Sun Fire™ X4500 Server Release Notes for Software Releases 1.4, 1.5, 1.6, and 1.7

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Preface

This document contains procedures and special information for upgrading your Sun Fire™ X4500 server to the software release 1.4, 1.5, 1.6, and 1.7.

Related Documentation

All Sun hardware and software documentation is available at:

http://docs.sun.com

For other documentation, go to:

http://www.sun.com/documentation

For the most up-to-date information about the Sun Fire X4500/X4540 server, navigate to the Sun Fire X4500/X4540 document collection using the High-End Servers and x64 Servers product category links.

Translated versions of some of these documents might also be available after the product's world-wide release date. Select a language from the drop-down list and browse or navigate to the Sun Fire X4500/X4540 x64 document collection. Available translations for the Sun Fire servers include Simplified Chinese, Traditional Chinese, French, Japanese, and Korean.

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

Product Updates

For product updates that you can download for the Sun Fire X4500 server, follow the links at the following Web site:

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

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 Sun Fire X4500 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.

Support and Training

The Sun web site provides information about the following additional resources:

Sun Function	URL
Support	http://www.sun.com/support/index.jsp
Training	http://www.sun.com/training
Warranty	http://www.sun.com/service/support/warranty/index.html

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Sun Fire X4500 Server Release Notes For Software Releases 1.4, 1.5, 1.6, and 1.7, 820-3840-14.

CHAPTER 1

Flash Upgrading Your Server

This chapter contains procedures and information for upgrading Sun Fire X4500 server to software release 1.6 from software release 1.4.

Note – You must upgrade from the last software release. For example, if you have software release 1.0, you must upgrade to software release 1.1 and then upgrade to software release 1.2, then 1.3.

The Integrated Lights Out Manager (ILOM) firmware (FW) and BIOS are tightly coupled and are always updated together.

See the following sections:

- "Software Release 1.4" on page 2
- "Software Release 1.5" on page 2
- "Software Release 1.6" on page 2
- "Software Release 1.7" on page 3
- "Component Versions By Release" on page 3
- "BIOS Updates for Release 1.7" on page 6
- "Overview" on page 7
- "Locating the Service Processor IP Address" on page 7
- "Determining Your Current Firmware Versions" on page 8
- "Downloading New Firmware" on page 11
- "Flashing the ILOM SP/BIOS Firmware" on page 12
- "Resetting the Service Processor" on page 14
- "Downgrading to a Previous ILOM Release" on page 15
- "Special Considerations Regarding the ILOM Firmware 1.1.8 Update" on page 15
- "Recovering From a Failed Flash Update" on page 17

Software Release 1.4

This software release contains new ILOM FW and BIOS upgrades, plus a number of optional enhancements:

- ILOM FW version 2.0.2.1, which includes service processor (SP) build r26849 and BIOS 20.
- New Bootable CD image, which includes the SunVTS 6.3 PS1 build.
- New Sun Installation Assistant CD image with Linux and Windows installations.
- New Tools and Drivers software, which includes these enhancements.
- New IPMItool version 1.8.9.1.

Software Release 1.5

This software release contains new ILOM FW and BIOS upgrades, plus a number of optional enhancements:

- ILOM FW version 2.0.2.5, which includes service processor (SP) build 34717 and BIOS 22.
- New Bootable CD image, which includes the SunVTS 6.4 PS3 build.
- New Sun Installation Assistant CD image with Linux and Windows installations.
- New Tools and Drivers software, which includes these enhancements.
- New IPMItool version 1.8.9.4.

Software Release 1.6

- ILOM 2.0.2.5, which includes service processor (SP) build 42219 and BIOS 24.
- New Bootable CD image, which includes the SunVTS 7.0 PS4 build.
- New Sun Installation Assistant CD 2.2.10 image with Linux, Windows, and RHEL 5 installations.
- New Tools and Drivers software, which includes these enhancements.
- New HERD version 2.0.

Software Release 1.7

- ILOM FW version 2.0.2.5, which includes service processor (SP) build 47053 and BIOS 25.

