

Preface

This documentation provides information about firmware installation for SPARC Enterprise T5120/T5220/T5140/T5240/T5440 servers.

<Rules in description>

ILOM Integrated Lights Out Manager
CLI ILOM Command Line Interface
BUI ILOM Web Browser Interface

<Intended Readers>

This documentation is for system administrators of SPARC Enterprise T5120/T5220/T5140/T5240/T5440 servers.

<Notes>

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Revision History

| Date | Edition | Description |
|------------|------------------|---|
| 2011/08/05 | 7 th | Layout modification |
| 2012/02/09 | 8 th | Added [PRECAUTIONS] to 3.3. |
| 2012/03/08 | 9 th | Modified Application Consideration 1.7. Added Advance Preparation 2.3. |
| 2012/03/26 | 10 th | Modified Application Consideration 1.1. Modified Advanced Preparation 2.1. |
| 2012/11/06 | 11 th | Modified Application Consideration 1.1.1. Modified Firmware Installation 3.2. 3.3. |

1. Application Consideration

Read the following Application Consideration before installing the firmware.

1. The system must be powered off while installing the firmware.

- Powering off

Use shutdown command to shutdown the OS, then execute stop /SYS command to power off the system.

If you use stop /SYS command on ILOM to power off the system and the system takes more than 100 seconds to shutdown Solaris OS, the OS will be forcibly shutdown and some data might be lost.

In case of using Oracle VM Server for SPARC (OVM) configuration, refer to [SPARC Enterprise Oracle VM Server for SPARC Guide].

- Powering on

The system needs a 3-minute interval between powering off and on.

2. You must have Admin(a) privilege to update the firmware on the system.

3. The firmware installation process takes about 30 minutes to complete.

4. The system administrator must preserve the firmware image file for maintenance.

5. Connection to ILOM via Web interface with Internet Explorer 6.

The security for ILOM connection was enhanced in System Firmware 7.3.0.c. If IE6 is used for a client browser, you will fail to connect ILOM Web interface.

Updating to the latest version of IE is recommended. If it is not possible, disable the security for ILOM connection by the following procedure.

1) Login to ILOM CLI, and set the weak_ciphers property to enabled.

- Example -

-> set /SP/services/https weak_ciphers=enabled

Set 'weak_ciphers' to 'enabled'

2) Connect to ILOM via BUI.

6. If you see one of the following before installing the firmware, dis- and reconnect the power cables.

- login to ILOM via ssh fails

- an ILOM command fails

7. When the System Firmware is updated via BUI or the sysfwdownload command, either one of the following messages may be displayed and the System Firmware update may fail.

- Message examples -

* gzip: can't write

tar: Write Error: Broken pipe

* Failed to start flash update: Image is too small. Please retry later.

* Flash update failed: Checksum is invalid.

* Cannot open image file.

* Error updating software.

* sysfwdownload: download failure - status = 2

* Operation failed; Failed to write block

Due to one of the following reasons, the System Firmware update may fail.

- The System Firmware image is corrupted.

- Insufficient room for expanding the Firmware image file.

If this symptom occurs, execute the following procedure.

1) Download the System Firmware from the web site again.

2) Execute the System Firmware update by the Web interface or the sysfwdownload command again.

If it fails, proceed to step 3 or 4.

3) Execute the System Firmware update by ILOM CLI via external TFTP server.

If you cannot use ILOM CLI, go to step 4.

4) Backup the firmware settings.

5) Reset ILOM to factory default.

6) Restore the firmware settings.

7) Execute the System Firmware update by the Web interface or the sysfwdownload command again.

8. A fan error is detected incorrectly by Enhanced Support Facility.

The error of the embedded fan mounted or not mounted on SPARC Enterprise T5120/T5220 may be detected incorrectly by Enhanced Support Facility (ESF) 3.0.
Apply the patch 914718-01 or later for ESF 3.0.

9. The machine management function of the Enhanced Support Facility does not work properly.

After the System Firmware is updated to 7.2.2.e or later on SPARC Enterprise T5140/T5240/T5440, the machine management function of ESF cannot obtain the model/parts information properly.
Apply the patch 914604-05 or later for ESF 3.0/3.0.1/3.1.

