



Sun Fire™ X2100 M2 Server Product Notes

Sun Microsystems, Inc.
www.sun.com

Part No. 819-6594-17
February 2009, Revision A

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Sun Fire X2100 M2 Server

Product Notes

This document contains late-breaking information and issues for the Sun Fire X2100 M2 server.

The following issues are covered in these product notes:

- [“General Information” on page 2](#)
- [“Tools and Drivers CD v1.7.0 Released” on page 2](#)
- [“Firmware Issues” on page 3](#)
- [“Operating Systems Issues” on page 10](#)
- [“Hardware Issues” on page 14](#)
- [“System Management Issues” on page 16](#)
- [“System Management Virtual Device Issues” on page 23](#)
- [“System Management Web GUI, CLI, and Remote Console Issues” on page 24](#)
- [“System Management Browser Issues” on page 29](#)
- [“Diagnostics Issues” on page 31](#)
- [“Issues Addressed With Tools and Drivers CD v1.1” on page 32](#)

General Information

The following table provides information on service support, documentation and supported operating systems. Updated information for each is available at the corresponding URL.

Sun Fire X2100 M2 Service Support	http://www.sun.com/servers/x64/x2100/support.xml
Documentation Set	Includes: • <i>Embedded Lights Out Manager Administration guide for the Sun Fire X2100 and Sun Fire X2100 M2 Server</i> • <i>Sun Fire X2100 M2 Server Installation Guide</i> • <i>Sun Fire X2100 M2 Server Service Manual</i> • <i>Where to Find Sun Fire X2100 Server Documentation</i> • <i>Sun Fire X2100 M2 Server Operating System Installation Guide</i> • <i>Sun Fire X2100 M2 Server Safety and Compliance Guide</i> • <i>Sun Fire X2100 M2 Server Product Notes</i> Updated list available at: http://docs.sun.com/app/docs/prod/sf.x2100m2~x2100m2
Supported Operating Systems	• Solaris 10 OS • Red Hat Enterprise Linux (RHEL) • SUSE Linux Enterprise System (SLES) • Windows Updated list available at: http://www.sun.com/servers/entry/x2100/os.jsp

Tools and Drivers CD v1.7.0 Released

An ISO image of the Tools and Drivers CD v1.7.0 is available online for download at:

<http://www.sun.com/servers/x64/x2100/downloads.jsp>

Note – Throughout this document, BMC (baseboard management controller) and SP (service processor) are used interchangeably. In some instances, user interfaces still refer to BMC. For this document, SP is the preferred terminology.

New Features in Tools and Drivers CD v1.7.0

The following is a list of new features available in the Tools and Drivers CD v1.7.0:

BIOS/SP

- BIOS v3A21
- SP v3.20

New Functionality and Updates

- Windows 2008 drivers added
- Blink Fault LED when ECC single-bit error occurs 24 times within a 24-hour period
- Update Windows 2003 AST 2000 driver to version 0.86.09
- Update the Linux driver for the MCP55 chip set to version 1.25 for RHEL 4.5, RHEL 4.6, RHEL 5.1, SLES 10 SP1, SLES 10 SP2

Fixes or Resolved Issues

- ELOM security issue: Remote unprivileged and unauthorized users with access to service processor web GUI have the ability to create new privileged users, and then gain all privileges (CR 66648082).
 - ELOM security issue: Remote unprivileged user can gain access using the web GUI and execute arbitrary and privileged commands on the service processor (CR 6633175).
 - Inability to boot from network (F12) when more than 6 SAS/SATA JBOD disks are attached BIOS fails during firmware update, because of COM port setting
 - SP reset sets system clock to 1970
 - Cannot start console with external COM port accessing the SP
-

Firmware Issues

The following sections describe the changes resulting from the latest firmware update:

Firmware General Information

[“BIOS and SP Versions Available on Tools and Drivers CD Releases” on page 4](#)

[“Remote Firmware Update Information” on page 5](#)

[“Firmware Downgrade Information” on page 5](#)

[“Updates From v1.2 to v1.4 \(and Greater\) Not Recommended for Remote Updates” on page 6](#)

[“Scripting the SP/BIOS Flash Process” on page 6](#)

Firmware Workarounds and Fixes

[“Recovering From a Corrupt SP”](#) on page 6

[“BIOS Fails During Firmware Update and Downgrade Due to COM Port Setting”](#) on page 8

[“Firmware Update Options”](#) on page 9

Firmware General Information

BIOS and SP Versions Available on Tools and Drivers CD Releases

The following table lists the BIOS and SP versions available on each release of the Tools and Drivers CD:

Tools and Drivers CD Version	BIOS Version	SP/BMC Version
1.1	3A05	1.80
1.2	3A07	1.91
1.3	3A12	2.70
1.4	3A15	2.91
1.5	3A16	3.09
1.6	3A19	3.13
1.7.0	3A21	3.20

Remote Firmware Update Information

The following table describes what happens when you update the BIOS/SP remotely (not booting from the Tools and Drivers CD locally). Test the update on one system before performing a remote multiple system update:

When updating from...	to...	the following will occur...
1.1	1.3	Optimized defaults are loaded and all customized BIOS settings are lost.
1.2	1.3	The CMOS settings are preserved. PowerNow disabled by default.
1.1	1.4	Optimized defaults are loaded and all customized BIOS settings are lost.
1.2	1.4 and newer	Not recommended. The update process will require user intervention, see “Updates From v1.2 to v1.4 (and Greater) Not Recommended for Remote Updates” on page 6.
1.3	1.4 and newer	Option exists to either load optimized defaults or preserve the CMOS settings, see “Firmware Update Options” on page 9.
1.4	1.5	
1.5	1.6	
1.6	1.7.0	

Firmware Downgrade Information

Use the option to preserve CMOS settings when downgrading firmware from release v1.4 to an earlier version, see [“Firmware Update Options”](#) on page 9.

Note – Some downgrade paths might require user intervention due to checksum errors. Always test the downgrade on one system before performing a remote multiple system downgrade.

Updates From v1.2 to v1.4 (and Greater) Not Recommended for Remote Updates

During the update from BIOS v1.2 to BIOS v1.4, a checksum error occurs which requires user intervention. This interferes with scripted remote updates of multiple systems.

Workaround:

- Update using Tools and Drivers CD v1.3 *before* you update to v1.4 firmware.

Scripting the SP/BIOS Flash Process

The SP/BIOS flash process includes an “Update Successful” message. 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. Review the sequence below to avoid accidentally corrupting the BIOS:

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 finishes 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.

Firmware Workarounds and Fixes

Recovering From a Corrupt SP

This section contains SP recovery procedures for the Sun Fire X2100 M2.

This procedure will be added to a future revision of the Service Manual.

Before You Begin:

You need the following:

- A DOS-bootable USB flash device
- A jumper cap
- CD/DVD burner or ISO image file mounting capabilities

▼ To Recover From a Corrupt SP

1. **Download the Tools and Drivers CD ISO image file from the Sun Fire X2100 M2 download site.**
<http://www.sun.com/servers/entry/x2100/downloads.jsp>
2. **Mount the ISO image or burn a CD using the ISO image file and insert the CD into a CD/DVD drive.**
3. **Insert the bootable USB device into the USB port.**
4. **Copy all the files from the `BMC recovery` directory on the Tools and Drivers CD or mounted ISO image to the bootable USB device.**
5. **Remove the AC power from the server, and, if necessary, remove the server from the rack.**
6. **To access the server motherboard, remove the server top cover.**
7. **Using a jumper cap, short the pins of jumper J34.**
J34 is located on the server motherboard between CPU0 and the fan.
8. **Set up the server with a KVM so that you can respond to server POST messages.**
9. **Apply AC power to the server.**
10. **If the server has a CD/DVD drive, remove CD/DVD media from the drive.**
11. **Insert the DOS-bootable USB device into the server's USB port.**
12. **Power on the server and enter the BIOS Setup Utility.**
 - The server might take up to three minutes to complete POST.
 - A message appears stating that the BMC is not found
13. **To enter the BIOS Setup Utility, watch the output for the BIOS prompt and press F2 when prompted.**
The BIOS Setup Utility main screen appears.
14. **Set the USB device as the first or primary boot device.**

15. Save and exit the BIOS Setup Utility.

The server boots from the USB device and a DOS prompt appears.

16. At the DOS prompt, enter the following command:

socflash.exe s39v090.bin

The SP flash process begins.

17. When the flash process finishes, remove the AC power from the server and the jumper cap from jumper J34.

18. Prepare the server for operation and boot the server.

BIOS Fails During Firmware Update and Downgrade Due to COM Port Setting

When performing a firmware update or downgrade of both the BIOS and the SP, using the web GUI or the CLI and the Tools and Drivers CD v1.6, the SP update succeeds, but the BIOS update might fail. The BIOS remains functional, but is not updated. This issue might be related to the BIOS COM port setting. The COM port must be set to COM1 and *not* COM2.

This issue is resolved with Tools and Drivers CD v1.7.0.

Workarounds:

- **Update the firmware using the Tools and Drivers CD v1.7.0 to resolve this issue.**
- or—
- **Use the BIOS Setup Utility to set the COM port to COM1 before performing a firmware update.**

Cannot Start Console With External COM Port Accessing the SP

The console does not start when the external COM port is used to access the SP.

