Sun Blade X6275 M2 Server Module Product Notes

Part No: 821–1088
May 2013, Rev A

130621@25097

Contents

Using This Documentation

This section describes related documentation, submitting feedback, and a document change history.

Product Information Web Site

For information about the Sun Blade X6275 M2 server module, go to the `http://www.oracle.com/goto/blades` page and click on your server model listed near the bottom.

At that site, you can find links to the following information and downloads:

- Product information and specifications
- Software and firmware downloads

Related Books

The following is a list of documents related to Oracle's Sun Blade X6275 M2 server module. These and additional support documents are available on the web at:

`http://download.oracle.com/docs/cd/E19962-01/`

Document Group	Document	Description
Sun Blade X6275 M2 Server Module Documentation	Sun Blade X6275 M2 Server Module Product Documentation	Integrated HTML version of all starred (*) documents, including Search and Index.
	Sun Blade X6275 M2 Server Module Getting Started Guide	Pictorial setup quick reference.
	Sun Blade X6275 M2 Server Module Installation Guide *	How to install, rack, and configure the server up to initial power-on.
	Sun Blade X6275 M2 Server Module Product Notes *	Important late-breaking information about your server.
	Sun Blade X6275 M2 Server Module Installation Guide for Oracle Solaris Operating Systems *	How to install the Oracle Solaris OS on your server.
	Sun Blade X6275 M2 Server Module Installation Guide for Linux Operating Systems *	How to install a supported Linux OS on your server.
	Sun Blade X6275 M2 Server Module Installation Guide for Windows Operating Systems *	How to install a supported version of Microsoft Windows OS on your server.
	Sun Blade X6275 M2 Server Module Installation Guide for Oracle VM Operating Systems *	How to install a supported version of Oracle VM OS on your server.
	Oracle x86 Servers Diagnostics Guide *	How to diagnose problems with your server.
	Sun Blade X6275 M2 Server Module Service Manual *	How to service and maintain your server.
	Sun Blade X6275 M2 Server Module Safety and Compliance Guide	Safety and compliance information about your server.
	Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for the Sun Blade X6275 M2 Server Module *	Version-specific supplemental information for your server's Integrated Lights Out Manager.
Sun Disk Management Documentation	*Sun x64 Server Disk Management Overview*	Information about managing your server's storage.
x64 Servers Applications and Utilities Documentation	*Sun x64 Server Utilities Reference Manual*	How to use the available utilities included with your server.

Document Group	Document	Description
Oracle Integrated Lights Out Manager (ILOM) 3.0 Documentation	*Oracle Integrated Lights Out Manager (ILOM) 3.0 Feature Updates and Release Notes*	Information about new ILOM features.
	Oracle Integrated Lights Out Manager (ILOM) 3.0 Getting Started Guide	Overview of ILOM 3.0.
	Oracle Integrated Lights Out Manager (ILOM) 3.0 Concepts Guide	Conceptual information about ILOM 3.0.
	Oracle Integrated Lights Out Manager (ILOM) 3.0 Web Interface Procedures Guide	How to use ILOM through the web interface.
	Oracle Integrated Lights Out Manager (ILOM) 3.0 CLI Procedures Guide	How to use ILOM through commands.
	Oracle Integrated Lights Out Manager (ILOM) 3.0 Management Protocols Reference Guide	Information about management protocols.

Translated versions of some of these documents are available at the web site described previously in Simplified Chinese, Korean, Japanese, French and Spanish. English documentation is revised more frequently and might be more up-to-date than the translated documentation.

About This Documentation (PDF and HTML)

This documentation set is available in both PDF and HTML. The information is presented in topic-based format (similar to online help) and therefore does not include chapters, appendixes, or section numbering.

A PDF that includes all information on a particular topic subject (such as hardware installation or product notes) can be generated by clicking on the PDF button in the upper left corner of the page.

Note – The "Documentation Information" and "Index" topics do not have associated PDF.

Documentation Comments

Oracle is interested in improving the product documentation and welcomes your comments and suggestions. You can submit comments at: `http://www.oracle.com/goto/docfeedback`.

Contributors

Primary Authors: Ralph Woodley, Michael Bechler, Ray Angelo, Mark McGothigan.

Contributors: Kenny Tung, Adam Ru, Isaac Yang, Stone Zhang, Susie Fang, Lyle Yang, Joan Xiong, Redarmy Fan, Barry Xiao, Evan Xuan, Neil Gu, Leigh Chen, Eric Kong, Kenus Lee.

Change History

The following lists the release history of this documentation set:

- November 2010. Initial publication.
- November 2010. Information added to the *Sun Blade X6275 M2 Server Module Product Notes* for platform software release 1.1. Added new firmware version, PC-Check 6.27s support, CRs 6994690, 6992284, 6994464.
- January 2011. Information added to the *Sun Blade X6275 M2 Installation Guide* for configuring pre-installed Oracle Solaris or Oracle VM. Information added to the *Sun Blade X6275 M2 Server Module Product Notes* for platform software release 1.2. Added new firmware version, CRs 6971164, 7009654, 7009666, 7010601. Information added to the *Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for the Sun Blade X6275 M2 Server Module* for proving physical presence, reading `available_power` in ILOM.
- March 2011. Information removed from the *Sun Blade X6275 M2 Installation Guide* for configuring pre-installed Oracle Solaris OS or Oracle VM on FMod. Information removed from the *Sun Blade X6275 M2 Product Notes* on available pre-installed Oracle Solaris OS or Oracle VM on FMod.
- September 2011. Information added to the *Sun Blade X6275 M2 Server Module Product Notes* for platform software release 1.3, including new firmware version and new OS version support. Added information about BIOS hardware prefetch options to the *Sun Blade X6275 M2 Server Module Product Notes* and the *Sun Blade X6275 M2 Server Module Service Manual*. Fixed CRs 6971164 and 7009654.
- January 2012. Updated physical dimension specifications in the *Sun Blade X6275 M2 Server Module Installation Guide* and the *Sun Blade X6275 M2 Server Module Service Manual*. Added information to the *Sun Blade X6275 M2 Server Module Product Notes* for OS support for Oracle VM 3.0.1 (1GbE), 3.0.2 (1GbE) and 3.0.3 (10GbE).
- March 2012. Information corrected in the *Sun Blade X6275 M2 Installation Guide* for the number of 10 GbE ports per node. Information added to the *Sun Blade X6275 M2 Product Notes* for CR 7072665.

