

Sun Blade 6000 Modular System

Firmware Update Guide



Part No.: E38881-01
May 2013

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Using This Documentation

This guide provides information on preparing the site for system installation.

This guide is written for system installers and administrators who are familiar with installing computer hardware and firmware.

The following topics are covered:

- “Downloading Chassis Firmware” on page v
- “Product Notes” on page vi
- “Related Documentation” on page vi
- “Feedback” on page vi
- “Support and Accessibility” on page vii

▼ Downloading Chassis Firmware

1. **Navigate to the Sun systems firmware download page at:**
<http://www.oracle.com/technetwork/systems/patches/firmware/release-history-jsp-138416.html>
2. **Click Sun Blade 6000 Modular System.**
3. **Click the software update version that you want to download.**
The Oracle support login page appears.
4. **Enter a user name and password.**
5. **Click the patch name that is displayed.**
6. **On the main patch page, click the Download button.**

7. Click on the file that is displayed to download.

Product Notes

For late-breaking information and known issues about this product, refer to the product notes at:

<http://www.oracle.com/goto/SB6000/docs>

Related Documentation

TABLE P-1

Documentation	Link
All Oracle Products	http://www.oracle.com/documentation
Sun Blade 6000 modular system	http://www.oracle.com/goto/SB6000/docs
Oracle ILOM	http://www.oracle.com/goto/ILOM/docs

Feedback

Provide feedback about this documentation at:

<http://www.oracle.com/goto/docfeedback>

Support and Accessibility

Description	Links
Access electronic support through My Oracle Support	http://support.oracle.com
	For hearing impaired: http://www.oracle.com/accessibility/support.html
Learn about Oracle's commitment to accessibility	http://www.oracle.com/us/corporate/accessibility/index.html

Firmware Update Procedures

This section explains the procedures for updating module and chassis firmware for the Sun Blade 6000 modular system.

This section covers the following information:

- [“Firmware Update Steps”](#) on page 1
- [“Identify the Hardware and Current Firmware Versions”](#) on page 2
- [“Determine Whether an Update Is Required”](#) on page 7
- [“Download the Firmware”](#) on page 8
- [“Update Firmware”](#) on page 8
- [“Firmware Versions Table”](#) on page 10
- [“Chassis Blade and NEM Slots”](#) on page 11

Firmware Update Steps

The following are the high-level steps for updating Sun Blade 6000 modular system firmware. Links to detailed information for each step are included in the following table.

Step	Task	Detailed Steps
1	Identify the chassis and components installed in the chassis and identify the current firmware levels installed on each component.	“Identify the Hardware and Current Firmware Versions” on page 2
2	Determine whether or not a firmware update is needed.	“Determine Whether an Update Is Required” on page 7
3	Download any firmware that needs to be updated.	“Download the Firmware” on page 8
4	Update the firmware.	“Update Firmware” on page 8

▼ Identify the Hardware and Current Firmware Versions

Note – The instructions in the following procedure apply to Oracle ILOM 3.1.x. For other Oracle ILOM versions, refer to the Oracle ILOM documentation at: <http://www.oracle.com/goto/ILOM/docs>.

1. **Access the *Sun Blade 6000 Modular Systems Firmware Versions (Firmware Versions) table from the Sun Blade 6000 documentation site at:***

<http://www.oracle.com/goto/SB6000/docs>

The PDF version of this table is enabled for text editing with Adobe Reader. You can also print the table out. This table is referenced later in the procedure.

A sample of the filled in table is located at “[Firmware Versions Table](#)” on page 10.

2. **Identify the model of Sun Blade 6000 chassis that you have.**

- a. **From the Oracle ILOM CMM CLI, use the following command:**

show /CH

The manufacturing part number for the PCIe midplane is displayed in the `fru_part_number` or `product_part_number` field.

- b. **Use the following table to determine which model is associated with the midplane part number.**

Chassis Model Number	PCIe Midplane Part Number
A90-A	541-1983
A90-B	541-3789
A90-D	541-4239
7105379	7045529

Refer to the *Sun Blade 6000 Modular System Service Manual* for additional instructions on how to identify your chassis model.

3. Identify the current firmware version of the chassis monitoring module (CMM) using Oracle ILOM CMM. Do one of the following:

- From the CMM web interface, log into the Oracle ILOM.

The System Information screen appears.

The Oracle ILOM CMM firmware version is listed in the General Information table in the System Firmware Version field.