Workaround:

- **Set the COM port to COM2 as the default in the BIOS Setup Utility.**

Firmware Update Options

The firmware update options in the ELOM have changed. The BMC version included on the Tools and Drivers CD v1.3 contains two methods for updating the firmware remotely. You can clear or preserve CMOS. *The default is set to Clear CMOS.* The default setting avoids BIOS checksum errors, and facilitates remote updates. Both methods are available in the web GUI and the CLI and are described below.

Note – This issue pertains to firmware contained on the Tools and Drivers CD v1.3. Sun recommends that you always update your server to the latest version of firmware.

To Update Firmware Using the Web GUI (CD v1.3)

Changes in the web GUI include two additional options in the Control -> Firmware Update screen. Both methods described below preserve the SP settings. The options are:

- Method A: Updating firmware clears the system BIOS CMOS data and loads optimized defaults. Method A is recommended for users that would like no manual interaction following the update. However, the downside of this method is that any customized BIOS settings are lost, and user interaction is required to restore these settings. Some examples of customized settings are:
 - OS set to Windows
 - NVRAID configured
 - Customized settings for performance
- Method B: Update firmware preserving the system BIOS data.

Method B is recommended for users that would like the firmware to preserve the user's customized BIOS settings.

To Update Firmware Using the CLI (CD v1.3)

Use the **set** command and the **UpdateMethod** target before updating the BIOS CMOS:

- To clear the system BIOS CMOS and load optimized defaults, use:
set UpdateMethod=ClearCMOS

- To update the firmware and preserve the system BIOS date, use:
set UpdateMethod=PreserveCMOS

Operating Systems Issues

This section contains the following operating systems-related issues:

- [“Solaris Issues” on page 10](#)
- [“Linux Issues” on page 12](#)

Solaris Issues

This section contains issues that apply to Sun Fire X2100 M2 servers running the Solaris 10 operating system.

Solaris OS General Information

[“Baud Rates for Installing the Solaris OS Using `ssh console`” on page 10](#)

[“Solaris Xserver and NIC Interfaces” on page 11](#)

Solaris OS Workaround and Fixes

[“Patch Available for Solaris nge Connect Issues” on page 11](#)

[“BMC Security Strengthened: Recommended Update” on page 11](#)

[“Telnet Security Vulnerability” on page 11](#)

[“Some KVM Switches Get Out of Sync Following Solaris Installation” on page 12](#)

Solaris OS General Information

Baud Rates for Installing the Solaris OS Using `ssh console`

To install the Solaris OS on ttyb using `ssh console`, use the web GUI to set the internal serial port baud rate to 9600. In the BIOS, set the COM2 baud rate to 9600. To be able to set the internal serial port baud rate, you must have updated your server to BIOS v3A16 and BMC v3.09 (Tools and Drivers CD v 1.5).

Solaris Xserver and NIC Interfaces

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

Solaris OS Workaround and Fixes

Patch Available for Solaris nge Connect Issues

During initialization, Solaris might fail to properly clear the RX_EN register. As a result, TCP/UDP connections via the nge ports will fail.

Fix:

- **Install patch #122530-06, which requires patch #118855-03.**

Reconfigure the system immediately after installing the patches. Both patches are available at <http://www.sun.com/sunsolve>. Use Patchfinder to locate the patch.

BMC Security Strengthened: Recommended Update

Installing BMC firmware v3.09 strengthens system security and is a recommended update. The X2100 M2 is susceptible to unauthorized access when the BMC firmware is at v2.91. Security vulnerability is greatly reduced by upgrading to BMC v3.09.

Fix:

- **Update BMC (SP) firmware using Tools and Drivers CD v1.5 or higher.**

For more information, see “[Security Vulnerability in SP Email](#)” on page 18.

Telnet Security Vulnerability

The Solaris 10 6/06 and 11/06 OS distributions have a telnet security vulnerability issue.

Fix:

- A patch is available on the Tools and Drivers CD v1.4.

Some KVM Switches Get Out of Sync Following Solaris Installation

When installing Solaris 10 6/06 in a rack with a KVM switch, the monitor might get out of sync when the Xserver starts to log into the OS.

Possible Workarounds:

- **Install Solaris 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 X2100 M2 Server Operating System Installation Guide*, 819-6592, for additional instructions on running the `install.sh` script for Solaris.

—or—

- **Use KVMS over IP with the Embedded Lights Out Manager (ELOM) GUI.**

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

—or—

- **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 X2100 M2 Server Operating System Installation Guide*, 819-6592, for additional instructions on running the `install.sh` script for Solaris.