Component Versions By Release

The SP and BIOS must always be updated together as a bundle. Separate BIOS updates or separate SP updates are not supported.

To learn more about Integrated Lights Out Manager (ILOM), see the appropriate ILOM documentation.

The following tables list the Sun Fire X4500 software component versions for the following software releases:

- TABLE 1-1 — Release 1.0.3 (first release).
- TABLE 1-2 — Release 1.1.
- TABLE 1-3 — Release 1.2.
- TABLE 1-4 — Release 1.3.
- TABLE 1-5 — Release 1.4.
- TABLE 1-6 — Release 1.5.
- TABLE 1-7 — Release 1.6.
- TABLE 1-8 — Release 1.7.

TABLE 1-1 Server Release 1.0 Component Versions

Component Name	Sun Fire X4500 Server Version	Documentation
ILOM FW 1.0.3	SP build 11888	*Integrated Lights Out Manager (ILOM) Administration Guide* 819-1160
BIOS	0ABIG015	
Marvell SATA driver	Bundled with Solaris 10 OS	

TABLE 1-2 Server Release 1.1 Component Versions

Component Name	Sun Fire X4500 Server Version	Documentation
ILOM FW 1.1.1	SP build 15632	*Integrated Lights Out Manager (ILOM) Administration Guide for ILOM 1.1.1 (820-0280)*
BIOS	0ABIG018	
Marvell SATA driver for Linux and Windows OS	3.6.3_1	

TABLE 1-3 Server Release 1.2 Component Versions

Component Name	Sun Fire X4500 Server Version	Documentation
ILOM FW 1.1.8	SP build 18244	*ILOM Administration Guide for 1.1.1 (820-0280)*
BIOS	0ABIG019	
Marvell SATA Linux and Windows OS	3.6.3_2	

TABLE 1-4 Server Release 1.3 Component

Component Name	Sun Fire X4500 Server Version	Documentation
ILOM FW 1.1.8	SP Build 19341	*ILOM Administration Guide for 1.1.1 (820-0280)*
BIOS	0ABIG020	
Marvell SATA driver for Linux and Windows OS	3.6.3_2	

TABLE 1-5 Server Release 1.4 Component

Component Name	Sun Fire X4500 Server Version	Documentation
ILOM FW 2.0.2.1	SP Build 26333	*Sun Integrated Lights Out Manager 2.0 User's Guide (820-1188)*
BIOS	0ABIG020	
Marvell SATA driver for Linux and Windows OS	3.6.3_2	

TABLE 1-6 Server Release 1.5 Component

Component Name	Sun Fire X4500 Server Version	Documentation
ILOM FW 2.0.2.5	SP Build 34717	*Sun Integrated Lights Out Manager 2.0 User's Guide (820-1188)*
BIOS	0ABIG022	
Marvell SATA driver for Linux and Windows OS	3.6.3_2	

TABLE 1-7 Server Release 1.6 Component

Component Name	Sun Fire X4500 Server Version	Documentation
ILOM FW 2.0.2.5	SP Build 42219	*Sun Integrated Lights Out Manager 2.0 User's Guide (820-1188)*
BIOS	0ABIG024	
Marvell SATA driver for Linux and Windows OS	3.6.3_2	

TABLE 1-8 Server Release 1.7 Component

Component Name	Sun Fire X4500 Server Version	Documentation
ILOM FW 2.0.2.5	SP Build 47053	*Sun Integrated Lights Out Manager 2.0 User's Guide (820-1188)*
BIOS	0ABIG025	
Marvell SATA driver for Linux and Windows OS	3.6.3_2	

BIOS Updates for Release 1.7

The majority of the hardware error handling functions have been made available on the Sun Fire X4500 server in BIOS 25 to provide more diagnostic reports, improve boot conditions, and to assist support teams with improved usability and information. These added functions are:

- PCI-space register dumps.
- More BIOS progress reports.
- Mechanisms to help a failing PCI device.

