Sun Fire X4100 M2/X4200 M2 Servers Release Notes for Software Release 2.0.1, 2.1, 2.2, and 2.3

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Contents

Preface

This document contains information specifically related to the software release, including relevant component version numbers, the procedure for upgrades, and issues related to upgrades.

Related Documentation

Documentation for the Sun Fire X4100 M2 and X4200 M2 servers is available at:

http://docs.sun.com/app/docs/coll/x4100m2

Translated versions of some of these documents are available in French, Simplified Chinese, Traditional Chinese, Korean, and Japanese.

http://docs.sun.com/app/docs/coll/x4100m2-fr?l=fr
http://docs.sun.com/app/docs/coll/x4100m2-zh?l=zh
http://docs.sun.com/app/docs/coll/x4100m2-zh_TW?l=zh_TW
http://docs.sun.com/app/docs/coll/x4100m2-ko?l=ko
http://docs.sun.com/app/docs/coll/x4100m2-ja?l=ja

English documentation is revised more frequently and might be more up-to-date than the translated documentation.

For all Sun software and hardware manuals, go to:

http://docs.sun.com

For other documentation, go to:

http://www.sun.com/documentation

Product Updates

For product updates that you can download for the server, please follow the links from the following Web site:

http://www.sun.com/download

This site contains updates for firmware and drivers, as well as CD-ROM `.iso` images.

Contacting Sun Technical Support

If you have technical questions about the server that are not answered in this document, go to:

http://www.sun.com/service/contacting

See the Support menu for links to the Knowledgebase.

If you need to contact Sun technical support, please have the following information available so that we can best assist you in resolving problems:

- Description of the problem, including the situation where the problem occurs and its impact on your operation
- Machine type, operating system version, and product version, including any patches and other software that might be affecting the problem
- Detailed steps on the methods you have used to reproduce the problem
- Any error logs or core dumps

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Sun Fire X4100 M2/X4200 M2 Servers Release Notes for Software Release 2.0.1, 2.1, 2.2, and 2.3, 820-5023-15

Description of Software 2.0.1, 2.1, 2.2, and 2.3

This chapter describes the contents of Software 2.0.1, 2.1, 2.2, and 2.3. It has the following sections:

- "AMD Opteron Quad-Core Processor Support" on page 1
- "Operating System Support" on page 2
- "Software Versions and Enhancements" on page 4
- "Component Versions By Release" on page 6
- "Drivers for Option Cards" on page 9
- "Supported DIMMs" on page 9
- "Software Release Special Considerations" on page 9
- "Software Issues Resolved in This Release" on page 11

AMD Opteron Quad-Core Processor Support

Release 2.0.1 adds support for AMD Opteron quad-core processors. If you plan to replace your dual-core processor with a quad-core processor, you must upgrade the system firmware to the versions included in this release before replacing the processor.

Operating System Support

For a current list of supported operating systems for these servers, refer to the following web pages:

http://www.sun.com/servers/entry/x4100/os.jsp
http://www.sun.com/servers/entry/x4200/os.jsp

Release 2.0.1

Software release 2.0.1 supports the following operating systems:

- Solaris 10 OS 8/07
- Red Hat Enterprise Linux 5, and 5 Update 1 (64-bit)
- Red Hat Enterprise Linux 4 Update 5, and Update 6 (32-bit and 64-bit)
- Red Hat Enterprise Linux 3 Update 9 (64-bit, Opteron quad-core not supported)
- SUSE Linux Enterprise Server 10 SP1 (64-bit)
- SUSE Linux Enterprise Server 9 SP3 (64-bit, Opteron quad-core not supported)
- Windows 2003 Server SP2 (32-bit and 64-bit)
- VMware ESX 3.0.2 Update 1 (Opteron quad-core not supported)

Release 2.1

Software release 2.1 supports the following operating systems in addition to the operating systems in the previous release:

- Solaris 10 OS 5/08
- Red Hat Enterprise Linux 5 and 5 Update 1 (64-bit), and 5.2 (64-bit).
- Red Hat Enterprise Linux 4 Update 5
- Linux 4 Update 6 (32-bit and 64-bit)
- Red Hat Enterprise Linux 3 Update 9 (64-bit, Opteron quad-core not supported)
- SUSE Linux Enterprise Server 10 SP1 and 10 SP2 (64-bit)
- SUSE Linux Enterprise Server 9 SP4 (64-bit)
- SUSE Linux Enterprise Server 9 SP3 (64-bit, Opteron quad-core not supported)
- Windows 2003 Server SP2 (32-bit and 64-bit)
- Windows 2008 Data Center (32-bit and 64-bit)