Linux Issues

The following issue applies to Sun Fire X2100 M2 servers running the supported Red Hat or SUSE operating systems.

Linux Workaround and Fixes

[“System Halts With AMD-Based Servers Running 64-bit RHEL Versions 4 - 4.5” on page 13](#)

[“Keystrokes Auto-Repeat” on page 13](#)

System Halts With AMD-Based Servers Running 64-bit RHEL Versions 4 - 4.5

On AMD-based servers running 64-bit RHEL versions 4 through 4.5, the system might hang because of issues related to the management of process memory data. This problem occurs when running x86 64-bit RHEL 4 on an AMD processor that supports greater than 40-bit physical addressing. See the Red Hat Linux knowledge base and article #11696 at:

http://kbase.redhat.com/faq/FAQ_85_11696.shtm

Workaround:

- **Red Hat strongly recommends that you update to 4.6 or to the 4.5 errata kernel as soon as possible.**

Keystrokes Auto-Repeat

When typing characters on a Linux operating system running on the Sun Fire X2100 M2 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:

<http://rhn.redhat.com/errata/RHSA-2006-0710.html>

Workaround:

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

Windows Issues

The following issues apply to Sun Fire X2100 M2 servers running the supported versions of the Windows OS:

Security Risk: Remote Console Does Not Automatically Close

If you are running the web GUI on Windows with an Internet Explorer browser and the web GUI times out, or you log out with the remote console window still open, a dialog box will appear stating:

If remote console is opened, it will be closed. Click OK.

Clicking OK will *not* close the remote console window. You will need to close the window manually.

Hardware Issues

This section contains issues that apply to Sun Fire X2100 M2 server hardware.

Hardware: General Information

[“Baud Rate for the Internal Serial Port and COM2 Must be the Same Value” on page 14](#)

[“PCI Express Card Limitations” on page 14](#)

[“Front USB Port Cable Limitations” on page 15](#)

Hardware: Workaround and Fixes

[“Nvidia Quadro Plex Support” on page 15](#)

[“LSI Logic SAS3041E-R Card Support” on page 16](#)

Hardware: General Information

Baud Rate for the Internal Serial Port and COM2 Must be the Same Value

With the update available on the Tools and Drivers CD v1.5, BIOS v3A16 allows you set the COM2 baud rate, and BMC v3.09 allows you to set the internal serial port. The default baud rate setting for both COM2 and the internal serial port is 9600. If changed the setting for both these values must match.

PCI Express Card Limitations

Please note the following issues regarding PCI Express (PCIe) card installation.

- For the Ultra-320 PCIe card (SG-XPCIE2SCSIU320Z), there is a slot restriction associated with this card. This card is limited to the top x8 slot (PCIe-0 slot). Do not insert this card into the lower PCIe-1) slot. There are mechanical clearance issues associated with the cabling if you insert this card into the bottom slot.
- For the Infiniband card (X1236A-Z), there is a slot restriction for early generations of the riser assembly. If you have an early version of the riser assembly, you can only install this card in the lower PCIe x8 slot (PCIe-1 slot). Cabling to the card causes a mechanical interference when this card is used in the top slot. This restriction is limited to a small amount of early systems, and has been corrected in subsequent systems.

To identify an early version of the riser assembly, check if the riser assembly is protruding out the back of the system beyond the top cover, approximately 2.5 mm.

- The x16 PCIe card and riser assembly only supports Nvidia Quadro Plex graphics cards.

Front USB Port Cable Limitations

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

Hardware: Workaround and Fixes

Nvidia Quadro Plex Support

Support for Nvidia Quadro Plex is available using the Nvidia Quadro Plex Interface Card (QPIC) and the x16 PCIe card and riser assembly. A BIOS option is available to direct the video to either the on-board AST2000 or the Nvidia PCIe card. The video will default to the AST2000 until this BIOS option is changed.

Caution – When changing the BIOS option to direct video to the PCIe card, all remote access to the system console is *temporarily* lost.

▼ To Change the BIOS Video Option

1. Enter the system BIOS by pressing F2 at the Sun splash screen.

2. Select Advanced tab -> Onboard Device Configuration -> Primary Graphics Adapter.
3. Change to PCI Express, and hit F10 to save changes.

LSI Logic SAS3041E-R Card Support

You can use a system BIOS option to set the write cache for the LSI card to Enable or Disable. By default the option is *Disable*.



Caution – Enabling the write cache increases the risk of corrupting data when an unexpected power outage occurs. However, enabling the write cache will improve the install/rebuild performance.

▼ To Enable Write Cache

1. Enter the system BIOS by pressing F2 at the Sun splash screen.
2. Select Advanced -> Onboard Device Configuration -> LSI 3041E disk cache.
3. Change to Enable, and press the F10 key to save changes.