- August 2012. Information added to the *Sun Blade X6275 M2 Server Module Product Notes* for platform software release 1.4, including new firmware version and new OS version support.
- January 2013. Updated information on replacing SP and motherboard in the *Sun Blade X6275 M2 Server Module Service Manual*.
- March 2013. Additional update to information on replacing SP and motherboard in the *Sun Blade X6275 M2 Server Module Service Manual*.
- May 2013. Information added to the *Sun Blade X6275 M2 Server Module Product Notes* for platform software release 1.5.

Overview of the Sun Blade X6275 M2 Server Module Product Notes

The following sections are covered.

System Software Release Features

This section contains the following sections describing the system software release features for the Sun Blade X6275 M2 server module:

Firmware Release History

The following table lists the released versions of the server module node firmware.

Note – Oracle recommends that you upgrade to the latest system software release. This will ensure you have the latest supported firmware, BIOS and drivers for your system. You can download the latest software release for your system by going to `http://www.oracle.com/goto/blades` page, clicking on your server model listed near the bottom, and then clicking on the download link on the right.

System Software Release	ILOM SP Firmware	System BIOS	CPLD	10GbE Firmware	FMod Firmware	Minimum Required CMM Firmware
1.5	3.0.10.12.e (r79848)	10.02.12.0	18	2.7.8100_3.0	D20R	3.0.10.15 (available in chassis software release 3.2)
1.4	3.0.10.12.d (r74119)	10.02.11.0	18	2.7.8100_3.0	D20R	3.0.10.15 (available in chassis software release 3.2)

System Software Release	ILOM SP Firmware	System BIOS	CPLD	10GbE Firmware	FMod Firmware	Minimum Required CMM Firmware
1.3	3.0.10.12.c (r67695)	10.02.10.0	18	2.7.8100_3.0	D20R	3.0.10.15 (available in chassis software release 3.2)
1.2	3.0.10.12 (r61293)	10.02.09.0	18	2.7.8100_3.0	D20R	3.0.10.15 (available in chassis software release 3.2)
1.1	3.0.10.12 (r59376)	10.02.06.0 *See note below.*	18	2.7.8100_3.0	D20R	3.0.10.15 (available in chassis software release 3.2)
1.0	3.0.10.12 (r57416)	10.02.04.0	18	2.7.8100_3.0	D20R	3.0.10.15 (available in chassis software release 3.2)

Note – If you are using a Dual Port Quad Data Rate (QDR) InfiniBand HCA PCIe EM card, see "PCIe Link Speed Reduced With BIOS 10.2.6.0 (6994690)" on page 22.

Supported Hardware

The Sun Blade X6275 M2 server module is currently supported for use in the following chassis hardware environment.

Note – The Sun Blade X6275 M2 server module can use either a 1GbE or 10GbE interface through the NEM (depending on your server model), you cannot use both. On 1GbE models, there is no MellanoxCX-2 chip, and therefor no 10GbE interface. On the 10GbE model, it is only supported to work with Sun Blade 6000 Ethernet Switched NEM 24p 10GbE which does not provide a 1GbE interface and therefore the 1GbE interface on each server node is disabled by firmware.

Server Module	Supported Chassis	Supported NEMs
Sun Blade X6275 M2 GbE Server Module (p/n X6275M2–BB)	Sun Blade 6000 Modular System chassis (A90–B) with PCIe 2.0 midplane (minimum supported chassis software release 3.2)	**Note –** For NEMs with multiple interfaces, only the 1GbE interface will be used by the server nodes. ■ Sun Blade 6000 10 1GbE Pass-Thru NEM (X4250A-N) (Recommended) ■ Sun Blade 6000 Virtualized Multi-Fabric 10GbE M2 NEM (X4338A) ■ Sun Blade 6000 Virtualized Multi-Fabric 10GbE NEM (X4238–N) ■ Sun Blade 6000 10GbE Multi-Fabric NEM (X4236A-N) ■ Sun Blade 6000 GbE Multi–Fabric NEM (X4212A-N)
Sun Blade X6275 M2 10GbE Server Module (p/n X6275M2–CB)	Sun Blade 6000 Modular System chassis (A90–B) with PCIe 2.0 midplane (minimum supported chassis software release 3.2)	Sun Blade 6000 Ethernet Switched NEM 24p 10GbE (X2073A-N) **Note –** Since this NEM only supports a 10GbE interface, the server node 1GbE ports will be disabled by firmware.

Note – The X6275 M2 server module only leverages the GbE Pass-Thru support provided in the NEMs listed above.

Supported Operating Systems

The following lists the supported operating systems when using the latest software release for the server. Factory support testing for all operating systems is performed with the OS installed on an optional 24 GB FMod.

Note – Support for an OS includes the installation of required server-specific drivers available on the Tools and Drivers CD/DVD. An ISO image can be downloaded from the Oracle web site by going to the `http://www.oracle.com/goto/blades` page, clicking on your server model listed near the bottom, and then clicking on the download link on the right.