Sun Fire X4500 ILOM 2.0.2.5 r47053 Update

The Sun Fire X4500 ILOM 2.0.2.5, r47053 update has included the Console history log feature—this functionality connects to system console and outputs the Console history log onto the SP. That log file can be dumped upon request using an SP command `show /SP/console/history`.

Console history has the following properties:

```
-> ls

 /SP/console
    Targets:
        history

    Properties:
        line_count = 25
        pause_count = 15
```

```
start_from = end
```

- `line_count`—Specifies how many lines of console log will be shown.
- `pause_count`—Specifies how many lines of console log will be shown before SP stops to show and waits for user input to continue.
- `start_from`—It can be configured with `end` or `beginning`.
  - `end`—Latest `line_count` lines of console log will be shown.
  - `beginning`—Oldest `line_count` lines of console log will be shown.

Overview

This section describes the processes for updating the firmware that resides on:

- The server itself (BIOS).
- The server's Service Processor (ILOM).

This basic procedure for the ILOM/BIOS update has these steps:

1. Obtain the IP address of the Service Processor. See "Locating the Service Processor IP Address" on page 7.
2. Log on to the Service Processor ILOM to check the versions of firmware you have. See "Determining Your Current Firmware Versions" on page 8.
3. Use the ILOM to download the new versions of firmware. See "Downloading New Firmware" on page 11.
4. Use the ILOM (or N1 System Manager, if supported) to install the new firmware. See "Flashing the ILOM SP/BIOS Firmware" on page 12.
5. Reset the Service Processor. See "Resetting the Service Processor" on page 14.

Also see "Recovering From a Failed Flash Update" on page 17.

Locating the Service Processor IP Address

The Service Processor (SP) on your Sun Fire server is used for various firmware update tasks, accessed by using its IP address.

Use one of the three methods listed here to locate the ILOM SP and IP address.

1. **Sun N1 System Manager** — This tool provides the capability to display the ILOM SP addresses of managed systems with the `n1sh` command.

   For example, the following command can be used to create a list of Sun Fire X4500 servers:

   ```
   n1sh show server | grep 'X4500'
   ```

2. **DHCP server** — See "ILOM Initial Setup" in the *Integrated Lights Out Manager Administration Guide*, 820-0280, for instructions on how to determine the IP address of a single server.

3. **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
   ```

Determining Your Current Firmware Versions

This section provides three methods of determining your firmware version build number:

- "Using the CLI Through the Management Ethernet Port" on page 8
- "Using the CLI Through the Serial Port" on page 9
- "Using the Web Interface" on page 10

Using the CLI Through the Management Ethernet Port

See your server's ILOM documentation for more detailed information on this procedure.

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:**

   `# ssh -l root` *SP-IP*

   where *SP-IP* is the IP address of the service processor.

3. **Enter the default password when you are prompted:**

   changeme

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

   ```
   ->
   ```

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

   ```
   -> version
   SP firmware version: 1.x.x
   SP firmware build number: 11888
   SP firmware date: Tue Sep 13 12:50:37 PDT 2006
   SP filesystem version: 0.1.13
   ```

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

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 is 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.x.x
SP firmware build number: 11888
SP firmware date: Tue Sep 13 12:50:37 PDT 2008
SP filesystem version: 0.1.13
```

