64GB memory (16 x 4GB) and two Neptune option cards are installed, the system hangs up during POST.
- CR6743509: The SMBIOS manufacturer field ends with white space.
- CR6786753: The SATA HDD LED light needs to be implemented via SGPIO.
- CR6782662: BIOS GUID is different than ILOM UUID. These values should be the same.
- CR6750940: Missing memory from the server is not reported as a failure in the SEL.
- CR6710644: Severe uncorrectable ECC DIMM errors do not get reported in the SEL event log of BIOS.

ILOM Issues Fixed

The following issues have been fixed with the ILOM update included on this Tools and Drivers CD:

- CR6721746: ILOM cannot detect failure or rotation stop of the PSU's fan or monitor PSU fault states.
- CR6746140: Abnormal date and time in the description of ILOM message.
- CR6715208: The **capiletest get** command returns wrong status codes.
- CR6742808 Uploading an ILOM .ima file for another platform hangs the system.
- CR6580094: SUN-HW-TRAP: Wrong traps sent for /SYS/PWRGOOD assertion & deassertion.
- CR6762982: sunHwTrapPowerSupplyOk message sent when power supply is unplugged.
- CR6698177: ILOM does not allow hyphen "-" character in SNMP community string.
- CR6763926: Cannot read FRUID from new paddle board/backplane board.
- CR6760277: SNMP trap is not sent for fan module removal.
- CR6727934: Available power does not show correctly in ILOM.
- CR6767665 LOM does not perform a real reset. Instead it performs a power cycle.

Issues Fixed in Tools and Drivers DVD Version 2.1.0

The following issues are fixed with Tools and Drivers CD version 2.10.

Windows One Click Installation of Disk Management Software Does Not Work (CR6786766)

The one-click installation function that uses Windows autorun to install the LSI3081E Management Software and StorageTek Management Software does not work correctly.

This has been corrected in Tools and Drivers DVD 2.1.0.

Workaround

If you do not update to the 2.1.0 Tools and Drivers DVD, you need to manually install the software.

Issues Fixed in Tools and Drivers DVD Version 2.0

The following issues are fixed with Tools and Drivers CD version 2.0.

Setup Utility Error in CLI Mode (CR 6687003)

When using the StorageTek SAS controller setup utility in CLI Mode, the initial menu is displayed and then "5;00H" is continuously scrolled so that the menu is scrolled off the screen. This issue have been fixed in ILOM BIOS version 1ADQW052 or later.

Issues Fixed in Tools and Drivers CD Version 1.3.3

The following issues are fixed with Tools and Drivers CD version 1.3.3.

Cannot Use the Firmware Setup Utility for the SG-XPCIE SAS-R-INT-Z HBA Card in ELOM Console (CR6687003)

The firmware setup utility for the SG-XPCIE SAS-R-INT-Z HBA card is unusable through the ELOM console.

Workaround: Use the web GUI Remote Console redirection utility or a locally attached keyboard and monitor setup to configure the disks so that the OS can be installed and used.

CMOS Checksum Error Causes System to Wait for User to Press F1 (CR6786763)

When the CMOS checksum error occurs during POST, the POST halts until the user presses F1.

With this firmware update, optimized defaults are loaded and POST continues when the checksum error is encountered.

Wrong Slot Shown in prtdiag (CR6728704)

When you run the **prtdiag** command on a Solaris system when two cards are installed in slot1 and slot0, the **prtdiag** reports that slot1 and slot2 are in use.

SNMP Event Traps Not Being Sent for Fan (CR6736433)

When a fan is removed for the system, the Set Platform Event Filter does not set a trap for the fan.

Add Sensor for PSU Fan Stop Rotation Detection (CR6709927)

When PSU fan rotation stops, it is recorded as an error in SEL and the PSU fail LED is lit.

Issues Fixed in Tools and Drivers CD Version 1.3.2

The following issues are fixed with Tools and Drivers CD version 1.3.2.

New PSU Flow Chart Implemented (CR6699241)

With this firmware release, the system is able to detect if the PSU or power cord is removed and records an error in SEL along with the PSU fail LED.

BIOS Setting Missing (CR6786761)

The BIOS setting `terminal type=vt100/ansi` was inadvertently omitted after BIOS version 020 (from 1.2 Tools and Driver CD).

A fix for this issue is planned for a later release of the BIOS.

Issues Fixed in Tools and Drivers CD Version 1.3.1

The following issues are fixed with Tools and Drivers CD version 1.3.1.

Incorrect Syntax in Service Processor SEL log Entry With BMC 4.0.08 When Manually Removing a Fan (CR6656761)

When removing a fan from the server, the SEL will log an event indicating that the fan is present.

Temperature Threshold Too Low for SG-PCIESAS-R-INT-Z HBA Firmware Release (CR6687016)

For earlier SG-PCIESAS-R-INT-Z HBA firmware releases, the temperature threshold was set too low in the HBA firmware. This can cause the StorMan application to report erroneous over-temperature conditions.

If you encounter the erroneous over-temperature reports, update the HBA firmware to the latest available version if this issue is seen.