For the Sun Blade X6275 M2 server module with 1GbE (X6275M2–BB):

- Oracle Solaris 10 OS 10/09 (64–bit only).
- Oracle Solaris 10 OS 09/10 (64–bit only).
- Oracle Linux 5.5 (64–bit only).
- Oracle Linux 5.6 and 6.0 (64–bit only). *Support added in system software release 1.3.*
- Oracle Linux 5.8 and 6.2 (64–bit only). *Certified in system software release 1.4. Driver support is included with the OS distribution media.*
- Red Hat Enterprise Linux 5.5 (64–bit only).
- Red Hat Enterprise Linux 5.6 and 6.0 (64–bit only). *Support added in system software release 1.3.*
- SUSE Linux Enterprise Server 10 SP3 and SP4 (64-bit only, without Xen).
- SUSE Linux Enterprise Server 10 SP4 (64-bit only, without Xen). *Support added in system software release 1.3.*
- SUSE Linux Enterprise Server 11 SP1 (64–bit only, without Xen).
- Microsoft Windows Server 2008 R2.
- Microsoft Windows Server 2008 R2 SP1. *Support added in system software release 1.3.*
- Oracle VM 2.2.1.
- Oracle VM 2.2.2. *Support added in system software release 1.3.*
- Oracle VM 3.0.1 and 3.0.2. *Certified in system software release 1.3. Driver support is included with the OS distribution media.*
- Oracle VM 3.0.3 and 3.1.1. *Certified in system software release 1.4. Driver support is included with the OS distribution media.*

The Sun Blade X6275 M2 server module with 10GbE (X6275M2–CB):

- Oracle Solaris 10 OS 09/10 (64–bit only). *Support added in system software release 1.3. Server-specific driver available on the server Tools and Drivers ISO image or the Mellanox web site is required for 10GbE support.*
- Oracle Linux 5.5 (64–bit only). *Server-specific driver available on the server Tools and Drivers ISO image or the Mellanox web site is required for 10GbE support.*
- Oracle Linux 5.8 and 6.2 (64–bit only). *Support added in system software release 1.4. Driver support is included with the OS distribution media.*

- Red Hat Enterprise Linux 6.0 (64–bit only). *Support added in system software release 1.3. Server-specific driver available on the server Tools and Drivers ISO image or the Mellanox web site is required for 10GbE support.*

Note – Red Hat Enterprise Linux 5.5 (64-bit only) has been tested to work with the 10GbE model of the Sun Blade X6275 M2 when the Mellanox ConnectX-2 driver (version 1.5.1.3) is installed. This driver is available from the Oracle Tools and Drivers CD/DVD ISO image and Mellanox web sites and must be installed immediately after the initial RHEL OS installation. For the latest RHEL OS support status, check the Oracle web site and these *Product Notes*.

- SUSE Linux Enterprise Server 10 SP3 (64-bit only, without Xen). *Server-specific driver available on the server Tools and Drivers ISO image is required for 10GbE support.*
- SUSE Linux Enterprise Server 10 SP4 (64-bit only, without Xen). *Support added in system software release 1.3. Server-specific driver available on the server Tools and Drivers ISO image is required for 10GbE support.*
- SUSE Linux Enterprise Server 11 SP1 (64–bit only, without Xen). *Server-specific driver available on the server Tools and Drivers ISO image is required for 10GbE support.*
- Microsoft Windows Server 2008 R2.
- Microsoft Windows Server 2008 R2 SP1. *Support added in system software release 1.3. Server-specific driver available on the server Tools and Drivers ISO image is required for 10GbE support.*
- Oracle VM 2.2.1. *Server-specific driver available on the server Tools and Drivers ISO image is required for 10GbE support.*
- Oracle VM 3.0.3. *Certified January 2012. Driver support is included with the OS distribution media.*
- Oracle VM 3.1.1. *Certified in system software release 1.4. Driver support is included with the OS distribution media.*

Note – Customers with an Oracle VM support subscription (including those with Oracle Premium Support for Systems) can download updates from the Oracle Unbreakable Linux Network at:

`https://linux.oracle.com`

For the latest list of supported operating systems and specifications, go to `http://www.oracle.com/goto/blades` and click on your server model near the bottom of the page.

Integrated Lights Out Manager (ILOM)

Server module include a service processor (SP) for each compute node. The SP provides IPMI 2.0 compliant remote management capabilities across a broad range of Oracle server models. Each server module node SP features:

The following interfaces provide network access to ILOM:

- Integrated Lights Out Manager (ILOM) through the server module node service processor (SP) or Chassis Monitoring Module (CMM)
- Local ILOM command-line access using serial connection
- 10/100 management Ethernet port to midplane
- Remote keyboard, video, mouse, and storage (KVMS) over IP

For more information on ILOM, refer to the following documentation:

- ILOM 3.0 Collection: `http://download.oracle.com/docs/cd/E19860-01/`
- *Oracle Integrated Lights Out Manager (ILOM) 3.0 Supplement for the Sun Blade X6275 M2 Server Module*: `http://download.oracle.com/docs/cd/E19962-01/`.
- *Oracle Integrated Lights Out Manager (ILOM) CMM Administration Guide for Sun Blade 6000 and 6048 Modular Systems*: `http://download.oracle.com/docs/cd/E19938-01/`

Additional Software

The following additional software is available for your server and can be downloaded from the Oracle web site:

- Tools and Drivers CD/DVD (available on the web as an ISO image). Contains all required software for the server, including:
  - Server-specific drivers for all supported operating systems.
  - Server-specific firmware (BIOS/ILOM, FMod, Mellanox ConnectX-2 10G HCA).
  - IPMItool, a simple command-line interface that is useful for managing IPMI-enabled devices. Available as a supplement to ILOM.
  - SNMP mibs, for use with management software that supports SNMP.
  - PC-Check (version 6.27s), a system diagnostics utility available through ILOM Remote Control Diagnostics, or run separately.
- Oracle Validation Test Suite (also known as “SunVTS”) Bootable Diagnostic, version 7.0ps8

Hardware, Firmware, and BIOS Issues

This section contains the following topics describing hardware, firmware and BIOS issues that apply to the Sun Blade X6275 M2 server module:

"Hardware, Firmware, and BIOS Current Issues" on page 19

Hardware, Firmware, and BIOS Current Issues

The following table lists the issues that are covered in this section. Click on an issue title to see further details about the issue.

Current Issues	Workaround
"Care and Handling of Server Modules with FMods" on page 19	Yes
"Setup and Power-On Recommendations for the Sun Blade 6000 Modular System Chassis" on page 20	Yes
"PCIe Link Speed Reduced With BIOS 10.2.6.0 (6994690)" on page 22	No
"PC-Check 6.27s Does Not Recognize Mellanox 10GbE Chip (6992284)" on page 22	No
"Performance Degradation When BIOS Hardware Prefetcher is Enabled" on page 22	Yes
"Identifying a Node's Onboard Device Versus a Node's PCIe EM (7072665)" on page 23	Yes

Care and Handling of Server Modules with FMods

Extra attention must be paid when handling server modules with FMods (Flash Modules). The following rules must be followed:

1. After AC power cycling the server module (i.e., removing the blade from the chassis or powering off the shelf), you must wait for 20 seconds before reinserting the blade or powering on the shelf. Check to see that the green LED on the motherboard (next to FMod) is no longer lit. It will take approximately 20 seconds.