- From the CMM CLI:

a. Log in to the Oracle ILOM.

b. Type: `version`

The following is sample output for this command:

```
-> version
CMM firmware 3.1.1.10
CMM firmware build number: 72831
CMM firmware date: Wed Apr 4 11:17:58 EDT 2012
CMM filesystem version: 0.1.23
```

The Oracle ILOM CMM version is displayed in the CMM firmware field.

4. Determine which software package corresponds to the firmware level currently on the chassis. See:

<http://www.oracle.com/technetwork/systems/patches/firmware/release-history-jsp-138416.html#6000>

5. Write or type the information that you gathered in Steps 2-4 in the CMM row of the Firmware Versions table that you accessed in Step 1.

6. Identify the firmware versions of the server and storage blades and NEMs installed in the chassis.

Note – The firmware installed on the NEMs varies, depending on the type of NEM. This procedure shows how to identify Oracle ILOM and SAS expander firmware. For information on other firmware that might be installed on the NEM, refer to “[NEM Firmware Update](#)” on page 13.

Do one of the following to determine the Oracle ILOM and SAS expander firmware versions:

- From the CMM web interface:

a. Log into the CMM web interface.

b. Click on the Chassis View link in the left navigation panel.

ORACLE Integrated Lights Out Manager

Manage: Chassis User: root Role: auro CMM Hostname: sca05-0a81fbd

Chassis View

- System Information
 - Summary
 - Blades
 - Power
 - Cooling
 - Storage
 - I/O Modules
 - Firmware
- Open Problems (11)
 - Remote Control
 - Host Management
 - System Management
 - Power Management
 - ILOM Administration

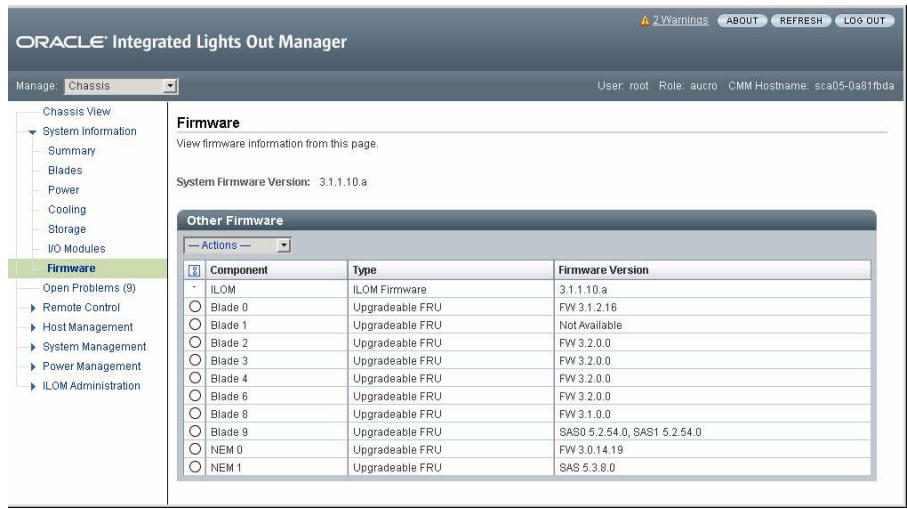
Chassis Inventory

Component	Name	Part Number	Serial Number
/CH	SUN BLADE 6000 MODULAR SYSTEM	541-3789-01	0000000-0000000000
/CH/CMM	CMM	000-0000-00	0000000000
/CHIBL0	Sun Blade X6270 M3 sca05-0a81fbd1	7024015	489089M+1134PR00AL
/CHIBL1	ASSY,BLADE,MENSA	54144040	0328MSL-1111PP003K
/CHIBL2	Sun Blade X6270 M3 ORACLESP-MENSA_PSN	MENSA_PPN	MENSA_PSN
/CHIBL3	Sun Blade X6270 M3 ORACLESP-0328MSL-1104PP0018	541-4404	0328MSL-1104PP0018
/CHIBL4	Sun Blade X6270 M3 ORACLESP-489089M+1149PR00GB	7038932-01	489089M+1149PR00GB
/CHIBL6	Sun Blade X6270 M3 ORACLESP-1138FMY005	MENSAP10A+F+1	1138FMY005
/CHIBL8	Mensa P0.0 sca05-0a81fbd9	MENSA_PRODUCT	MENSA_P0.0
/CHIBL9	SUN BLADE STORAGE MODULE M2	511-1365-02	00000000
/CHINEM0	SUN BLADE 6000 VIRTUALIZED MULTI-FABRIC 10GE NEM M2 hydra0_bench	540-7961-02	-
/CHINEM1	SUN BLADE 6000 VIRTUALIZED MULTI-FABRIC 10GE NEM M2	540-7961-02	-

The Chassis Inventory table lists the blades and NEMs installed in the system.