- VMware ESX 3.0.2 Update 1 and 3.5.0 Update 1

Release 2.2

Software release 2.2 supports the following operating systems in addition to the operating systems in previous releases:

- Solaris 10 OS 10/08
- Red Hat Enterprise Linux 3 Update 9 (64-bit)
- Red Hat Enterprise Linux 4 Update 6, and 4 Update 7 (32-bit and 64-bit)
- Red Hat Enterprise Linux 5 Update 2 (64-bit)
- Red Hat Enterprise Linux 5 Update 1 (64-bit)
- SUSE Linux Enterprise Server 10 SP2 (quad-core, 64-bit)
- SUSE Linux Enterprise Server 10 SP1 (quad-core, 64-bit)
- SUSE Linux Enterprise Server 9 SP4 (quad-core)
- SUSE Linux Enterprise Server 9 SP3 (dual-core, 64-bit)
- Windows 2003 Server SP2 and Windows 2008 (32-bit and 64-bit)
- VMware ESX 3.0.3 and 3.5 Update 2 (quad-core)

Release 2.3

Software release 2.3 supports the following operating systems in addition to the operating systems in previous releases:

- Solaris10 OS 5/09
- Red Hat Enterprise Linux 4 Update 8
- Red Hat Enterprise Linux 5 Update 3
- SUSE Linux Enterprise Server 10 SP2 (quad-core, 64-bit)
- SUSE Linux Enterprise Server 11
- Windows 2003 Server SP2 and Windows 2008 SP2 (32-bit and 64-bit)
- VMware ESX 4.0 (quad-core)
- VMware ESX 3.5 Update 3 and 4 (quad-core)

Software Versions and Enhancements

Release 2.0.1

Software Release 2.0.1 includes the following software:

- Intel network teaming
- LSI MPT SAS firmware 1.23.90 and MPT BIOS 6.18.01 (Phase 11)
- BIOS 79 (0ABJX079)
- ILOM Service Processor firmware 2.0.2.5, build 30859
- Bootable Diagnostics CD 2.3.1 which includes SunVTS 6.4ps2
- Sun Installation Assistant (SIA) for Linux and Windows CD version 2.0.150, with thumb drive support
- Tools and Drivers CD version 2.0
- MSM 2.29 for Linux and Windows
- LSI SNMP agent
- LSI cfggen utility (DOS version) for configuration of RAID arrays on internal disks
- SunCFG utility (DOS version) for configuration of BIOS and ILOM
- IPMItool and IPMIflash 1.8.9

Release 2.1

Software Release 2.1 includes the following software:

- Intel network teaming
- LSI MPT SAS firmware 1.23.90 and MPT BIOS 6.18.01 (FW12390_B61801.iso)
- BIOS 81 (0ABJX081)
- ILOM Service Processor firmware 2.0.2.10, build 35249
- Bootable Diagnostics CD 2.3.1 which includes SunVTS 7.0ps2
- Sun Installation Assistant (SIA) for Linux and Windows CD version 2.1.6, with thumb drive support
- Tools and Drivers CD version 2.1
- MSM 2.63 for Linux and Windows
- LSI SNMP agent

- LSI cfggen utility (DOS version) for configuration of RAID arrays on internal disks
- SunCFG utility (DOS version) for configuration of BIOS and ILOM
- IPMItool and IPMIflash 1.8.9.4

Release 2.2

Software Release 2.2 includes the following software:

- Intel network teaming
- LSI MPT SAS firmware 1.23.90 and MPT BIOS 6.18.01 (FW12390_B61801.iso)
- BIOS 102 (0ABJX102)
- ILOM Service Processor firmware 2.0.2.10, build 38793
- Bootable Diagnostics CD 7.0 PS4 which includes SunVTS 7.0ps4
- Sun Installation Assistant (SIA) for Linux and Windows CD version 2.2.2, with thumb drive support
- Tools and Drivers CD version 2.2
- MSM 2.88 for Linux and Windows
- LSI SNMP agent
- LSI cfggen utility (DOS version) for configuration of RAID arrays on internal disks
- IPMItool and IPMIflash 1.8.9.4