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

Using the Web Interface

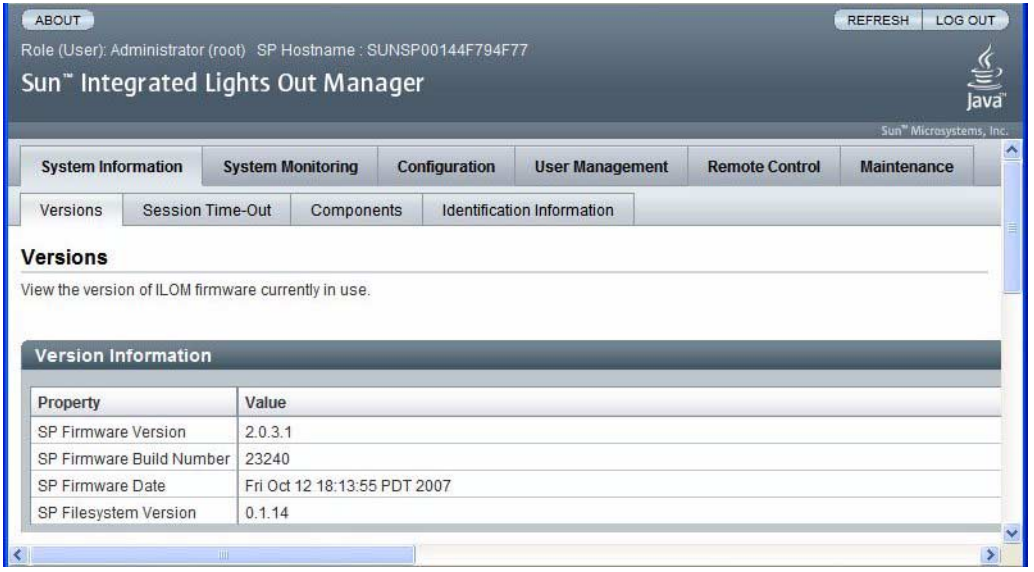
1. **Connect to the ILOM Web interface by typing the IP address of the server's SP into your browser's URL field. For example:**

   `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 that is presented is the System Information -> Versions page, which includes the Build Number.

FIGURE 1-1 System Information Version



How to Reset the SP

To reset the ILOM SP, you can do any of the following:

- 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* **`bmc reset cold`**

  where *SP-IP* is the IP address of the service processor.
- You can also reset the ILOM SP by shutting down the host, then removing and restoring AC power cords to the system.

For complete details, see the *Integrated Lights-Out Manager Administration Guide for ILOM 1.1.1.*

Downloading New Firmware

Download the flash image `.ima` file using these steps:

1. **Browse to** `http://www.sun.com/download/`
2. **Locate the Hardware Drivers section.**
3. **Click the X64 Servers and Workstations.**
4. **Click the link for the** Sun Fire X4500 Server **Server software release version that you want.**
5. **Click Download.**
6. **Enter your Username and Password.**

   If you do not have a Username and Password, you can register free of charge by clicking **Register Now**.
7. **Click Accept License Agreement.**
8. **Click the appropriate firmware image file name:**

   `ilom.`*`firmware`*`.ima`

   For example:

   `ilom.x4500.2.0.1-r15632.ima`

Flashing the ILOM SP/BIOS Firmware

Caution – ILOM enters a special mode to load new firmware. No other tasks can be performed in ILOM until the firmware upgrade is complete and the ILOM is reset. To ensure a successful update, do *not* attempt to modify the ILOM configuration, or use other ILOM Web, 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.

Perform the flash upgrade by using one of the following:

- "Flashing the Firmware with the ILOM GUI" on page 12
- "Flashing the Firmware With the ILOM CLI" on page 13
- "Flashing the Firmware With the N1 System Manager" on page 13

Note – Due to increased memory use during Web GUI operations, you might find that using the ILOM GUI, which is the easiest procedure, does not work satisfactorily. In such a case, you must use the ILOM CLI `load` command or the N1 System Manager to flash the firmware.

Flashing the Firmware with the ILOM GUI

1. **Log into the ILOM GUI by pointing your browser at the IP address of the Service Processor. Use** `https://`**. For example,**

   `https://10.6.78.144`

2. **Select the Maintenance tab.**
3. **Select the Firmware Upgrade tab.**
4. **Click the Enter Upgrade Mode button.**
5. **Browse for the flash image file.**

Click the Upload button.

Flashing the Firmware With the ILOM CLI

1. **Log onto the ILOM CLI through the Management Ethernet Port (see** "Using the CLI Through the Management Ethernet Port" on page 8**) or the serial port (see** "Using the CLI Through the Serial Port" on page 9**).**

2. **From the ILOM CLI, use the following command:**

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

   where *tftpserver* is the trivial file-transfer protocol (TFTP) server that contains the update and `ilom.`*`firmware`*`.ima` is the firmware image file, for example:

   `ilom.x4500.2.0.1-r15632.ima`

Flashing the Firmware With the N1 System Manager

Online documentation for Sun N1 System Manager can be found at:

`http://docs.sun.com/coll/1283.2`

Clearing CMOS Settings (Optional)

If you cannot get output to your serial console after the flash upgrade, you might have to clear CMOS settings. This is because your default CMOS settings might have been changed by the new BIOS upgrade.