Note – To locate the positions of the blade and NEM slots in the chassis, see the diagram of blade and NEM slots in [“Chassis Blade and NEM Slots”](#) on page 11.

- c. Write the product names of the blades and NEMs in the corresponding blade or NEM row in the Firmware Versions table.
- d. Click the Firmware link in the System Information section of the left navigation panel.



The Other Firmware table shows the Oracle ILOM and SAS expander firmware versions for the blades and NEMs.

- e. Write the firmware versions for the blades and the NEMs in the Firmware Versions Table.
 - From the Oracle ILOM CMM CLI, do the following:
 - a. Log in to the CMM CLI.
 - b. To determine which blades are installed in chassis:
 - i. Type: `cd /System/Blades`
 - ii. Type: `show Blade_x`
where *x* corresponds to the chassis blade slot.
 - iii. Write the blade model name displayed in the `model` field in corresponding blade slot row on the Firmware Versions Table.
 - c. To determine which NEMs are installed in the chassis:
 - i. Type: `cd /System/IO_Modules/NEMs`
 - ii. Type: `show NEM_x`
where *x* corresponds to the chassis NEM slot.
 - iii. Write the NEM model name shown in the `model` field in the corresponding NEM slot row on the Firmware Versions Table.
 - d. To view the current firmware versions installed on the blade and NEMs:
 - i. Type: `cd /System/Firmware/Other_Firmware`

ii. **Type: show**

The following is an example of output of this command:

```
/System/Firmware/Other_Firmware
Targets:
  Firmware_0 (ILOM)
  Firmware_1 (Blade 0)
  Firmware_2 (Blade 1 NODE0)
  Firmware_3 (Blade 1 NODE1)
  Firmware_4 (Blade 2 NODE0)
  Firmware_5 (Blade 2 NODE1)
  Firmware_6 (Blade 3)
  Firmware_7 (Blade 4)
  Firmware_8 (NEM 0)
```

For the output example above, `Firmware_6` corresponds to the blade in slot 3.

iii. **Type: show Firmware_x**

where x corresponds to the number corresponding to the blade or NEM slot listed in parenthesis the brackets "(Blade x) or (NEM x)".

The Oracle ILOM version and SAS expander version (if applicable) for the blade or NEM is shown in the version field.

e. **Write the version numbers in the rows corresponding to the blade or NEM slots in the Firmware Versions Table.**

7. **Determine the type of REMs installed on the server modules and their firmware versions.**

Refer to the server module documentation and [“REM Firmware Update” on page 15](#).

8. **Write the name or model number and firmware version of the REM on the Firmware Versions table under the corresponding blade slot.**

9. **Determine the type of FEMs installed on the server modules and their firmware versions.**

Note – Most fabric expansion modules (FEMs) do not have firmware that can be updated by the user. If you have a Sun Dual 10GbE Fabric Expansion Module (FEM) for Sun Blade server module (PN X4871A-Z-N) installed in one of the server modules, the firmware for this component might need to be updated. Refer to the FEM documentation for instructions on updating the FEM firmware.

▼ Determine Whether an Update Is Required

A firmware matrix is included in the download Read Me for CMM versions SW3.3.6 and SW4.2.2 and later. The matrix shows the firmware versions for blade modules, NEMs and REMs that correspond to the current CMM versions. For prior CMM software versions, a limited matrix is available in the Read Me.

1. **Go to the download site for Sun Blade 6000 modular system to access the firmware matrix.**
 - a. **Go to the Firmware Downloads and Release History for Sun Systems page at:**
<http://www.oracle.com/technetwork/systems/patches/firmware/release-history-jsp-138416.html#6000>
 - b. **Click the link for the download that corresponds with the software version installed on the CMM.**
2. **Click the Read Me button on the patch download page.**

The firmware that corresponds to the current CMM version is listed for each supported blade, NEM and REM.
3. **Write the preferred version for each of the following components on the Firmware Versions table:**
 - Server and storage modules
 - RAID expansion modules (REMs) installed on the server modules
 - Network express modules (NEMs)
4. **Compare the current versions of firmware installed on the components with the preferred level.**

If the current version is lower than the preferred version for any component, you should update the firmware.