Release 2.3

Software Release 2.3 includes the following software:

- Intel network teaming
- LSI MPT SAS firmware 1.27.00 and MPT BIOS 6.26.00 (FW12700_B62600.iso)
- BIOS 104 (0ABJX104)
- ILOM Service Processor firmware 2.0.2.10, build 44276
- Bootable Diagnostics CD 7.0 PS4 which includes SunVTS 7.0ps4
- Sun Installation Assistant (SIA) for Linux and Windows CD version 2.2.20.0, with thumb drive support
- Tools and Drivers CD version 2.3
- MSM 2.9 for Linux and Windows
- LSI SNMP agent

- LSI `cfggen` utility (DOS version) for configuration of RAID arrays on internal disks
- IPMItool and IPMIflash 1.8.9.4
- HERD 2.0

Component Versions By Release

This section lists the component versions for the various releases of the Sun Fire X4100 M2/X4200 M2 servers.

TABLE 1-1   Server Release 2.3 Component Versions

	Version and Build	
Component Name	**X4100 M2 Server Versions**	**X4200 M2 Server Versions**
ILOM	Version 2.0.2.10, build 44276	Version 2.0.2.10, build 44276
BIOS	Version 104 (0ABJX104)	Version 104 (0ABJX104)
LSI Firmware/BIOS	Version 1.27.00, Version 6.26.00	Version 1.27.00, Version 6.26.00

TABLE 1-2   Server Release 2.2 Component Versions

	Version and Build	
Component Name	**X4100 M2 Server Versions**	**X4200 M2 Server Versions**
ILOM	Version 2.0.2.10, build 38793	Version 2.0.2.10, build 38793
BIOS	Version 102 (0ABJX102)	Version 102 (0ABJX102)
LSI Firmware/BIOS	Version 1.23.90, Version 6.18.01	Version 1.23.90, Version 6.18.01

TABLE 1-3   Server Release 2.1 Component Versions

	Version and Build	
Component Name	**X4100 M2 Server Versions**	**X4200 M2 Server Versions**
ILOM	Version 2.0.2.10, build 35249	Version 2.0.2.10, build 35249
BIOS	Version 81 (0ABJX081)	Version 81 (0ABJX081)
LSI Firmware	Version 1.23.90, Version 6.18.01	Version 1.23.90, Version 6.18.01

TABLE 1-4   Server Release 2.0.1 Component Versions

Component Name	Version and Build	
	X4100 M2 Server Versions	X4200 M2 Server Versions
ILOM	Version 2.0.2.5, 30859	Version 2.0.2.5, build 30859
BIOS	Version 79 (0ABJX079)	Version 79 (0ABJX079)
LSI Firmware	Version 1.23.90, Version 6.18.01	Version 1.23.90, Version 6.18.01

TABLE 1-5   Server Release 2.0 Component Versions

Component Name	Version and Build	
	X4100 M2 Server Versions	X4200 M2 Server Versions
ILOM	Version 2.0.2.5, 30859	Version 2.0.2.5, build 30859
BIOS	Version 77 (0ABJX077)	Version 77 (0ABJX077)
LSI Firmware	Version 1.23.90, Version 6.18.01	Version 1.23.90, Version 6.18.01

TABLE 1-6   Server Release 1.4 Component Versions

Component Name	Version and Build	
	X4100 M2 Server Versions	X4200 M2 Server Versions
ILOM	Version 2.0.2.1, build 27740	Version 2.0.2.1, build 27740
BIOS	Version 44 (0ABJX044)	Version 44 (0ABJX044)
LSI Firmware	Version 1.22.01, Version 6.16.00	Version 1.22.01, Version 6.16.00

TABLE 1-7   Server Release 1.3a Component Versions

Component Name	Version and Build	
	X4100 M2 Server Versions	X4200 M2 Server Versions
ILOM	Version 2.0.2.1, build 26075	Version 2.0.2.1, build 26075
BIOS	Version 44 (0ABJX044)	Version 44 (0ABJX044)
LSI Firmware	Version 1.22.01, Version 6.16.00	Version 1.22.01, Version 6.16.00

TABLE 1-8   Server Release 1.2 Component Versions

| Component Name | Version and Build | |
	X4100 M2 Server Versions	X4200 M2 Server Versions
ILOM	Version 1.1.8, build 18244	Version 1.1.8, build 18244
BIOS	Version 39 (0ABJX039)	Version 39 (0ABJX039)
LSI Firmware	Version 1.16.40, Version 6.14.04	Version 1.16.40, Version 6.14.04