Caution – Damage to the flash module can occur if the FMod is installed (while the green LED is lit) and the flash modules might not be recognized by the host nodes.

2. When a server module is inserted in the chassis for the first time, wait two minutes before pulling it out or powering the shelf down. This is the time required to charge the supercaps. The same action applies when the shelf or blade is powered down for some time. When the server module is inserted into the chassis, you must wait for at least two minutes before attempting to pull it out again.
3. If an FMod becomes corrupted, use the Oracle supplied utility to perform a low level format. Once the format is done, you will need to power off the blade and run the **`fmod_power_cycle`** command from the ILOM restricted shell.

Note – This step is for Oracle Service personnel only.

Setup and Power-On Recommendations for the Sun Blade 6000 Modular System Chassis

The recommended setup and power-on method for the Sun Blade 6000 modular system chassis with Sun Blade X6275 M2 server modules is different depending on whether you are starting with an empty system chassis, or a pre-configured system chassis.

Follow the recommended procedure for your installation as described below for one of the following situations:

- Setup and power-on recommendations with an empty system chassis
- Setup and power-on recommendations with a preconfigured system chassis

▼ Setup and Power-on Recommendations With an Empty System Chassis

1 Before installing server blades, make sure that all of the chassis components are installed (power supplies, fans, NEMs, EMs, etc.).

2 Connect required I/O cables for the chassis (Ethernet, etc.).

3 Install and fully seat Blade 0.

4 Attach all AC power cables from the system chassis power interface module to a power source.

The chassis automatically applies main power to all blades in the chassis after power is provided to the power supplies. Ensure that all power LEDs are lit.

5. **Set up your CMM IP address with a DHCP/Static address.**

6. **Verify the CMM network and check/setup the blade SP network.**

7. **Install other blades with a 30 second interval between each blade insertion.**

   For example, after Blade 0 has been powered, wait 30 seconds. Then install and fully seat Blade 1 and wait 30 seconds for them to power on.

   Then install and fully install Blade 2 and wait 30 seconds for them to power-on. Repeat the process until all blades are installed.

8. **Verify that no fault (amber) LEDs are lit on blade or chassis components (CMM, PSU, blades, etc.).**

   If fault LEDs are lit, follow the troubleshooting procedures described in the *Sun Blade X6275 M2 Server Module Service Manual* and refer to the *Product Notes* for any known issues.

▼ Setup and Power-on Recommendations With a Preconfigured System Chassis

1. **Connect required I/O cables for the chassis (Ethernet, etc.).**

2. **Attach all AC power cables from the system chassis power interface module to a power source.**

   The chassis automatically applies main power to all modules in the chassis after power is provided to the power supplies. Ensure that all power LEDs are lit.

3. **Wait five minutes for the CMM to boot and then verify/setup the CMM network.**

4. **Login to the CMM CLI, check/setup the blade SP network, verify the MAC address, and collect the SP IP address for each node by entering the `show` command from the CMM CLI prompt. For example:**

   `-> show /CH/BL0/NODE`*X*`/SP/network`

   Where *X* represents the server module node (0 or 1).

   For any node that does not display network information, reseat the blade, wait 5 minutes, and recheck the SP network information.

5. **Verify that no fault (amber) LEDs are lit on blade or chassis components (CMM, PSU, blades, etc.), and that the blades are showing normal operation:**

   - If fault LEDs are lit, follow the troubleshooting procedures described in the system *Sun Blade X6275 M2 Server Module Service Manual* and refer to the corresponding *Product Notes* for any known issues.

- If the green OK LED is blinking or not on for a blade server, press the power button for the blade to see if it will power on. The power-on sequence can take one to two minutes. Alternatively, you can log into each node's ILOM CLI and start the host by entering the command from the CLI prompt:

  ```
  -> start /SYS
  ```

For any host that does not boot, reseat the blade.

PCIe Link Speed Reduced With BIOS 10.2.6.0 (6994690)

If your Sun Blade X6275/X6275 M2 server module is running BIOS version 10.2.6.0, the PCIe EM bus speed is reduced to PCIe Gen1 speeds. This issue only affects the Dual Port Quad Data Rate (QDR) InfiniBand HCA PCIe EM card. Other supported PCIe EM cards run at lower speeds and are therefore not affected.

There is currently no workaournd for this issue. If you have a Sun Blade X6275 or X6275 M2 server module with a BIOS version lower than 10.2.6.0 and are using the Dual Port Quad Data Rate (QDR) InfiniBand HCA PCIe EM card, do not upgrade the server BIOS to a later version until a fix is available.

PC-Check 6.27s Does Not Recognize Mellanox 10GbE Chip (6992284)

When PC-Check is run on Sun Blade X6275 M2 server module with 10GbE, the Advanced Diagnostics network test fails to recognize the Mellanox 10GbE chip and can not perform the network test.

This is an issue with the PC-Check software and there is currently no workaround. The 10GbE interface will still function normally in a supported OS environment.

Performance Degradation When BIOS Hardware Prefetcher is Enabled

Hardware prefetchers work well in workloads that traverse array and other regular data structures. The hardware prefetcher options are disabled by default and should be disabled when running applications that perform aggressive software prefetching or for workloads with limited cache. For example, memory-intensive applications with high bus utilization could see a performance degradation if hardware prefetching is enabled.

Workaround

To disable the hardware prefetcher options:

1. Reboot the server.
2. Press F2 when prompted during the boot process to enter the system BIOS setup program.
3. Use the left/right arrow keys to highlight the Advanced menu.
4. Do the following to disable the hardware prefetching options:
   a. Use the up/down arrow keys to select Hardware Prefetcher and press Enter.
   b. Use the +/— keys to change the option to “disabled.”
   c. Repeat the process to disable other prefetcher options listed (such as Adjacent Cache Line Prefetch and L1 Data Prefetcher, if available).
5. Press F10 to save and exit the BIOS setup program.