10. Status checking function of Server System Manager does not work properly.

After the System Firmware is updated to 7.2.2.e or later on SPARC Enterprise T5140/T5240/T5440, Server System Manager (SSM) erroneously detects a memory failure or cannot detect a PS/fan failure.
Apply the patch 914667-04 or later for SSM V1.2.3/V1.2.3A.

11. Auto ILOM reset after firmware installation.

When installing System Firmware via CLI and the current System Firmware version is later than 7.1.6.x, ILOM will be reset automatically after the firmware installation completes. When installing System Firmware via BUI, ILOM will be reset automatically regardless of the System Firmware version. See the following table for your reference.

| Installation Method | Model Name | System Firmware version | MANUAL/AUTO |
|---------------------|--|--|----------------|
| CLI | SPARC Enterprise T5120/T5220 | 7.1.6.j or earlier 7.2.2.e or later | MANUAL AUTO |
| | SPARC Enterprise T5140/T5240 | 7.1.6.d or earlier 7.1.7.f or later | MANUAL AUTO |
| | SPARC Enterprise T5440 | 7.1.8.a or later | AUTO |
| BUI | SPARC Enterprise T5120/T5220/T5140/T5240/T5440 | ALL | AUTO |

12. Auto OS boot after firmware installation by sysfwdownload command with -u option.

If the current System Firmware version is later than 7.2.7.b, sysfwdownload can be executed with -u option. See the following table for your reference.

| Model Name | System Firmware version | -u option |
|--|-------------------------|------------|
| SPARC Enterprise T5120/T5220/T5140/T5240/T5440 | 7.2.2.e or earlier | N/A |
| | 7.2.7.b or later | Applicable |

2. Advance Preparation

2.1. Backing up the Firmware Settings

In case the installation fails, Fujitsu recommends making a backup of the firmware settings before powering off the system. This process takes about 10 minutes.

[The procedures for storing the firmware settings]

1) Login to ILOM and execute the following command to confirm the current firmware version.

[Example]

-> show /HOST sysfw_version

```
/HOST
```

```
Properties:
```

```
sysfw_version = Sun System Firmware 7.2.2.e 2009/06/19 10:22
```

2) Execute the following commands in ILOM, and save the output.

[System Firmware 7.1.X or ILOM network is not enabled]

-> show /SP -level all -o table

-> show /SYS -o table

-> show /HOST -level all -o table

[System Firmware 7.2.X and ILOM network is enabled]

-> set /SP/config passphrase=passphrase

-> set /SP/config dump_uri=URI

3) Execute the following command in ALOM CMT compatibility shell, and save the output.

```
sc> showsc
```

4) Execute the following commands in Solaris OS and save the output.

```
# eeprom
```

5) Save Oracle VM Server for SPARC (OVM) configuration

For details of saving OVM configuration, refer to [SPARC Enterprise Oracle VM Server for SPARC Guide].

2.2. Selecting an Installation Method

There are 3 installation methods available. Select one according to your environment.

1) If you can access to ILOM via Web interface

➔ Go to 3.1

2) If TFTP server is available on same subnet

➔ Go to 3.2

3) If ILOM network is not enabled. Or, if TFTP server is not available on same subnet.

➔ Go to 3.3

2.3. Resetting ILOM

Execute the ILOM reset before you begin the firmware installation.

```
-> reset /SP
```

```
Are you sure you want to reset /SP (y/n)? y
```

3. Firmware Installation

3.1. Installation on an ILOM Web interface via an ILOM network port

Before you begin:

[Time required (depending on the server and the settings)]

- 1) Login to ILOM (CLI): About 1 min
- 2) Shutdown the Solaris OS: About 1 min
- 3) Login to ILOM (BUI): About 1 min
- 4) Powering off the system and checking the host power state: About 1 min
- 5) Uploading firmware image: About 1 min
- 6) Updating firmware: About 6 min
- 7) Resetting ILOM: About 4 min
- 8) Login to ILOM: About 1 min
- 9) Powering on the system: About 4 min

Download the firmware patch for the pertinent device onto the client which you are going to use to connect to ILOM via Web interface. The firmware patch can be downloaded from the Fujitsu Web site.