TABLE 1-9   Server Release 1.1 Component Versions

| Component Name | Version and Build | |
	X4100 M2 Server Versions	X4200 M2 Server Versions
ILOM	Version 1.1.1, build 16057	Version 1.1.1, build 16057
BIOS	Version 34 (0ABJX034)	Version 34 (0ABJX034)
LSI Firmware	Version 1.16, Version 6.10.00b	Version 1.16, Version 6.10.00b

TABLE 1-10   Server Release 1.0 and 1.0.1 Component Versions

| Component Name | Version and Build | |
	X4100 M2 Server Versions	X4200 M2 Server Versions
ILOM	Version 1.0.7, build 13141	Version 1.0.7, build 13141
BIOS	Version 24 (0ABJX024)	Version 24 (0ABJX024)
LSI Firmware	Version 1.16, Version 6.06.06	Version 1.16, Version 6.06.06

Drivers for Option Cards

Option cards supported by operating systems are listed on the platform-specific product webpage under Companion Products. To check if the driver of your option card is available for download, check the Option Cards link on the Product Page.

For example, Sun Fire X4100 M2 platform page and related option card are:

http://www.sun.com/servers/entry/x4100/
http://www.sun.com/servers/entry/x4100/optioncards.jsp

For complete platform listings:

http://www.sun.com/servers/index.jsp?tab=2

Supported DIMMs

For a list of supported DIMMs on the system, see section "Replacing DIMMs" in the chapter "Maintaining the Sun Fire Servers" in *Sun Fire™ X4100/X4100 M2 and X4200/X4200 M2 Servers Service Manual*.

Software Release Special Considerations

Caution – Solaris Users: Refer to Product Notes for critical issues 6556867 and 6490454.

Reset CMOS After Upgrade or Downgrade Past 2.0 (6684888)

The system BIOS in Software 2.0 contains significant changes designed to support AMD Opteron quad-core CPUs. These changes make it necessary to reset the CMOS after upgrading from a pre-2.0 BIOS to a BIOS contained in Software 2.0 or later. You also need to reset the CMOS after a downgrade from 2.0 or later to a pre-2.0 BIOS.

To reset the CMOS, enter the BIOS setup menu, load the default settings, and then save the changed settings.

If you cannot enter the BIOS setup screen, or cannot boot the system after resetting the CMOS, you must clear the CMOS. Refer to "Using the Clear CMOS Jumper TP51/TP52 or J9" in the *Sun Fire X4100/X4100 M2 and X4200/X4200 M2 Servers Service Manual*.

ILOM Upgrade Must Be Done Twice (6700194)

ILOM 2.0.2.5, 30859 contains a fix for a problem that occurs with the ILOM console. In order to ensure that this fix is properly installed, perform the ILOM upgrade twice.

For more information on this issue, see the *Sun Fire X4100 M2/X4200 M2 Servers Product Notes*, "Resetting SP Without Rebooting the OS Disables Console (6673674)."

Firmware Downgrade Might Require Special Steps

If you downgrade the firmware while using the GUI, CLI, or N1 System Manager, a message might prompt you to repeat the process. This does not indicate a problem; simply repeat the procedure as instructed and it will succeed.

The new ILOM flash process does not power off the host unless a new BIOS is required. To force the updating of all components (including the BIOS) and therefore power off the host, use the CLI load command as shown below:

```
load -f -source tftp://tftpserver/ilom.firmware.ima
```

where `ilom.firmware.ima is the image file`, for example, ilom.x4100.1.1.1-r15632.ima.

Software Issues Resolved in This Release

Cannot Log in to ILOM Web Interface After Flashing New Image (6513809)

(Fixed in Software 1.3a.)

After flashing a new image, you may not be able to log in to the ILOM web interface. This can happen if the Ilom web interface is open when the new image is flashed.

Workaround

Clear the browser's cache and cookies.

Cannot Log in to the Service Processor with 16-Character Passwords using ILOM Web Interface or CLI (6286187)

(Fixed in Software 1.3a.)

If your password contains exactly 16 characters, you will not be able to log in to the service processor (SP) using either the ILOM web interface or CLI.