Identifying a Node's Onboard Device Versus a Node's PCIe EM (7072665)

If you have a Sun Blade X6275 M2 server module with 10GbE (model X6275M2–CB) that has, for example, a network issue, it might be difficult to identify a faulty device if you have other similar devices on the node's pci bus.

When using a unix-based tool such as `lspci` at the host to find connected PCI devices, output can be interpreted as follows:

- `02:00.0` refers to the host node's onboard Mellanox ConnectX controller.
- `08:00.0` refers to the host node's PCIe EM (which might also use Mellanox ConnectX technology).

Management and ILOM Issues

This section describes server management and ILOM service processor (SP) issues that apply to the Sun Blade X6275 M2 server module:

"Management and ILOM Current Issues" on page 25

Management and ILOM Current Issues

The following table lists the issues that are covered in this section. Click on an issue title to see further details about the issue.

Current Issues	Workaround
"Capping Power Values in ILOM Web Interface" on page 26	Yes
"Reading Server Power Consumption in the CMM" on page 27	Yes
"The Server Will Not Boot if the CMM is Off-Line" on page 27	No
"Locate LED Programmed to Stay On for 30 Minutes (6793865)" on page 28	Yes
"Set Port Sharing Error Message Generated When Using SP ILOM Web Interface (6895495)" on page 28	Yes
"Green LED Should Slow Blink (1 Hz) During Firmware Upgrade (6862377)" on page 29	No
"IPMIflash Over USB Interface Fails Due to Unexpected Response to File-upload Command (6856369)" on page 29	No
"Missing Warning Message While Doing Backup Configuration Without Passphrase (6859295)" on page 29	No
"Erroneous Chassis Hot Insertion Event Logged After CMM Reboot (6797938)" on page 29	Yes
"Setting the Serial Baud Rate in the System BIOS Does Not Propagate to the Service Processor (6784341)" on page 30	Yes

Current Issues	Workaround
"CMM ILOM Becomes Unresponsive With Multiple CLI Sessions Open (6780171)" on page 30	Yes
"CMM ILOM Interface Becomes Unresponsive After Repeated Use (6798257)" on page 30	Yes
"Blade Power On Issues With the `start /SYS` Command (6784708)" on page 30	Yes
"SP Network Connection Lost When Issuing Incorrect `ipmiflash -I pci` Command (6850823)" on page 31	No
"Powering On Batches of Blades Might Cause a Node to Fail to Power On (6813202)" on page 31	Yes
"Softcap Power Limiting Does Not Work When the Host is Powered on After the SP Reboots (6890841)" on page 32	Yes
"PCIe EM Native Hot Plug Does Not Work (6804272)" on page 32	Yes
"Resetting the SP to Factory Defaults With Host Powered On Causes DIMM FRU Information to Be Lost (6970476, 6913602)" on page 33	Yes
"ILOM Power Budget Status Does Not Function Properly When Disabled and Then Enabled (7009654)" on page 33	No
"ILOM Configurations Are Preserved During Upgrade Even After Specifying "No" (6971164)" on page 34	Yes

Capping Power Values in ILOM Web Interface

From **Power Management -> Allocation –> Power Allocation Plan**, the Target Limit value can be in watts or a percent between:

- 138 watts (Installed Hardware Minimum power) and
- 295 watts (Allocated Power)

Note – Installed Hardware Minimum power is the recommended minimum power you can set and should be regarded as a reference.

Capping the power to this minimum value will have two issues:

- CPU performance will be severely downgraded.
- You may see a "power violation" in the CLI and ILOM SEL log (described below). This is due to the minimum power calculation which is hard to perfect. The calculation's accuracy should be taken into account for each component and for different usage patterns. The

Violation status occurs since the system is not able to reduce power to below the Installed Hardware Minimum power due to the usage pattern.

On the **Consumption** tab under **Power Management** in the ILOM Web interface, the following warning might be seen for the target limit:

- In case of a hard cap, you might see `Warning: /Peak Permitted/ exceeds /Target Limit/.`
- In case of a soft cap, you might see `Warning: /Actual Power/ exceeds /Target Limit/.`

Through the ILOM CLI, the event is recorded as follows:

```
/SP/powermgmt/budget
 Properties:
        activation_state = enabled
        status = violation
```

The ILOM SEL will record a IPMI log similar to the following:

```
ID = 10e2 : 10/27/2009 : 14:28:56 : Power Supply : PWRBS :
State Asserted
```

Workaround

To avoid this, do not cap the power to this minimum value.

Reading Server Power Consumption in the CMM

As viewed from the Chassis Monitoring Module (CMM) ILOM interface, the power budget as shown in the CMM is on a per blade basis. For the Sun Blade X6275 M2, it shows total power consumption of the blade (both nodes together).

The Server Will Not Boot if the CMM is Off-Line

If the Chassis CMM is offline (due to a problem with the CMM or because the CMM is going through the boot process), the Sun Blade X6275 M2 will not power on.

Workaround

1. Ensure that the CMM is online before booting the Sun Blade X6275 M2 server module.
2. To power on the blade run `start -force`.

Locate LED Programmed to Stay On for 30 Minutes (6793865)

According to the IPMI specification, the locate LED on the front of the blade is supposed to turn itself off after 15 seconds. However, Oracle has determined that this might not give the customer sufficient time to physically locate the system. For this reason, Oracle has chosen to deviate from the IPMI specification and set the default time-out value to 30 minutes.

Workaround

You can choose to turn the locate LED off at any time using one of the following methods:

- Turn off the locate LED manually by pressing locate button on the blade.
- Use the ILOM web interface or CLI to turn off the locate LED.
- Use the IPMItool `chassis identify` command to turn off the locate LED by setting the time-out value to zero.

Wait 30 minutes for the locate LED to automatically turn off on its own.