System Management Issues

The following issues apply to the Sun Fire X2100 M2 Server Embedded Lights Out Manager (ELOM) Service Processor (SP):

System Management: General Information

[“IPMITool 1.8.9 Returns Incorrect Memory Information” on page 17](#)

[“BMC Web GUI Improved” on page 17](#)

[“Changing the SP netmask Causes Routing Table Flush” on page 17](#)

[“Multiple Devices Cannot be Mounted Within the Web GUI on Solaris \(CD v1.2\)” on page 18](#)

System Management: Workarounds and Fixes

[“SP Reset Causes Loss of Date and Time Synchronization” on page 18](#)

[“Security Vulnerability in SP Email” on page 18](#)

[“SP Reset When Issuing a Remote Power-on Command” on page 19](#)

[“No Output When Running the `start /SP/AgentInfo/console` command” on page 19](#)

[“The Sun Splash Screen in the Serial Console Does Not Display” on page 22](#)

[“Updated Remote Power Control Functionality on the ELOM \(CD v1.3\)” on page 22](#)

Information about the ELOM is available in the *Embedded Lights Out Manager Administration Guide for the Sun Fire X2100 M2 and Sun Fire X2200 M2*.

System Management: General Information

IPMITool 1.8.9 Returns Incorrect Memory Information

Direct Reading of the SPD memory is not supported in IPMITool 1.8.9. 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 on the server.

BMC Web GUI Improved

The BMC web GUI has been redesigned for ease of use and to align its “look and feel” with other Sun products. See the revised *Embedded Lights Out Manager Administration Guide for the Sun Fire X2100 M2 and Sun Fire X2200 M2 Servers*. This and other Sun Fire Server documentation is available at:

<http://docs.sun.com/app/docs/coll/x2100m2>

Changing the SP netmask Causes Routing Table Flush

If you change the IP address or netmask of the BMC, the routing table will change after you update the BMC network configuration. Therefore, you will need to re-enter the gateway information or reset the BMC.

Multiple Devices Cannot be Mounted Within the Web GUI on Solaris (CD v1.2)

Note – This issue pertains to firmware contained on the Tools and Drivers CD v1.2. Sun recommends that you always update your server to the latest version of firmware.

When running either Mozilla or Firefox on a Solaris operating system, you can only mount one device at a time.

This issue is under investigation.

System Management: Workarounds and Fixes

SP Reset Causes Loss of Date and Time Synchronization

When the SP is reset, time synchronization between the SP and BIOS is lost. As a result, the SP date is reset to 01/01/1970, and the time is reset to 00:00.

This issue is resolved with Tools and Drivers CD v1.7.0

Workaround:

- **Update using the Tools and Drivers CD v1.7.0**

Security Vulnerability in SP Email

Sun Fire X2100 M2 server systems with SP/BMC firmware v2.91 have susceptibility to unauthorized access via the SP.

Fix:

- **Upgrade the SP to v3.09 using the Tools and Drivers CD v1.5.**
Sun recommends this update for all Sun Fire X2100 M2 servers.

SP Reset When Issuing a Remote Power-on Command

With firmware versions available on Tools and Drivers CD v1.2 and lower, the SP might reset when you issue a power-on command following a power-off command via IPMITool or the command line interface (CLI).

Workaround:

1. **Update the Sun Fire X2100 M2 firmware with v1.3 or later.**

You can download firmware from the following site.

<http://www.sun.com/servers/entry/x2100/downloads.jsp>

2. **Power down the system gracefully before powering it back on.**

Use the appropriate command.

- If you are using IPMITool:

```
ipmitool -A password -H IP_address -I lan -U user -P password  
chassis power soft
```

IP_address the SP IP address

user the SP user name

password the SP password

- If you are using CLI:

```
set PowerCtrl=gracefuloff
```

No Output When Running the start /SP/AgentInfo/console command

When running the `start /SP/AgentInfo/console` command you must configure the OS to see the output. Refer to the procedures below for configuring each OS:

▼ To Configure the RHEL OS for Console Output

Note – Minimum versions for this procedure: RHEL 3U7 and RHEL 4U3

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

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

console=ttyS1 console=ttyS1, baudrate

baudrate 9600 (default value) or the same baud rate set in the BMC and BIOS.