Workaround

Choose a password containing fewer than 16 characters.

ILOM Upgrade Might Fail BIOS Flash (6499287)

(Fixed in Software 1.1.)

ILOM service processor might not successfully update the BIOS version if a previous flash upgrade has failed.

This issue applies only up to ILOM 1.1.1.

Workaround

If the BIOS version is not correct after ILOM flash upgrade completes, force the BIOS flash upgrade using the -f force flag on the ILOM CLI load command.

SIA Upgrade of BIOS/LSI Firmware Not Supported (6683735)

Upgrading the BIOS and LSI firmware using the Sun Installation Assistant (SIA) utility is not supported in release 2.0. Upgrading the Service Processor (ILOM) firmware is supported.

For more information on SIA, refer to the *Sun Installation Assistant for Windows and Linux User's Guide*.

Software Update Procedures

This chapter describes how to update your firmware. See the following sections:

- "Updating Your Server Firmware" on page 13
- "Verifying the Firmware Version" on page 16
- "Locating ILOM SP IP Addresses" on page 19
- "How to Reset the SP" on page 19
- "Recovering From a Failed Flash Update" on page 20

Caution – Be sure that you apply only M2 updates to your M2 server. If your server is not an M2 server, be sure to get the correct downloads and documentation. For details on how to tell whether you have an M2 server or an earlier Sun Fire X4100/X4200 family server, refer to *Methods to Differentiate Sun Fire X4100 and X4200 from Sun Fire X4100 M2 and X4200 M2 Servers*, 820-0373.

Updating Your Server Firmware

The Integrated Lights Out Manager (ILOM) firmware and BIOS are tightly coupled and are always updated together. The LSI firmware is usually updated at the same time as the BIOS and ILOM; LSI firmware can be updated before or after the BIOS and ILOM firmware.

There are two major steps to updating your server firmware:

- "Updating the BIOS and ILOM Firmware" on page 14
- "Updating the LSI Firmware" on page 15

Note – The LSI firmware version and the BIOS version must be from the same software release.

Updating the BIOS and ILOM Firmware

Caution – To ensure a successful update, do *not* attempt to modify the ILOM configuration, or use other ILOM GUI, CLI, SNMP, or IPMI interfaces, during the flash update process. Wait until after the update succeeds before making further ILOM configuration changes. The update requires a system server, and takes about 20 minutes.

1. Determine the current version of the ILOM firmware. See "Verifying the Firmware Version" on page 16.

2. Review the section "Software Release Special Considerations" on page 9 for known issues and considerations regarding the flash update.

3. Download the latest flash image from one of the following locations:

   http://www.sun.com/servers/entry/x4100/downloads.jsp
   http://www.sun.com/servers/entry/x4200/downloads.jsp

4. Use the ILOM GUI, the ILOM CLI `load` command, or N1 System Manager to perform the firmware update.

Note – Due to the increased memory use during web-based GUI operations, you might need to use N1 System Manager or the ILOM CLI `load` command to update the ILOM firmware. For details, refer to the N1 System Manager documentation or the *Integrated Lights-Out Manager Administration Guide*. Online documentation for Sun N1 System Manager can be found at: http://docs.sun.com/coll/1283.2

From the ILOM CLI, use the following command:

`load -source tftp://`*tftpserver*`/ilom.`*firmware*`.ima`

where *tftpserver* is the server that contains the update and ilom.*firmware*.ima is the image file.

For example:

```
ilom.x4100.2.0.2.5-r30859.ima
ilom.x4200.2.0.2.5-r30859.ima
```

For more details on performing the update, see "Updating the LSI Firmware" on page 15.

Note – On systems runing the Solaris OS, you will need to perform this step twice. For more information, see "ILOM Upgrade Must Be Done Twice (6700194)" on page 10

Note – If you have any problems with the flash update, refer to the section"Recovering From a Failed Flash Update" on page 20.

Updating the LSI Firmware

Caution – During an update, never power off the system.

Remote Method

1. **Connect to the ILOM and open the ILOM GUI.**

   `https://`*sp_ip_address*

   where *sp_ip_address* is the IP address of the service processor.

2. **Select Remote Control –> Redirection.**

3. **Select 8-bit or 16-bit color.**

4. **Select Launch Redirection.**

5. **Respond to all prompts.**

6. **At the login prompt for the JavaRconsole window, type** `root`**, and then type the root password.**

7. **In the JavaRconsole window, select Devices.**

8. **Attach to the LSI firmware update image** `.iso` **file. At the pop-up screen, select the CD-ROM image.**

   A check mark is displayed on the drop-down menu selection.