The following is an example of contents in a firmware patch.

```

{
  Install.info
  LEGAL_LICENSE.TXT
  Legal
  README.139439-04
  Sun_System_Firmware-7_2_2_e-SPARC_Enterprise_T5120+T5220.pkg <-- Firmware
  Copyright
  sysfw720_README_docs.css
  sysfw720_README_docs.html
  sysfwdownload
  sysfwdownload.README
}

```

Installation Procedure:

- 1) Login to ILOM (CLI)


```

% ssh root@xx.xxx.xx.x
Password: password

```

- 2) Shutdown the Solaris OS

Start the SP console to login to Solaris OS.

```

-> start /SP/console
Are you sure you want to start /SP/console (y/n)? y
Serial console started. To stop, type #.
hostname console login:

```

Shutdown the Solaris OS to obtain the ok prompt.

```

# shutdown -y -g0 -i0
...
{0} ok

```

Type #. to return to ILOM, and logout by exit command.

```

-> exit

```

- 3) Login to ILOM (BUI)

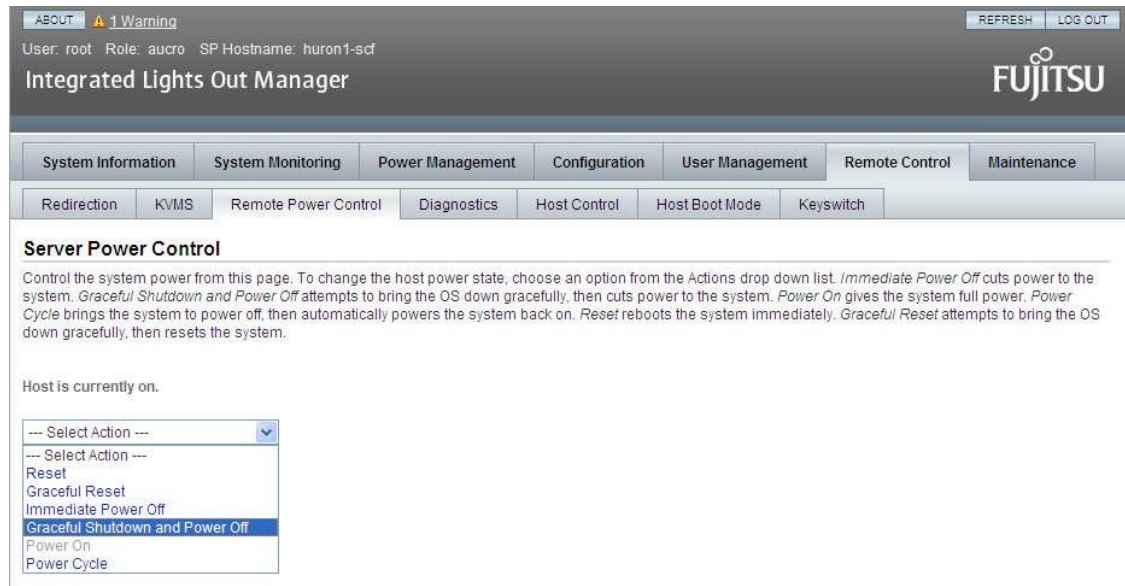
Access to ILOM Web interface by IP address of ILOM, and login as root.