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, 9600
```

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 the section “Run gettys in standard runlevels” add the following as the first line:

co:2345:respawn:/sbin/agetty ttyS1 baudrate vt100

c. Save and exit the file.

5. Reboot.

▼ To Configure the SLES OS for Console Output

Note – Minimum versions for this procedure: SLES 9 SP3

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, baudrate

baudrate 9600 (default value) or the baud rate set in the BMC and BIOS.

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, 9600
```

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

a. To the bottom of the file, add:

ttyS1

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 baudrate ttyS1 vt100
```
5. Save and exit the file.
6. Reboot.

▼ To Configure Solaris 10 6/06 for Console Output

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


```
setprop console 'ttyb'
setprop ttyb-mode baudrate,8,n,1,-
```

baudrate 9600 (default value) or the baud rate set in the BMC and BIOS.
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 interrupts=3;
```
4. Edit the `/var/svc/manifest/system/console-login.xml` file to read:


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

baudrate 9600 (default value) or the baud rate set in the BMC and BIOS.
5. Save and exit the file.
6. Use the following command to Reboot the system:


```
reboot -- -r
```

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. You must disable the Sun splash screen to see the prompt.

▼ To Disable the Sun Splash Screen

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

This will enable a prompt to press F2.

Updated Remote Power Control Functionality on the ELOM (CD v1.3)

Note – This issue pertains to firmware contained on the Tools and Drivers CD v1.3. Sun recommends that you always update your server to the latest version of firmware.

The Embedded Lights Out Manager (ELOM) service processor (SP) functionality has been updated with the Tools and Drivers v1.3 CD.

Remote Power Control Options

The remote power control options in the ELOM have changed.

- If you are using CLI, the options for the `PowerCtrl` property for the following command have changed: `/SP/SystemInfo/CtrlInfo`

The new options for `PowerCtrl` are:

- To shut down the system gracefully, use: **`PowerCtrl=gracefuloff`**
- To force a system shut down, use: **`PowerCtrl=forceoff`**
- If you are using the Remote Console web GUI, the following four options now exist in the Control -> Power Control menu:

- To force a system shut down use: **Force Power Off**
- To reset the system use: **Reset**
- To shut down the system gracefully, use: **Graceful Shutdown**
- To set up BIOS boot options, use: Boot Option: **BIOS Setup**

System Management Virtual Device Issues

The following issues are related to a virtual device connected to the ELOM remote console system:

Virtual Device General Information

[“Some Virtual USB Flash Devices Do Not Mount in Solaris” on page 24](#)

Virtual Device Workarounds and Fixes

[“Remote Virtual Device Failure” on page 23](#)

[“Virtual CD-ROM Appears To Be Unmounted in SLES 9 SP3” on page 24](#)

Remote Virtual Device Failure

If you connect to the service processor using the hostname rather than the IP address, the remote virtual device function (DVD/ISO/floppy) might fail to work (CR 667047).

Workaround:

- **Connect to the ELOM web GUI using the IP address of the SP instead of the hostname.**

System Management Virtual Device: Workaround and Fixes

Virtual CD-ROM Appears To Be Unmounted in SLES 9 SP3

The virtual CD-ROM appears to be unmounted when the remote console is run on a SLES 9 SP3 system. This is because the dialog box does not pop up when the CD is mounted.

Workaround:

- Access the virtual CD-ROM from the `/media` directory.

Some Virtual USB Flash Devices Do Not Mount in Solaris

For some USB flash devices, the virtual device will appear mounted in the ELOM, when it is not actually mounted.

This issue is under investigation.

System Management Web GUI, CLI, and Remote Console Issues

The following issues are related the Embedded Lights Out Manager (ELOM) Remote Console and web GUI:

Web GUI, CLI, and Remote Console: General Information

[“New ELOM Web GUI Available With CD v1.5” on page 25](#)

[“Minimum Supported Version for a Remote Sparc System” on page 25](#)

[“Pop-up Blocker Must Be Disabled to Run Remote Console on Firefox” on page 25](#)

[“Remote Console and Virtual Devices on Solaris” on page 26](#)

Web GUI, CLI, and Remote Console: Workaround and Fixes

"BMC Security Strengthened: Recommended Update Using CD v1.5 or Higher" on page 26

"Solaris Remote Console Session Requires Java Plug-in" on page 26

"Web GUI Supports Firefox Versions 1 and 2 on Windows" on page 27

"Disabling the Web GUI Timeout Function" on page 28

"Remote Console Mouse Performance on Solaris" on page 28

Web GUI, CLI, and Remote Console: General Information

New ELOM Web GUI Available With CD v1.5

The Tools and Drivers CD v1.5 includes a new easy-to-use ELOM web GUI with a "look and feel" that more closely matches other Sun products. The Tools and Drivers CD v1.5 is available at:

<http://www.sun.com/servers/entry/x2100/downloads.jsp>

More information about the new ELOM web GUI is available in the *Embedded Lights Out Manager Administration Guide for the Sun Fire X2100 M2 and Sun Fire X2200 M2*

http://www.sun.com/products-n-solutions/hardware/docs/Servers/x64_servers/x2100m2/index.html

Minimum Supported Version for a Remote Sparc System

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

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

If you have a pop-up blocker enabled in Firefox, and you try to run the remote console through the ELOM web GUI, the blocker may prevent the remote console from launching. If the remote console does not launch, check to see if the 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.