9. **Select Remote Control -> Remote Power Control in the ILOM GUI.**

10. **Select Power –> Action –> Reset.**

11. **When the system reboots, select "1" (***Perform the Update***) from the JavaRconsole window.**

    The update proceeds. When complete, the console responds with a new prompt.

12. **In the JavaRConsole window select Devices -> CDROM Image to detach the LSI firmware update** `.iso` **file.**

13. **Select JavaRConsole Keyboard -> Control Alt Delete.**

14. **On system boot up, you will notice the new LSI firmware version.**

Local Method

1. **Download the LSI firmware** `.iso` **file from the Sun Fire X64 servers website and burn it to a bootable CD.**

Note – The bootable CD appears blank when viewed using the operating system, but that is expected behavior (CR6554839).

---

2. **Insert the bootable CD and reboot the server.**

   The firmware is upgraded.

3. **Reboot the system.**

More on Updating the LSI Firmware

For information about the LSI firmware and BIOS, see the documentation files that accompany the LSI download. For LSI firmware versions included in this release, see "Component Versions By Release" on page 6.

Verifying the Firmware Version

There are three alternate procedures in this section that you can use:

- "Verifying the Firmware Version Using the CLI Through the Management Ethernet Port" on page 17
- "Verifying the Firmware Version Using the CLI Through the Serial Port" on page 17
- "Verifying the Firmware Version Using the ILOM Web Interface" on page 18

Verifying the Firmware Version Using the CLI Through the Management Ethernet Port

1. **Connect an RJ-45 Ethernet cable to the NET MGT Ethernet port on the back panel.**

2. **Establish an SSH connection using the following command, then enter the default password** (changeme) **when you are prompted:**

   # ssh -l root *sp_ip_address*

   changeme

   After you have successfully logged in, the SP displays its default command prompt:

   ```
   ->
   ```

3. **Type the** version **command, which returns output similar to the following:**

   ```
   -> version
   SP firmware version: 1.0
   SP firmware build number: 10644
   SP firmware date: Tue Sep 13 12:50:37 PDT 2006
   SP filesystem version: 0.1.13
   ```

   The ILOM firmware build is listed above.

Verifying the Firmware Version Using the CLI Through the Serial Port

1. **Configure your terminal device or the terminal emulation software running on a laptop or PC to the following settings:**

   - 8N1: eight data bits, no parity, one stop bit
   - 9600 baud
   - Disable hardware flow control (CTS/RTS)
   - Disable software flow control (XON/XOFF)

2. **Connect a serial cable from the RJ-45 SER MGT port on your server's back panel to your terminal device or PC.**

3. **Press Enter on the terminal device to establish a connection between that terminal device and the server's SP.**

   The SP displays a login prompt.

   SUNSP*0003BA84D777* `login:`

   In this example login prompt, *0003BA84D777* is the Ethernet MAC address of the SP. This will be different for each server.

4. **Log in to the ILOM SP and type the default user name (`root`) with the default password (`changeme`).**

   After you have successfully logged in, the SP displays its default command prompt:

   `->`

5. **Type the `version` command, which returns output similar to the following:**

   `-> version`

   ```
   SP firmware version: 1.0
   SP firmware build number: 10644
   SP firmware date: Tue Sep 13 12:50:37 PDT 2006
   SP filesystem version: 0.1.13
   ```

   The ILOM firmware build version is the `build number` listed above.

Verifying the Firmware Version Using the ILOM Web Interface

1. **Connect to the ILOM web interface by typing the IP address of the server's SP into your browser's address field. For example:**

   `https://129.146.53.150`

2. **Log in to the ILOM SP and type the default user name (`root`) with the default password (`changeme`).**

   The first web page presented is the System Information -> Versions page, which includes the Build Number.

Locating ILOM SP IP Addresses

There are several methods you can use to locate ILOM SPs and their IP addresses.

- Sun N1 System Manager. Sun N1 System Manager provides the capability to display the ILOM SP IP addresses of managed systems with the `n1sh` command.