To clear CMOS settings, use the following commands (in this example, the default username, `root`, and the default password, `changeme`, are used):

```
ipmitool -U root -P changeme -H SP-IP chassis power off
ipmitool -U root -P changeme -H SP-IP chassis bootdev disk clear-cmos=yes
```

where *SP-IP* is the IP address of the service processor.

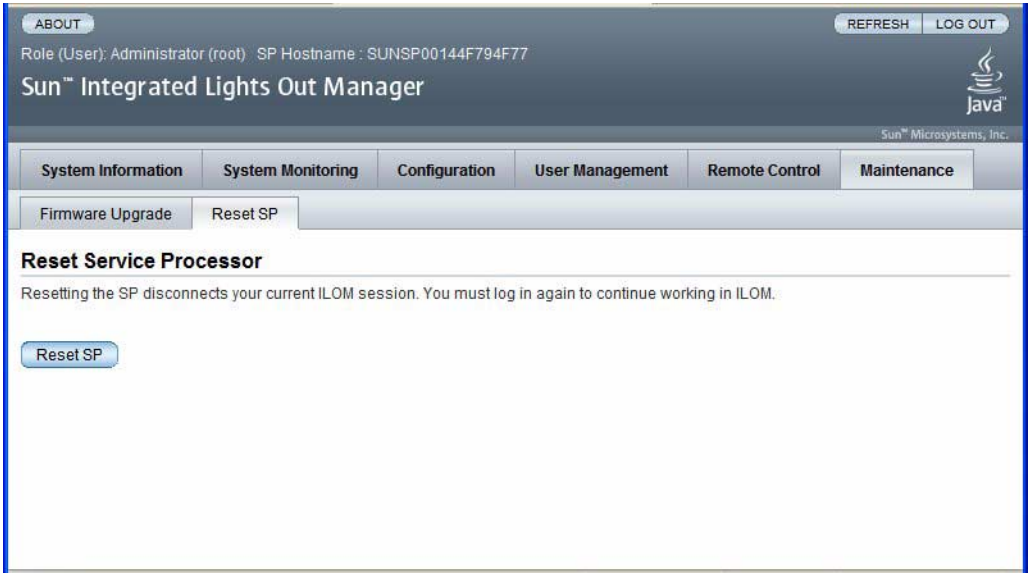
Resetting the Service Processor

After flashing the ILOM/BIOS firmware, you must reset the ILOM SP.

To reset the ILOM SP, you can do any of the following:

- From the ILOM SP graphical Web interface, navigate to the Maintenance tab and the Reset SP tab, and then click the Reset SP button.

FIGURE 1-2 Reset Service Processor



- From the ILOM CLI, use the following command:

  ```
  reset /SP
  ```

- Using IPMItool, use the following command:

  ```
  ipmitool -U root -P password -H SP-IP bmc reset cold
  ```

where *SP-IP* is the IP address of the service processor.

Note – (Optional) If you have any problems with the flash upgrade, refer to the section"Recovering From a Failed Flash Update" on page 17.

Downgrading to a Previous ILOM Release

Should you use this update and later find that you need to downgrade to a previous release, you may need perform the flash downgrade twice to reformat the flash layout to the old format. If so, a message prompts you. This is not a failure. Repeat the procedure as instructed and the process succeeds.

Special Considerations Regarding the ILOM Firmware 1.1.8 Update

This section describes considerations that might affect the firmware upgrade. For general issues on ILOM, see the *Sun Fire X4500 Server Product Notes*. Refer also, to the *Integrated Lights Out Manager Administration Guide for ILOM 1.1.1*, and *Integrated Lights Out Manager (ILOM) Supplement for Sun Fire X4500 Server*.