Web GUI, CLI, and Remote Console: Workaround and Fixes

BMC Security Strengthened: Recommended Update Using CD v1.5 or Higher

Installing BMC firmware v3.09 strengthens system security and is a recommended update. The X2100 M2 is susceptible to unauthorized access when the BMC firmware is at v2.91. Security vulnerability is greatly reduced by upgrading to BMC v3.09.

Fix:

- **Update BMC (SP) firmware using Tools and Drivers CD v1.5 or higher.**

For more information, see [“Security Vulnerability in SP Email”](#) on page 18.

Solaris Remote Console Session Requires Java Plug-in

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

- If you are logged in as root, do the following:
 - **Select the option to open this file using its default application.**

—or—

- If you are *not* logged in as root, do the following:

- 1. Select the option to save the file.**

The `javaRKVM.jnlp` file is downloaded.

- 2. Run the file 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
```

location_of_javaRKVM.JNLP The directory where javaRKVM.JNLP resides.

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

```
# which javaws
```

5. Execute the following command from the terminal window:

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

location_of_javaws The directory where javaws resides.

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.

Web GUI Supports Firefox Versions 1 and 2 on Windows

The web GUI, which is available on the Tools and Drivers CD v1.5, supports Firefox versions 1 and 2 on Windows systems and no longer requires an ActiveX plugin. Update to the Tools and Drivers CD v1.5 to use Firefox versions 1 or 2 without an ActiveX plugin, or, to continue running remote console, and using Firefox v1.x without updating to the Tools and Drivers CD v1.5, install the ActiveX plugin by performing the following procedure:

▼ To Install ActiveX Plugin on Windows

1. Retrieve the latest ActiveX plugin (mozactivex-ff-15.xpi) at:

<http://iol.ie/~locka/mozilla>

2. Open the Firefox 1.5 browser, and drag the mozactivex-ff-15.xpi file from its location to the open browser.

OCX is installed automatically.

3. Open the file C:\installation_path\defaults\perf\activex.js

The default path is c:\programfiles\MozillaFireFox\defaults\perf\activex

4. **Change** `pref("security.classID.allowByDefault", false)` to `pref("security.classID.allowByDefault", true)`
5. **Save the text file, and exit the text editor.**
6. **Restart the browser.**
7. **Go to Tools -> Options, and click on Content.**
8. **On the Content page, make sure that Enable Java and Enable Java Script are selected.**

Disabling the Web GUI Timeout Function

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

▼ To Disable the Web GUI Time-out Function:

1. **Login to the ELOM web GUI.**
2. **Click the Control Tab.**
3. **Set time out to disabled.**

Remote Console Mouse Performance on Solaris

When running the remote console on the Solaris 10 operating system, the mouse performance might be slow.

Fix:

▼ To Resolve Slow Remote Console Mouse Performance

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 X2100 M2 system:**
`type 'xset m 1 1'`

System Management Browser Issues

The following issues are contained in this section:

System Management: Browser General Information

[“Minimum Supported Browsers” on page 29](#)

[“Streaming Video and KVMS Over IP” on page 29](#)

System Management: Browser Workaround and Fixes

[“Configuring Java Runtime Environment for Each Browser” on page 30](#)

[“Error Message When Launching the Remote Console Using JRE 1.6.0” on page 30](#)

System Management: Browser General Information

Minimum Supported Browsers

The following table shows the minimum versions that are supported for running the ELOM web GUI for the Sun Fire X2100 M2 server on Solaris and Linux operating systems.

TABLE 1 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

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.

System Management: Browser Workaround and Fixes

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.

▼ To Download JRE5 Update 7 for Mozilla and Firefox Browsers

1. Go to <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 will display 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.

Error Message When Launching the Remote Console Using JRE 1.6.0

The error message, “Cannot Connect to Host” occurs when launching the remote console using JRE v1.6.0. This is a known bug.

Workarounds:

- Use JRE v1.5_10
- or —
- Change the default to “Direct Connection” in JRE v1.6.0.

▼ To Change the Default in JRE v1.6.0

1. Launch the java control panel.

path to jre jre1.6.0/bin/jcontrol

2. Select the General tab -> Network Settings, and click on "Direct Connection."
3. Click OK.

Diagnostics Issues

The following issues in this section apply to the Pc-Check diagnostics software, v6.05d:

Diagnostic General Information

["Non-Maskable Interrupt \(NMI\) Support Added" on page 31](#)

["Limited Connectivity to Service Processor When Running NIC2 Tests" on page 31](#)

["Pc-Check Fails to Identify RAID Devices" on page 31](#)

["Pc-Check Will Hang When Running Keyboard LED Test" on page 32](#)

Non-Maskable Interrupt (NMI) Support Added

Support for NMI has been added in the web GUI beginning with CD v1.4.

Limited Connectivity to Service Processor When Running NIC2 Tests

When running the Pc-Check Network Test, access to the service processor shared network port might become sluggish or stop.

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 Will Hang When Running Keyboard LED Test

The text for the keyboard LED test is not included in the diagnostics scripts. You can only run the test manually.

This issue is under investigation.

Issues Addressed With Tools and Drivers CD v1.1

If you encounter any of the following system issues, update your system firmware with the Tools and Drivers CD v1.1 to fix the issues:

Note – This issue pertains to firmware contained on the Tools and Drivers CD v1.1. Sun recommends that you always update your server to the latest version of firmware.

- [“Power Control Enhancement” on page 33](#)
- [“Emulex HBA Errors” on page 33](#)
- [“Network Boot Moves to the Top of the Boot Order After Unmounting the Virtual CD-ROM” on page 33](#)
- [“Virtual Storage Device Is Not Readable” on page 33](#)
- [“Sometimes a Virtual Device Does Not Mount After Unmounting on Mozilla or Firefox on Solaris” on page 34](#)
- [“Remote Console Screen Appears White or Gray” on page 34](#)
- [“Web GUI Remote Console Might Close Out on Solaris and Linux Operating Systems” on page 34](#)
- [“The Hostname Mismatch Dialog Box Is Hidden After Logging Into the Web GUI” on page 34](#)
- [“SP Connectivity Might Be Lost During a Remote Installation of Solaris Using the Virtual CD-ROM” on page 35](#)
- [“System Time with SP CLI Commands” on page 35](#)

Power Control Enhancement

With the Tools and Drivers CD v1.1, there is an updated power control enhancement in the Embedded Lights Out Manager (ELOM) web GUI and CLI functionality that allows remote users to reboot the system and have it enter the system BIOS automatically.

If you are using the ELOM web GUI:

1. **Click the Power Control tab.**
2. **Select Boot Option: BIOS Setup.**
3. **Click the Submit tab.**

If you are using the ELOM CLI.

- **Enter the following commands:**
 - > **cd /SP/SystemInfo/CtrlInfo**
 - > **set BootCtrl=BIOSSetup**

Emulex HBA Errors

Bus uncorrectable errors will appear in SEL log with the Emulex host bus adapter (HBA). Testing has found no functional issues.

Network Boot Moves to the Top of the Boot Order After Unmounting the Virtual CD-ROM

After unmounting the virtual CD-ROM, Network will move to the top of the boot order replacing the CD-ROM, if one is present.

Workaround:

Enter the BIOS, and change the boot order.

Virtual Storage Device Is Not Readable

When you are using the web GUI with Mozilla or Firefox on a Solaris operating system, the virtual storage device is not readable in some instances.

Workaround:

Restart the browser.

Sometimes a Virtual Device Does Not Mount After Unmounting on Mozilla or Firefox on Solaris

In some instances, the virtual device will not remount after it has been unmounted.

Workaround:

- **Reboot the system that is running the remote console.**

Remote Console Screen Appears White or Gray

- In some instances, after launching the Remote Console on a Solaris 10 or Windows system, the console window will change to white.
- After performing a remote firmware update, the Sun Fire X2100 server will reboot to flash the system BIOS. During the reboot, the Remote Console windows will appear gray with no text on a non-Windows system.

Web GUI Remote Console Might Close Out on Solaris and Linux Operating Systems

In some instances, the web GUI will suddenly disappear.

The Hostname Mismatch Dialog Box Is Hidden After Logging Into the Web GUI

When logging into the web GUI, the Hostname Mismatch dialog box is displayed for a few seconds, and then it moves behind the web browser window. If Run is not clicked in the Hostname Mismatch dialog box, the web GUI will not react to any mouse clicks until the other dialog box is closed.

Workaround:

Minimize the web browser windows, and click Run on the Hostname Mismatch dialog box.

SP Connectivity Might Be Lost During a Remote Installation of Solaris Using the Virtual CD-ROM

This issue only happens on a small number of remote installations. If the connectivity is lost, a new installation is required.

System Time with SP CLI Commands

You will not be able to see the system time when using CLI commands with the ELOM SP. You will need to use the ELOM web GUI to view the system time.