  For example, the following command can be used to create a list of Sun Fire X4100/X4200 servers' ILOM SP IP addresses:

  ```
  n1sh show server | grep 'X4[12]00'
  ```

- DHCP server. Refer to the ILOM User's Guide for your ILOM version for instructions on how to determine the IP address of a single server.

- Linux and Solaris open-source `nmap` command. The open-source `nmap` command provides a `-p` port option to scan for port 623, which can be used to quickly detect IPMI-enabled devices on a network. For example:

  ```
  nmap -p 623 10.6.154.1/24
  ```

How to Reset the SP

To reset the ILOM SP:

- From the ILOM SP graphical web interface, navigate to the Maintenance tab, then use the Reset SP action.

- From the ILOM CLI, use the following command:

  reset /SP

- Using IPMItool, use the following command:

  ipmitool -U root -P *password* **-H** *sp_ip_address* **bmc reset cold**

- You can also reset the ILOM SP by shutting down the host, then removing and restoring AC power cords to the system.

For more on this topic, refer to the the ILOM User's Guide for your ILOM version.

Recovering From a Failed Flash Update

Several issues have been identified with the firmware update, which could result in a failed or incomplete firmware update. This section describes how to recover from a failed ILOM firmware update.

Use the following procedure to recover from a failed firmware update. Note that in a small percentage of cases (such as when no output is displayed on the SP serial port), the Graphics Redirect and Service Processor (GRASP) board must be replaced.

Prerequisites

- A trivial file-transfer protocol (TFTP) server is required to reload the ILOM firmware.
- The host system must remain powered off for the duration of the recovery process.

Note – Numbers printed are in hexadecimal unless otherwise noted.

▼ To Recover From a Failed Flash Update

1. **Determine whether the ILOM SP first-level booter (referred to in this procedure as U-Boot) is intact.**

   Refer to the *Sun Fire X4100/X4100 M2 and X4200/X4200 M2 Servers Installation Guide*, 819-1155, for details to do the following:

   a. **Connect to the SP serial port.**

   b. **Apply power to the system.**

   c. **Observe the initial ILOM boot messages.**

   If no screen output is displayed, stop here. The GRASP board must be replaced. Refer to the *Sun Fire X4100/X4100 M2 and X4200/X4200 M2 Servers Service Manual*, 819-1157, for instructions.

   If screen output is displayed, continue to the next step.

2. **Enter the ILOM SP U-Boot command interpreter with `xyzzy`.**

   When the message, `Booting linux in 2 seconds...` is displayed, during ILOM initial boot, type **`xyzzy`** to enter the U-Boot command interpreter.

Note – The characters typed will not echo. Cutting and pasting the characters improves the chance of success. You might need to try the process of applying power to the system and entering **xyzzy** several times.

3. **Disable automatic reboot.**

   Set the U-Boot environment variable, bootretry, to -1 to temporarily disable automatic reboot:

   set bootretry -1

4. **Configure the network for TFTP access.**

   a. **Copy the ILOM SP firmware image to a TFTP server that is accessible on the same IP subnet as the ILOM SP network port.**

   b. **Set the IP address for the ILOM SP and the TFTP server IP address by setting the** ethaddr **and** serverip **U-Boot variables.**

   set ipaddr *n.n.n.n*
   set serverip *n.n.n.n*

   where n.n.n.n is the static address.

5. **Use the U-Boot** tftp **command to download the ILOM firmware image.**

   tftp 100000 ilom.firmware.ima

   where ilom.*firmware*.ima is the image file, for example, ilom.x4100.1.1.1-r15632.ima.

Note – If the TFTP server or filename is incorrect, you might need to enter ^C to halt the tftp command, then repeat this recovery procedure.

Be sure that the complete flash image is downloaded successfully before proceeding. You should see a message similar to:

```
=> tftp 100000 r10644.rom.ima
Using FCC1 ETHERNET device
TFTP from server 10.6.154.8; our IP address is 10.6.154.99
Filename 'r10644.rom.ima'.
Load address: 0x100000
Loading:
#############################################################
#############################################################
#############################################################
#############################################################
#########################
done
```

```
Bytes transferred = 13107200 (c80000 hex)
```

6. **Confirm that the download succeeded:**

   a. **Confirm that the** `tftp` **command output ends with**

   ```
   Bytes transferred = ByteCount
   ```

   b. **Use the** `md` **command and confirm that its output displays strings from the beginning of the firmware image file. For example:**