▼ Download the Firmware

Note – Some NEMs with SAS-1 controllers do not have a software download specifically for the NEM product. For these NEMs, you can access the SAS expander firmware from the Sun Blade 6000 Disk Module software download.

1. Download the firmware that needs to be updated for the NEMs or server modules.
 - a. Log into the Oracle support site at: <http://support.oracle.com>.
 - b. Click on the Patches and Updates tab.
 - c. In the Patch Search window, select the Product or Family (Advanced) link.
 - d. In the Select Product field, start typing in the product name.
 - e. Select the correct product name when it appears in the search results.
 - f. In the field below the product name, select the software version that you want to update to.
 - g. Click the Search button.

Note – Some server modules provide multiple patch options for a software update. Refer to the server module documentation for details on the download options.

- h. Click on the patch number that appears in the search.
 - i. Click the Download button to download the firmware.
2. For information on how to download REM firmware, refer to “[REM Firmware Update](#)” on page 15 and REM documentation.

▼ Update Firmware

Note – It is important to update these components in the order shown in this procedure to ensure optimal system operation.

1. Complete the following prerequisites:

- Complete all steps in [“Identify the Hardware and Current Firmware Versions” on page 2](#).
- If you want to preserve current BIOS settings after the firmware update, back up the BIOS configuration before performing the firmware update. You can do this with Oracle ILOM or the Oracle Hardware Management Pack `biosconfig` tool (for x86 systems).

See Oracle ILOM or Oracle Hardware Management Pack documentation.

- Refer to the component documentation and [“Firmware Update Notes and Options” on page 13](#) to determine if there are any component-specific firmware update issues.

2. Update the firmware for any REMs installed on the server modules.

See [“REM Firmware Update” on page 15](#) and component documentation for information on how to update the REM firmware.

3. Update the following components through the CMM ILOM in the following order:

a. Storage module SAS expanders

- For the Sun Blade Storage Module M2, use the CMM ILOM.
- For the Sun Blade 6000 Disk Module, use the Oracle Hardware Management Pack `fwupdate` tool. See [“Tools Available for Firmware Update” on page 17](#).

b. NEM SAS expanders

- For NEMs that have been released recently, use CMM ILOM.
- For older NEMs, use the Oracle Hardware Management Pack `fwupdate` tool.

For more information, see the NEM documentation and [“Tools Available for Firmware Update” on page 17](#).

c. Server module ILOM and BIOS or OpenBoot PROM

d. CMM ILOM

e. NEM ILOM

Instructions for updating component firmware with the CMM ILOM are available in the the Oracle ILOM 3.1 documentation:

<http://www.oracle.com/goto/ILOM/docs>

4. To determine if additional firmware updates are needed for the NEM, refer to the NEM documentation and [“NEM Firmware Update” on page 13](#).

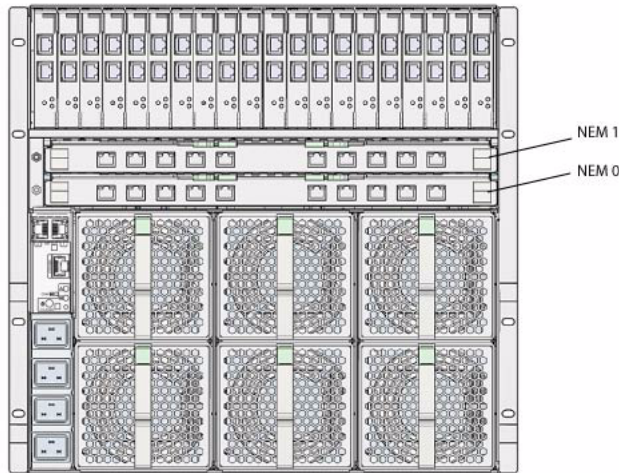
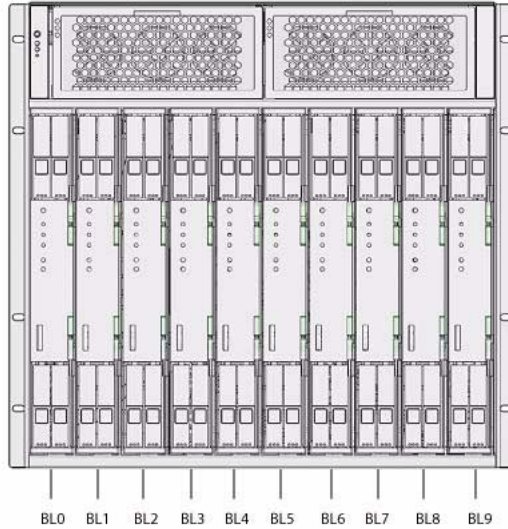
Firmware Versions Table

The following is an example of a completed table. Download a blank Firmware Versions Table from <http://www.oracle.com/goto/SB6000/docs>.