https://IP address of ILOM

4) Powering off the system and checking the host power state

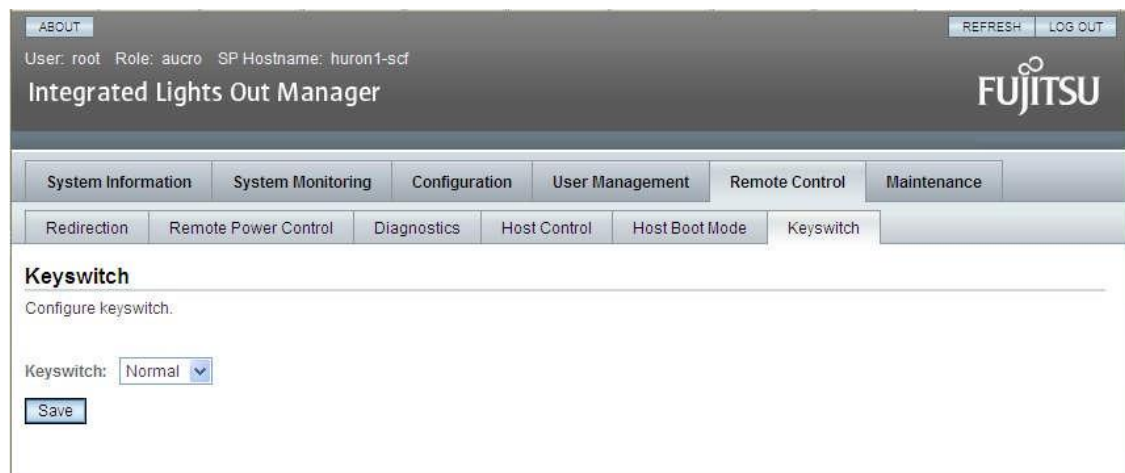
Select Remote Control --> Remote Power Control

Choose Graceful Shutdown and Power Off from the pull-down menu, and click Save to power off the system.



5) Uploading firmware image

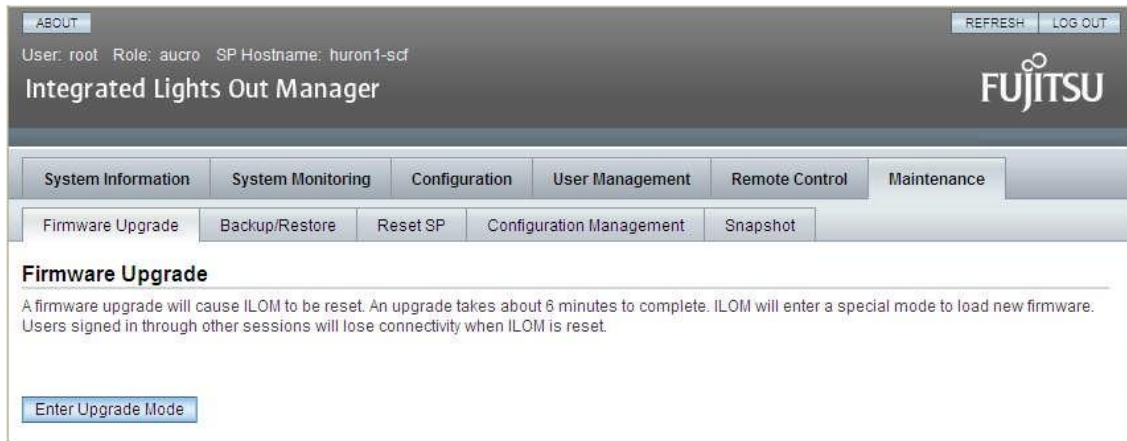
Select Remote Control --> Keyswitch, and confirm that Keyswitch is set as Normal.



Select Maintenance --> Firmware Upgrade.

In the Firmware Upgrade page, click Enter Upgrade Mode. Then in an Upgrade Verification dialog, click OK to enter Firmware Upgrade page.

Note: You cannot click Enter Upgrade Mode until the process of powering off the system (step 2) is complete.