Set Port Sharing Error Message Generated When Using SP ILOM Web Interface (6895495)

An error message might occur under the following conditions:

1. Login to the node SP from the Microsoft Internet Explore 8 browser.
2. Go to **Configuration –> Serial Port Settings**.
3. Set the Serial Port sharing from Service Processor to Host Server, then click the Save button. An error message window will appear with the following:

   ```
   Error: Unable to get serial port property
   ```

4. After the OK button is clicked, the baud rate of the host serial port fields turn blank. (The baud rate turns blank only in Internet Explorer).

   This error message will appear in both Firefox and Internet Explorer.

Workaround

This error message does not occur when the port sharing is used from SP ILOM CLI.

Green LED Should Slow Blink (1 Hz) During Firmware Upgrade (6862377)

When the system BIOS or SP firmware is being the upgraded, the green LED should slow blink (1 Hz) with 0.5 second on and 0.5 second off.

Currently, the ILOM code does not change the state of the green LED. If it is solid on, it remains as solid on during the upgrade.

IPMIflash Over USB Interface Fails Due to Unexpected Response to File-upload Command (6856369)

If the service processor (SP) firmware is flashed using IPMIflash over the USB interface by specifying the `-I usb` parameter, file transfer will be terminated and flashing of the SP will fail. Therefore the following command will fail:

```
# ipmiflash -I usb -U root write SP_FirmwareFile.pkg

351K [sending...]unexpected response to our file-upload command
(ccode = 0x0c)
```

IPMIflash is not currently supported for use with the Sun Blade X6275 M2 server module. When support becomes available, these product notes will be updated.

Missing Warning Message While Doing Backup Configuration Without Passphrase (6859295)

When doing an ILOM configuration backup without entering a passphrase, no warning message appears saying that sensitive data will not be backed up. A passphrase is required to back up sensitive information such as such as passwords, SSH keys, certificates, etc. However, the backup occurs immediately.

When restoring the configuration backup without entering the passphrase, no message appears to ask for the passphrase. The restore occurs immediately.

Erroneous Chassis Hot Insertion Event Logged After CMM Reboot (6797938)

After a CMM reboot, there might be an erroneous hot insertion event for the server module logged in the CMM event log, even though the blade was not removed from the chassis.

You may safely ignore this event.

Setting the Serial Baud Rate in the System BIOS Does Not Propagate to the Service Processor (6784341)

If you set the system serial port baud rate from 9600 to 115200 in the system BIOS, then save the new settings, the new settings are not propagated to the system's service processor.

Workaround

Change the serial port baud rate of the service processor through the SP ILOM web interface under **Configuration –> Serial Port**.

CMM ILOM Becomes Unresponsive With Multiple CLI Sessions Open (6780171)

If you are upgrading the CMM ILOM image using web interface and have five or more ILOM CLI sessions open, the CMM may run out of memory and may become unresponsive and/or reset.

Workaround

Do not invoke more than four ILOM CLI sessions while upgrading firmware from the CMM ILOM web interface. Close those that are not in use.

CMM ILOM Interface Becomes Unresponsive After Repeated Use (6798257)

Due to a memory leak in the ILOM software, repeated use of ILOM to monitor sensors and components may result in ILOM becoming sluggish, erratic, and/or unresponsive.

Workaround

Reset the server module's service processor or the chassis CMM, depending on which device becomes sluggish, erratic, and/or unresponsive.

Blade Power On Issues With the start /SYS Command (6784708)

When the ILOM `start /SYS` command is issued to power on the host, it will occasionally fail with the following message:

```
start: Insufficient power available for this operation: The chassis
Available Power must exceed the chassis Ticketed Power by greater than the
power budget requirement of this blade (see power ticket denied message in
the CMM event log)
```

The above message may not accurately describe the correct reason for the failure of the host system to power on. Although insufficient available power is one possible cause, other factors such as hardware malfunction, system faults on the peer node of the same blade, and/or chassis CMM failures may result in the same error.

If you encounter this error, do the following to help in identifying the source of the problem:

- Check the health of the peer node on the same blade.
- Check the health of the chassis CMM.
- Inspect the system event logs for issues that might be related.
- Confirm that sufficient power is available at the chassis level.

SP Network Connection Lost When Issuing Incorrect ipmiflash -I pci Command (6850823)

The correct command for running `ipmiflash -I pci` is:

```
ipmiflash -I pci write ILOM.pkg :: --platform-type vayu_QDR_IB --id-num 38 -l
0xa0000
```

Note – The double colons ("::") are required in this command.

IPMIflash is not currently supported for use with the Sun Blade X6275 M2 server module. When support becomes available, these product notes will be updated.

Powering On Batches of Blades Might Cause a Node to Fail to Power On (6813202)

On rare occasions, when power cycling batches of blade nodes by either individually issuing a power-on command using `ipmitool` or `/start/ SYS`, or when powering on a Sun Blade 6048 Modular System chassis with a rack full of blades, a node might fail to power on. The failed node will return an OFF status when an IPMI power status query is made.

Workaround

If you encounter this issue, try the following:

- Login to the node's service processor and reset the service processor.
- If the above doesn't work, remove and reinsert the blade in the chassis.

Softcap Power Limiting Does Not Work When the Host is Powered on After the SP Reboots (6890841)

If power management policy for a node is set to limit system power using a *soft* cap, the soft cap settings will not be adhered to if the following is true:

- The actual power target cap time limit supplied for the policy is not equal to zero.
- The host is powered off, followed by a node SP reboot.
- After the SP boots, the host is then powered back on.

If all of the above are true, when the host powers back on the configured power limit will not be adhered to by the system.

Workaround

After the SP is booted and host is powered on, do one of the following.

- In the ILOM web interface:
  1. Under the **Power Management** —> **Limit tab** for the node, copy down the settings.
  2. Disable the power limiting option.
  3. Click Save.
  4. Re-enable the power limiting option and enter your settings.
  5. Click Save.

  Note – This must be done each time SP is reset and host is powered on.

- In the ILOM CLI:
  1. Disable the budget activation state.
  2. Re-enable the budget activation state.

  Note – This must be done each time SP is reset and host is powered on.