Component	Name or model number	Current firmware version	Preferred firmware version	Update needed?
CMM	Sun Blade 6000 chassis - model A90-D	3.1.1.10.a	3.1.1.10.b	x
BL0	SPARC T5-1B server module	3.2.1.2	3.2.1.2	
REM	No REM			
BL1	SPARC T4-1B server module	3.0.12.1	3.0.16.8	x
REM	SGX-SAS6-REM-Z	11.05.02.00	11.05.02.00	
BL2	Sun Blade x2-3B server module	3.1.2.16	3.1.2.16	
REM	SGX-SAS6-REM-Z	11.05.02.00	11.05.02.00	
BL3	Sun Blade x2-3B server module	3.1.2.16	3.1.2.16	
REM	SGX-SAS6-R-REM-Z	12.12.0-0079	12.12.0-0079	
BL4	Sun Blade X6270 M2 server module	3.0.16.10	3.0.16.11.h	x
REM	SGX-SAS6-REM-Z	11.05.02.00	11.05.02.00	
BL5	Sun Blade X6270 M2 server module	3.0.16.10	3.0.16.11.h	x
REM	SGX-SAS6-R-REM-Z	12.12.0-0079	12.12.0-0079	
BL6	SPARC T3-1B server module	3.0.12.1	3.0.16.8	x
REM	SGX-SAS6-REM-Z	11.05.02.00	11.05.02.00	
BL7	Sun Blade T6340 server module	3.0.4.1.e	3.0.12.4.w	x
REM	No REM			
BL8	Sun Blade X6270 server module	3.0.16.17	3.0.16.17	
REM	No REM			
BL9	Sun Blade T6320 server module	3.0.12.4.e	3.0.12.4.w	x
REM	No REM			
NEM0	Pass-through 16GB	No firmware	No firmware	
NEM1	24-port 10Gbe Ethernet Switched NEM	3.0.5.2	3.0.5.2	

Chassis Blade and NEM Slots

The following illustrations show the locations of the blade and NEM slots in the front and back of the chassis. When updating the firmware, you will need to know which blades are located in which slots.



Firmware Update Notes and Options

This section contains additional information about updating component firmware and tools available for updating firmware.

- [“NEM Firmware Update” on page 13](#)
- [“REM Firmware Update” on page 15](#)
- [“Tools Available for Firmware Update” on page 17](#)

NEM Firmware Update

Some Oracle ILOM and ASIC firmware on the NEMs can be updated without powering down the blades. These are referred to in this document as live updates. Some NEMs require that the blades are powered down.

To perform a live update for most NEMs, a second NEM must be installed with IP network multipathing (IPMP) or trunking software configured so that port failover is enabled to the second NEM.

Note – The main tools for updating NEMs are the Oracle ILOM CMM and the Oracle Hardware Management Pack `fwupdate` tool. To determine the correct tool for updating NEM firmware, refer to the NEM documentation.

The following table clarifies which NEMs can and cannot be updated live. Except for cases noted in the table, SAS expander firmware can not be updated live and requires blades to be powered off to update.

Name	Marketing Part Number	Manufacturing Part Number	NEM Firmware to Update	Live Update?	Notes
SB6000 Ethernet Switched NEM 24P 10GbE	X2073A	541-3770 or 7053929	ILOM, sefos	Yes	Can be updated live if a second NEM is installed to provide redundancy.
Sun Blade 6000 Virtualized Multi-Fabric 10GbE NEM	X4238	540-7695	ILOM, SAS expander	No	All blades must be powered down to update this NEM.
Sun Blade 6000 Virtualized Multi-Fabric 10GbE M2 NEM	X4338A	542-0406 or 540-7961	ILOM, SAS expander	No	All blades must be powered down to update this NEM.
Sun Blade 6000 Virtualized 40 GbE NEM	7100090	7020536 or 7052308	ASIC, SAS expander	Yes	Can be updated live if a second NEM is installed to provide redundancy. This NEM has no service processor so there is no Oracle ILOM firmware. A reset of the NEM is required to initialize the new firmware.
Sun Blade 6000 Multi-Fabric NEM	X4212A	540-7589 or 371-2743	SAS expander	No	All blades must be powered down to update this NEM.
Sun Blade 6000 Multi-Fabric 10GbE NEM	X4236A	541-2760	SAS expander	No	All blades must be powered down to update this NEM.