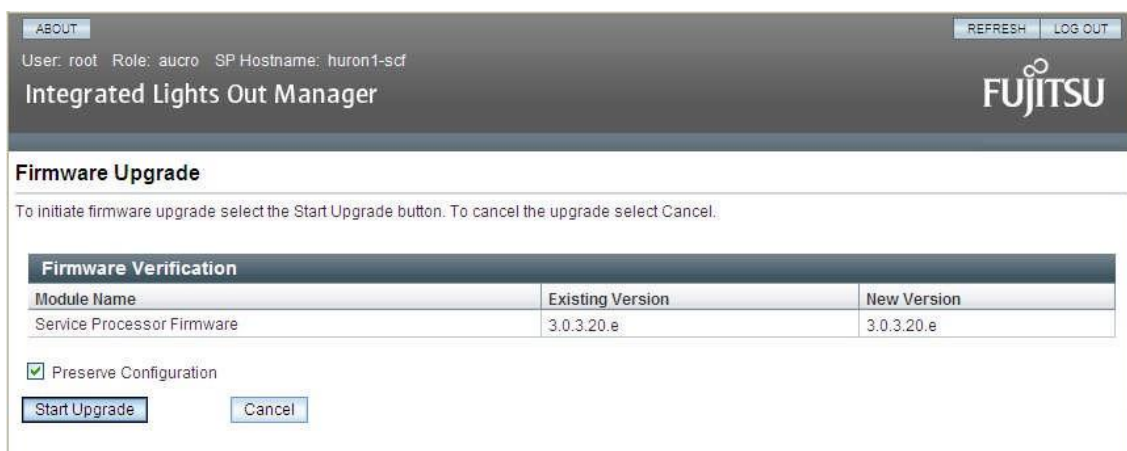


Select image file and click Upload to upload and validate the file.



6) Updating firmware

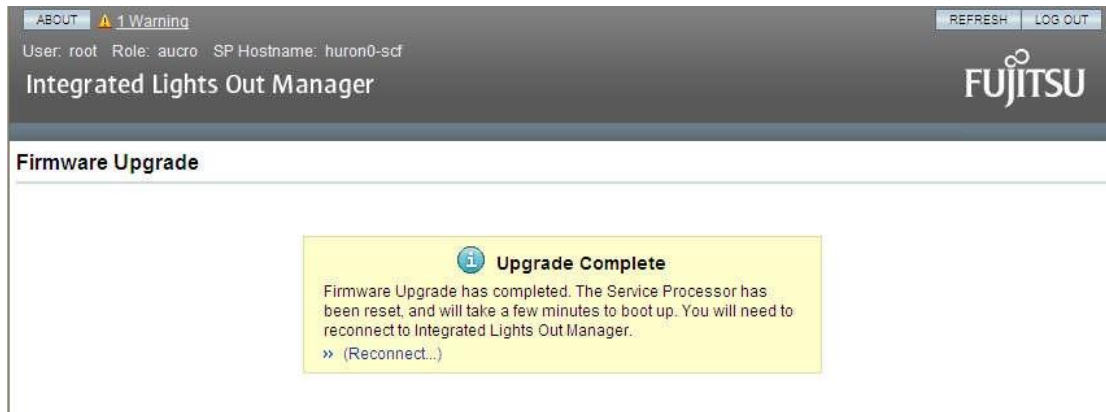
In the Firmware Verification page, enable Preserve Configuration option if you want to save your existing configuration in ILOM and restore that existing configuration after the update process is completed.



Click Start Upgrade to start the upgrade process. The Update Status page will appear providing details about the progress of updating.

7) Resetting ILOM

When the firmware update is completed, ILOM will be reset automatically.



8) Login to ILOM

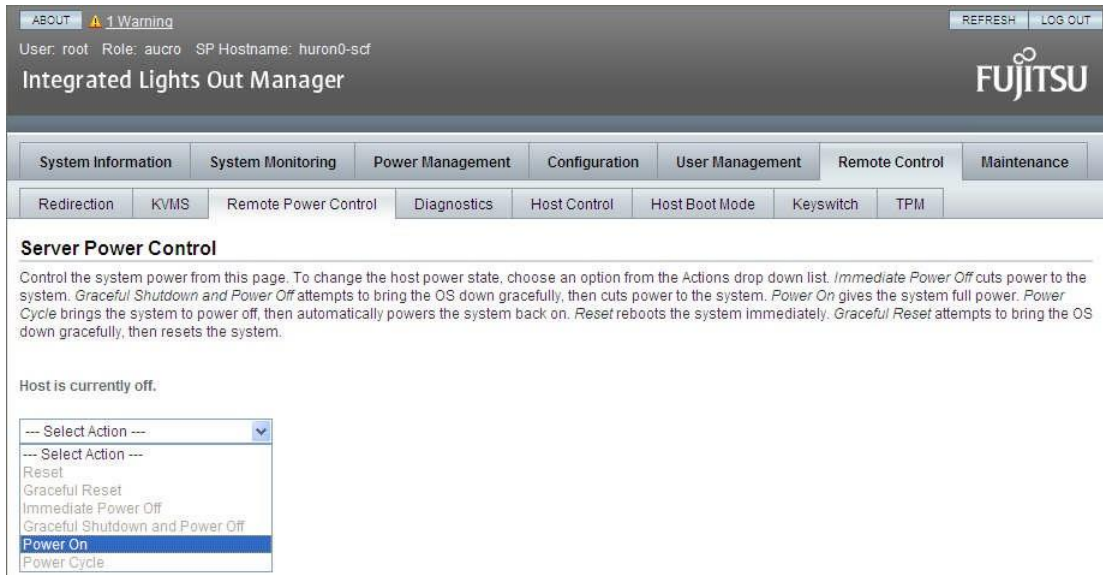
Access to ILOM Web interface by IP address of ILOM, and login as root.