- "New ILOM Flash Update Layout" on page 15
- "JavaRConsole Does Not Support Some Non-US Keyboard Types (6492584)" on page 16

New ILOM Flash Update Layout

ILOM 2.0.2.1 service processor provides a new, more reliable flash layout. Because of the layout changes, special steps might be required to downgrade to previous ILOM 1.0.x releases.

You might have to perform the flash downgrade to 1.0.x process 2 times, to reformat the flash layout to the old format. If the flash downgrade through GUI, CLI, or N1 System Manager does not succeed the first time, retry a second time to complete the process.

The new ILOM flash process only powers off the host if a new BIOS version is needed. The ILOM CLI load command provides the `-f` option to force update of all components. Use the following command to force updating all firmware components:

`load -f tftp://`*`tftpserver/firmware.ima`*

where *tftpserver* is a trivial file-transfer protocol (TFTP) server and *firmware.ima* is the name of the image file, such as, `ILOM.X4500-2.0.2.1.ima`

JavaRConsole Does Not Support Some Non-US Keyboard Types (6492584)

ILOM 1.1.*x* releases provide limited support for non-UN keyboards. Keys above the normal US keyboard range are transmitted to the server.

However, key remapping between US and non-US keyboards is not automatically performed, and there are keys which do not function, which results in limitations in internalization support in Java Web Start.

Workaround

Use the key and character remapping capabilities of the installed server OS to work around this issue.

Special Considerations Regarding the ILOM Firmware 2.0.2.5 Update.

This section describes considerations that might affect the disk device names.

ILOM 2.0.2.5/2.0.3.1 and Later: Virtual CD-ROM and Floppy Are Enabled When Used (6725713)

There is new behavior on the ILOM which may change the default boot device pathname on certain OS (such as Solaris).

For additional information, see the *Sun Fire X4500 Server Product Notes*.

Recovering From a Failed Flash Update

This section contains instructions for recovering from a failed Sun Fire X4500 ILOM firmware upgrade. Several issues have been identified with the firmware upgrade, which could result in a failed or incomplete firmware upgrade.

Use the following procedure to recover from a failed firmware upgrade. 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.

Caution – The ILOM 1.0 firmware released for Sun Fire X4500 (`ilom.X4500-1.0.3 ima`) must be used to recover from a failed flash update.

Prerequisites:

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

Note – Numbers printed below are in hexidecimal unless otherwise noted.

Recovery Steps:

1. **Determine if the ILOM SP first-level booter (referred to in this procedure as U-Boot) is intact. Follow documented procedures to connect to the SP serial port, apply power to the system, and observe the initial ILOM boot messages.**

   For details, see the *Sun Fire X4500 Server Installation Guide*.

- If no screen output is displayed, stop here. The GRASP board must be replaced. For instructions, see the *Sun Fire X4500 Server Service Manual*.
- 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 does not echo. Cutting and pasting the characters improves the chance of success. You might try cycling 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
      ```

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

   ```
   tftp 100000 firmware.ima
   ```

   where `firmware.ima` is the name of the image file, such as, `ILOM.X4500-1.1.x.ima`.

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

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

```
=> tftp 100000 ilom.X4500-x.x.x.ima
Using FCC1 ETHERNET device
TFTP from server 10.6.154.8; our IP address is 10.6.154.99
Filename 'ilom.X4500-x.x.x.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   OFFICIAL 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 requires replacement. DO NOT stop or remove power from the system from this point onward.

   a. **Erase the exiting flash image with the** `erase ff200000 ffffffff` **command and the** `erase fe000000 fefffffff` **command.**

      A series of dots are displayed indicating the progress of the erase. For example:

```
=> erase ff200000 ffffffff
.....................................................................
.................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-upgradable, and must be replaced. For details on replacing the GRASP board, see the *Sun Fire X4500 Server Service Manual*.

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 upgrade process by following the ILOM GUI, or the CLI procedures described in "Component Versions By Release" on page 3 and in the *Integrated Lights-Out Manager Administration Guide*.

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