   ```
   => md 100000
   00100000: 244d4f44 554c4524 01004000 00000200   $MODULE$..@.....
   00100010: 00000000 000000f2 67726173 70000000   ........grasp...
   00100020: 01000200 40000000 61000000 0000ffff   ....@...a.......
   00100030: ffff0000 00000100 00000000 0000aa55   ...............U
   00100040: 46575f56 45525349 4f4e3d31 2e302e31   FW_VERSION=1.0.1
   00100050: 0a46575f 44415445 3d4d6172 20203320   .FW_DATE=Mar  3
   00100060: 32303036 0a46575f 4255494c 4454494d   2006.FW_BUILDTIM
   00100070: 453d3130 3a35363a 30370a46 575f4445   E=10:56:07.FW_DE
   00100080: 53433d57 41524e49 4e47203a 20554e4f   SC=WARNING : UNO
   00100090: 46464943 49414c20 4255494c 44212120   FFICIAL BUILD!!
   001000a0: 0affffff ffffffff ffffffff ffffffff   ................
   ```

7. **Erase the existing ILOM flash image:**

> ⚠ **Caution –** Interrupting the flash recovery process from this point onwards, or entering an incorrect U-Boot command, might result in a disabled service processor, which will require replacement. DO NOT stop or remove power from the system from this point onward.

   a. **Erase the exiting flash image using the following commands:**

   ```
   erase ff380000 ffffffff
   erase 0xfe200000 0xff37ffff
   ```

   You will a series of dots showing progress, followed by a confirmation:

   ```
   ........................................................
   .................Erased 200/200 sectors
   ```

   b. **If a failure occurs, retry the** `erase` **command repeatedly until it succeeds.**

> **Note –** If a persistent failure occurs, the service processor is not flash-updatable, and must be replaced. Refer to the *Sun Fire X4100/X4100 M2 and X4200/X4200 M2 Servers Service Manual*, 819-1157, for details on replacing the GRASP board.

8. **Program the new ILOM firmware image:**

   a. **Use the U-Boot** `cp.b` **command to copy the new ILOM firmware image from the download location at 100000 to ff380000, until end address ffffffff.**

   For example:

   ```
   => cp.b 100000 ff380000 ffffffff
   Copy to Flash
   .............................................................
   .............................................................
   ...............done
   ```

   b. **Use the** `fmh` **command to verify the new ILOM firmware image.**

   Before resetting, make sure the copy succeeded, using the `fmh` command, which should display firmware sections. For example:

   ```
   => fmh
   Listing FMH Modules
   Flash Size : 32768 KB
   Erase Size : 64 KB
   Sector Count : 512

   FMH Located at 0xff380000 of Size 0x00020000
   Name    : grasp
   Ver     : 1.0
   Type    : 0x0002
   Flags   : 0x0000
   Size    : 0x00000061
   Location: 0xff380040
   LoadAddr: 0xffffffff
   CheckSum: Not Computed
   --------------------------------------------------

   FMH Located at 0xff3a0000 of Size 0x00120000
   Name    : sysbios
   Ver     : 1.31
   Type    : 0x0000
   Flags   : 0x0100
   Size    : 0x00100000
   Location: 0xff3c0000
   LoadAddr: 0xffffffff
   CheckSum: Valid
   --------------------------------------------------

   FMH Located at 0xff4c0000 of Size 0x000c0000
   Name    : osimage
   ```

```
Ver     : 1.0
Type    : 0x0006
Flags   : 0x0119
Size    : 0x000ac9c8
Location: 0xff4c0040
LoadAddr: 0x00c00000
CheckSum: Valid
...
```

Note – If the command output does not show anything, you may have entered an incorrect memory address. Repeat the `tftp`, `erase` and `cp.b` commands until the image is properly copied. Note that you must erase the existing firmware image before attempting to copy a new image.

---

9. **Reset the ILOM service processor.**

   Once you are certain that the service processor firmware image has been recovered, you can restart the service processor with the `reset` command.

   => reset

10. **Recover the system BIOS.**

Note – This manual ILOM SP recovery process does *not* reflash the system BIOS. Repeat the firmware update process, using the ILOM GUI or CLI procedures as described in "Updating Your Server Firmware" on page 13 and the refer to the *Integrated Lights Out Manager (ILOM) Administration Guide for ILOM*.

Be sure to reset your service processor and BIOS configuration settings as needed, because they might be lost during this recovery.