https://IP_address_of_ILOM

9) Powering on the system

Select Remote Control --> Remote Power Control.

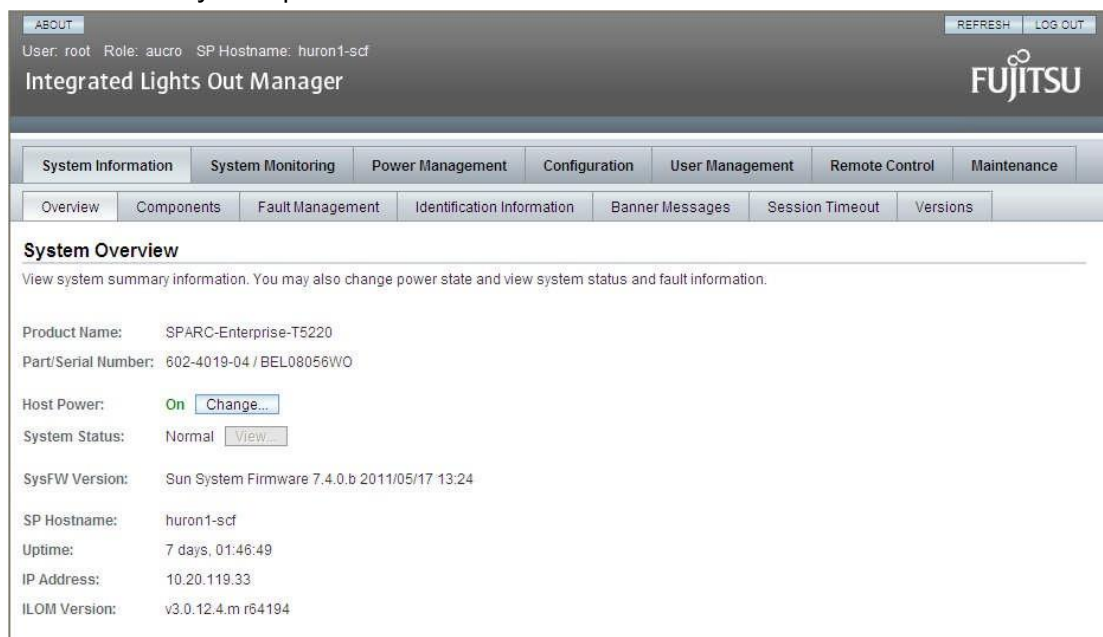
Choose Power On from the pull-down menu, and click Save to power on the system.



The screenshot shows the iLOM interface for a Fujitsu server. The user is logged in as 'root' with the role 'auro' on host 'huron0-scf'. The 'Remote Control' tab is active, and the 'Remote Power Control' sub-tab is selected. A dropdown menu is open, showing various actions: 'Reset', 'Graceful Reset', 'Immediate Power Off', 'Graceful Shutdown and Power Off', 'Power On' (highlighted), and 'Power Cycle'. Below the menu, it states 'Host is currently off.'

Select System Information --> Overview.

If the expected firmware version is displayed at SysFW Version, the firmware installation is successfully completed.