REM Firmware Update

The method that you use to update REM firmware depends on the type of REM and the type of server module the REM is installed on. The preferred method of updating REMs for an x86 server is to use assistant software, as described in this section.

If the REM is installed on an x86 server module, one of the following assistants is available to update the REM:

- Sun Installation Assistant – a bootable image that can update REMs, PCI card drivers, and help with OS installation.
- Oracle Hardware Installation Assistant – a bootable image that can update REMs, PCI card drivers, and help with OS installation.
- Oracle System Assistant – a bootable USB image that resides on an internal USB stick on some servers. Oracle System Assistant can update server module and REM firmware, help with OS installation, and perform some ILOM configuration.

Refer to the server module documentation to determine which assistant is available.

Note – Some REM firmware can be updated using Oracle Hardware Management Pack `fwupdate`. For details, refer to the support matrix at:

<http://www.oracle.com/goto/system-management>

In blades that do not support a firmware update assistant, use one of the utilities mentioned in the following table.

REM	Firmware update tool	Notes
SGX-SAS6-R-REM-Z	LSI-based MegaCli	Download the MegaRAID Storage Manager software and the MegaCLI utility software, along with supporting documentation from: http://www.lsi.com/sep/Pages/oracle/index.aspx
SGX-SAS6-REM-Z	LSI-based sas2ircu	Download the sas2ircu utility, along with REM firmware and documentation from: http://www.lsi.com/sep/Pages/oracle/index.aspx (For T3 and 4 series system usage of internal RAID with sas2ircu, see Doc ID 1367602.1.)
X4620A	Adaptec-based StorMan/arccconf	See the Uniform Command-Line Interface User's Guide at: https://support.us.oracle.com/handbook_internal/data/820/820-2145/pdf/
X4607A	LSI-based raidctl	raidctl is available in Solaris. For more information, see the raidctrl man page.
X4601A	LSI-based raidctl	raidctl is available in Solaris. For more information, see the raidctrl man page.
Onboard LSI controllers	LSI-based raidctl	raidctl is available in Solaris. for more information, see the raidctrl man page.

Tools Available for Firmware Update

The following table shows a summary of the tools that you can use to update the Sun Blade 6000 modular system chassis and modular components.

Application	Recommended for Updating These Components	Notes	More Information
Oracle ILOM	<ul style="list-style-type: none"> • CMM ILOM • Server module ILOM • Storage module M2 SAS expanders • Some NEM ILOM and SAS expanders[†] 	The CMM, server modules, storage modules, and some NEMs can be updated through the CMM ILOM.	http://www.oracle.com/goto/ILOM/docs
Oracle Hardware Management Pack fwupdate*	<ul style="list-style-type: none"> • Some REM firmware • Server module • Disk module • Some NEM SAS expanders 	Oracle Hardware Management Pack must be installed on the host OS in order to run fwupdate.	http://www.oracle.com/goto/OHMP/docs
Ops Center Enterprise Manager	Servers if you have Ops Center already set up for your server environment.	Ops Center is the best tool for managing large scale server installations.	http://www.oracle.com/technetwork/oem/grid-control/documentation/oem-091904.html
Oracle Hardware Installation Assistant/Sun Installation Assistant	Server modules and REMs earlier than Sun Blade X3-2B.	These assistants are available for download for x86 server modules released before Sun Blade X3-2B.	http://docs.oracle.com/cd/E19593-01/index.html
Oracle System Assistant	Sun Blade X3-2B later server modules and REMs.	Oracle System Assistant is embedded in Sun Blade X3-2B server modules and later x86 servers and can be used to update server module and REM firmware.	Documentation set for Sun Blade X3-1B or later server modules.
LSI firmware update tools	REMs if no other tools or assistants are available.	LSI tools can be used to update the REM firmware.	http://www.lsi.com/sep/Pages/oracle/index.aspx

* For information on which SAS expanders are supported for fwupdate, check the support matrix at <http://www.oracle.com/goto/system-management>

† Some older NEMs cannot be updated from the CMM. Refer to the NEM documentation for specifics on updating NEM firmware.