PCIe EM Native Hot Plug Does Not Work (6804272)

Attempting to hot plug (insert while the system is running) a PCIe ExpressModule might cause the EM to fail or not be properly recognized by the system.

Workaround

Do not attempt to hot plug PCIe EMs. Be sure to power down the system before installing a PCIe EM.

Resetting the SP to Factory Defaults With Host Powered On Causes DIMM FRU Information to Be Lost (6970476, 6913602)

If you reset the SP to factory defaults when the host is on, you might no longer see DIMM FRU information in ILOM.

Workaround

1. Open a terminal window and log in to the node ILOM SP using an SSh connection.
2. From the prompt, power off the node host by entering the command:

   ```
   -> stop /SYS
   ```
3. Reset the SP by entering the command:

   ```
   -> set /SP/reset_to_defaults=factory
   ```
4. Reboot the node SP by entering the command:

   ```
   -> reset /SP
   ```
5. After the SP successfully reboots, power on the node host by entering the command:

   ```
   -> start /SYS
   ```

You should now be able to view DIMM FRU information using ILOM.

ILOM Power Budget Status Does Not Function Properly When Disabled and Then Enabled (7009654)

This issue is fixed in system software release 1.3.

In ILOM, you can enable a Power Budget cap (in watts) that works in conjunction with the Power Limit setting. When the power budget cap is reached (the server power consumption goes above the power limit), you will see a "violation" status for the Power Budget feature.

For example:

Power Budget OK	Power Budget Violation

`-> show /SP/powermgmt/budget`
 	
`/SP/powermgmt/budget`
`Targets:`
 	
`Properties:`
`activation_state = enabled`
`status = ok`
`powerlimit = 132 (watts)`
`timelimit = 0`
`violation_actions = none`
`min_powerlimit = 132`
`pendingpowerlimit = 132 (watts)`
`pendingtimelimit = 0`
`pendingviolation_actions = none`
`commitpending = (Cannot show property)`
	`-> show /SP/powermgmt/budget`
	
	`/SP/powermgmt/budget`
	`Targets:`
	
	`Properties:`
	`activation_state = enabled`
	`status = violation`
	`powerlimit = 132 (watts)`
	`timelimit = 0`
	`violation_actions = none`
	`min_powerlimit = 132`
	`pendingpowerlimit = 132 (watts)`
	`pendingtimelimit = 0`
	`pendingviolation_actions = none`
	`commitpending = (Cannot show property)`

If you disable the power budget feature by setting `activation_state=disabled`, the power budget status will always show **ok**. However, if you re-enable the power budget feature by setting `activation_state=enabled`, the status might always show **ok** whether there is a power consumption violation, or not.

This behavior is intermittent and can occur in both the ILOM web interface and the ILOM CLI. There is no current workaround.

ILOM Configurations Are Preserved During Upgrade Even After Specifying "No" (6971164)

This issue is fixed in system software release 1.3.

When performing a firmware upgrade of ILOM, you are given the choice of preserving the configuration information for the current ILOM version before it is upgraded. This includes information configured by the user (account information, network configurations, management settings, etc.). This information is stored in the SP and will be used if you ever decide to go back to the previous version of ILOM.

For example:

-> **load -source tftp://***serverfolder***/ILOM-***version***-Sun_Blade_X6275M2.pkg**

```
Are you sure you want to load the specified file (y/n)? y
Preserve existing configuration (y/n)? y
```

Typically, you would opt to preserve existing configurations in case you need to roll back to the previous version of ILOM after an upgrade. However, if you choose to not preserve ILOM configurations during the upgrade and answer **no** to the prompt to `Preserve existing configuration (y/n)?`, the configurations might be saved anyway.

This action is harmless and can occur intermittently.

Workaround

Try performing the upgrade again, answering **no** to the prompt to `Preserve existing configuration (y/n)?` during an upgrade.

Linux Issues

This section describes issues with the supported Linux operating system platforms and the Sun Blade X6275 M2 server module. These platforms include Oracle Linux (OL), Red Hat Enterprise Linux (RHEL) and SUSE Linux Enterprise Server (SLES).

"Linux Current Issues" on page 37

Linux Current Issues

The following table lists the issues that are covered in this section. Click on an issue title to see further details about the issue.

Current Issues	Workaround
"Setting the Power Management Hardcap Power Limit Prior to Booting the System Does Not Control System Power" on page 38	Yes
"OL/RHEL: Setting the Power Management Hardcap Power Limit Prior With the Host Power Off Does Not Control System Power (7009666)" on page 38	Yes
"OL/RHEL Error Message: `PCI: BIOS Bug MCFG area at e0000000 is not E820-reserved`" on page 39	Yes
"OL/RHEL Sound Server Informational Message: Error While Initializing the Sound Driver" on page 39	Yes
"SLES: Additional Software Driver Added May Not Work" on page 39	Yes
"SLES Error Message: `Hotpluggable processor device is not present`" on page 40	Yes
"SLES: 10GbE Driver Does Not Load Automatically During Boot (6994464)" on page 40	Yes

Setting the Power Management Hardcap Power Limit Prior to Booting the System Does Not Control System Power

If you set a power limit with `timelimit=0` (none) prior to booting the system, and the operating system (OS) is Oracle Linux 5.5, RHEL 5.5 or SLES 11, the power limit is not adhered to by the system.

Workaround

After the OS is booted, do the following:

1. Disable the budget activation state.
2. Re-enable the budget activation state.

Note – This must be done each time after the OS is booted.

OL/RHEL: Setting the Power Management Hardcap Power Limit Prior With the Host Power Off Does Not Control System Power (7009666)

If you set a system power limit in ILOM with host main power off, and the operating system (OS) is Oracle Linux 5.5 or RHEL 5.5, the power limit is not adhered to by the system once it is powered back on.

For example:

1. With the node host powered off, but logged into the node ILOM SP, enter the command:

   ```
   -> cd /SP/powermgmt/budget
   ```

2. Set the power limit:

   ```
   -> set pendingpowerlimit=140 commitpending=true

   Set 'pendingpowerlimit' to '140'
   Set 'commitpending' to 'true'
   ```

Even though you set a power budget cap of 140 watts, the host system will ignore this limit once it is powered on.