The screenshot shows the iLOM interface for a Fujitsu server. The user is logged in as 'root' with the role 'auro' on host 'huron1-scf'. The 'System Information' tab is active, and the 'Overview' sub-tab is selected. The 'System Overview' section displays the following information:

- Product Name: SPARC-Enterprise-T5220
- Part/Serial Number: 602-4019-04 / BEL08056WO
- Host Power: On [Change...](#)
- System Status: Normal [View...](#)
- SysFW Version: Sun System Firmware 7.4.0.b 2011/05/17 13:24
- SP Hostname: huron1-scf
- Uptime: 7 days, 01:46:49
- IP Address: 10.20.119.33
- ILOM Version: v3.0.12.4.m r64194

3.2. Installation on an external tftp server via an ILOM network port

Before you begin:

[Time required (depending on the server and the settings)]

- 1) Login to ILOM: About 1 min
- 2) Powering off the system: About 3 min
- 3) Typing the load command: About 7 min
- 4) Resetting ILOM: About 4 min
- 5) Login to ILOM: About 1 min
- 6) Powering on the system: About 4 min

Download the firmware patch for the pertinent device onto the TFTP server connected to the ILOM network. The firmware patch can be downloaded from the Fujitsu Web site.

The following is an example of contents in a firmware patch.

```

{
  Install.info
  LEGAL_LICENSE.TXT
  Legal
  README.139439-04
  Sun_System_Firmware-7_2_2_e-SPARC_Enterprise_T5120+T5220.pkg <-- Firmware
  Copyright
  sysfw720_README_docs.css
  sysfw720_README_docs.html
  sysfwdownload
  sysfwdownload.README

```

If you use tftp server application, the file name must be less than 50 characters. Please rename the firmware image file as shown below.

- Sun_System_Firmware-7_2_2_e.pkg

Installation Procedure:

- 1) Login to ILOM


```
% ssh root@xx.xxx.xx.x
Password: password
```
- 2) Powering off the system


```
Start the SP console to login to Solaris OS.
-> start /SP/console
Are you sure you want to start /SP/console (y/n)? y
Serial console started. To stop, type #.
hostname console login:
```

Shutdown the Solaris OS to obtain the ok prompt.

```
# shutdown -y -g0 -i0
...
[0] ok
```

Type #. to return to ILOM, and execute the stop /SYS command to power off the system.

```
-> stop /SYS
Are you sure you want to stop /SYS (y/n)? y
Stopping /SYS
-> show /HOST status

/HOST
Properties:
  Status = Powered off
```

3) Typing the load command

Confirm that the keyswitch state is set as normal.

```
-> show /SYS keyswitch_state

/SYS
Properties:
  keyswitch_state = Normal
```

The load command requires the following information.

- IP address of TFTP server where the firmware image file is stored
- Full pathname of the firmware image file

```
-> load -source tftp://xxx.xxx.xx.xx/pathname
NOTE: A firmware upgrade will cause the server and ILOM to be reset. It is
recommended that a clean shutdown of the server be done prior to the upgrade
procedure. An upgrade takes about 6 minutes to complete. ILOM will enter a
special mode to load new firmware. No other tasks can be performed in ILOM
until the firmware upgrade is complete and ILOM is reset.
Are you sure you want to load the specified file (y/n)? y
Do you want to preserve the configuration (y/n)? y
.....
Firmware update is complete.
ILOM will now be restarted with the new firmware.
Update complete. Reset device to use new image.
->
```

4) Resetting ILOM

```
-> reset /SP

Are you sure you want to reset /SP (y/n)? y

Performing reset on /SP
```

Note: If the current System Firmware version is later than 7.1.6.x, ILOM will be reset automatically.

5) Login to ILOM

```
% ssh root@xx.xxx.xx.x
Password: password
```

6) Powering on the system

Execute the start command to power on the system.

```
-> start -script /SYS
Starting /SYS
-> start -script /SP/console
...
{0} ok
```

Confirm the ok prompt or console login prompt.

If the expected firmware version is displayed as a result of the following ILOM command, the firmware installation is successfully completed.

```
-> show /HOST sysfw_version

/HOST
Properties:
  sysfw_version = Sun System Firmware 7.4.0.b 2011/05/17 13:24
```

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