Workaround

Set your system power limit caps in ILOM only when the host system is fully powered on.

OL/RHEL Error Message: PCI: BIOS Bug MCFG area at e0000000 is not E820-reserved

Due to an issue in the Xen kernel for Oracle Linux 5.5 and RHEL 5.5, this erroneous error message regarding the reservation of a specific range of memory might be displayed during boot.

You can safely ignore this message. For more information see the Red Hat Knowledge Base article: `http://kbase.redhat.com/faq/docs/DOC-15977`

OL/RHEL Sound Server Informational Message: Error While Initializing the Sound Driver

When using the KDE Konqueror browser for Linux, the following message appears:

```
Sound server message: "Error while initializing the sound driver: /device
/dev/dsp can't be opened (No such file or directory).
```

The sound server will continue, using the null output device.

KDE always checks to see if a sound card is available and since the Sun blade X6275 M2 does not have one, this error appears.

Workaround

This error can be prevented from appearing by either:

- Clicking on the checkbox for "Do not show this message again".
- Or by going into **KDE Control Center -> Sound & Multimedia -> Sound System** and turning off the checkbox for "Enable the sound system".

This message is informational and has no impact on performance.

SLES: Additional Software Driver Added May Not Work

In SLES 11, when attempting to load an unsupported driver, an error is generated and the components will not start or load. For example, if you have an InfiniBand PCIe EM installed and are attempting to load `openibd`, `opensmd` and the HCA driver, SLES might flag it as an unsupported driver and prevent the driver from loading:

```
#/etc/init.d/opensmd start
OpenSM not installed
#/etc/init.d/openibd start
```

```
Loading eHCA driver: [FAILED]
Loading HCA driver and Access Layer: [FAILED]
```

All supported Linux kernel modules contain an internal "supported" flag which denotes that module as being officially supported by Novell. Beginning with SLES 11, modules that do not contain this flag are prevented from being loaded automatically or manually by the `modprobe` command. This is the default configuration of SLES 11 servers, but loading unsupported modules can be allowed through a configuration change.

Workaround

To allow the loading of unsupported modules in SLES 11, set **`allow_unsupported_modules 1`** in `etc/modprobe.d/unsupported-modules`.

After making this change, modules missing the "supported" flag will be allowed to load.

For more on the SLES 11 new module probe rule, do a search of the Novell Knowledge Base (`http://www.novell.com/support/search.do`) on document ID: 7002793.

SLES Error Message: Hotpluggable processor device is not present

You might see `Hotpluggable processor device is not present` error messages.

These messages appear to be informational and have no impact on performance.

SLES: 10GbE Driver Does Not Load Automatically During Boot (6994464)

After initial driver installation, the 10GbE driver functions properly. However, after a server reboot, the driver fails to load. This issue occurs for both SLES 10 SP3 and SLES 11 SP1.

Workaround

If you encounter this issue, you will need to manually load and reconfigure the driver.

Oracle Solaris Issues

This section describes issues with the supported Oracle Solaris operating system platforms and the Sun Blade X6275 M2 server module.

"Oracle Solaris Current Issues" on page 41

Oracle Solaris Current Issues

The following table lists the issues that are covered in this section. Click on an issue title to see further details about the issue.

Current Issues	Workaround
"Setting the Power Management Hardcap Power Limit Prior to Booting the System Does Not Control System Power" on page 41	Yes

Setting the Power Management Hardcap Power Limit Prior to Booting the System Does Not Control System Power

If you set a power limit with `timelimit=0` (none) prior to booting the system, and the operating system (OS) is Solaris, the power limit is not adhered to by the system.

Workaround

After the OS is booted, do the following:

1. Disable the budget activation state.
2. Re-enable the budget activation state.

Note – This must be done each time after the OS is booted.

Windows Issues

This section describes issues with the supported Microsoft Windows operating system platform and the Sun Blade X6275 M2 server module.

"Windows Current Issues" on page 43

Windows Current Issues

The following table lists the issues that are covered in this section. Click on an issue title to see further details about the issue.

Current Issues	Workaround
"The Sun Quad Gigabit Ethernet PCIe EM (X7284A-Z) Does Not Support Hot-Plug in Windows Server 2008 (6793369)" on page 43	Yes
"Configuring the 10GbE Driver for Maximum Performance Can Cause Windows Blue Screens (7010601)" on page 44	Yes

The Sun Quad Gigabit Ethernet PCIe EM (X7284A-Z) Does Not Support Hot-Plug in Windows Server 2008 (6793369)

Hot plug is not supported in Windows Server 2008 with the Sun Quad Gigabit Ethernet PCIe EM (X7284A-Z).

Workaround

Insert the PCIe EM and then reboot the system in order for it to be recognized.

Configuring the 10GbE Driver for Maximum Performance Can Cause Windows Blue Screens (7010601)

When running the installation wizard for the Sun Blade X6275 M2 server module 10GbE network interface driver for Windows Server 2008 R2, you will be offered a selection to run the 10GbE interface at maximum performance:

```
Check this box to configure your system for maximum 10GigE performance
(recommended).
```

Do not select this option. Oracle testing has found that checking this option can cause Window blue screens during common I/O function stress testing. This issue is under investigation.

Workaround

Do not configure the driver for maximum performance. Check these Product Notes for future updates.

Documentation Issues

This section contains documentation issues related to the Sun Blade X6275 M2 server module. See "Documentation Current Issues" on page 45.

Documentation Current Issues

The following table lists the issues that are covered in this section. Click on an issue title to see further details about the issue.

Documentation Current Issues	Workaround
"Getting Started Guide Contains Incorrect Power LED State Information" on page 45	No

Getting Started Guide Contains Incorrect Power LED State Information

The *Sun Blade x6275 M2 Server Module Getting Started Guide* incorrectly mentions the power LED state will change during a firmware update:

Updating - slow blink, 0.5 second on, 0.5 second off.

As of this release, the slow blink feature indicating a firmware update has not been implemented. During an update, the state of the OK/Power LED will not change.