Sun Blade Storage Module M2

Getting Started Guide

This guide describes the minimum steps you must perform to install, power on and configure Oracle's Sun Blade Storage Module M2 for the first time.

Detailed installation information can be found in the *Sun Blade Storage Module M2 Installation Guide*, which is available on the Oracle web site:

> http://download.oracle.com/docs/cd/E19452-01/index.html

Refer to the section "Documentation for This Product" at the end of this document for a complete list of documentation for this product.

Contents

- Storage module (SAS-2 compliant storage)
- Documentation
- Antistatic wrist strap (required for installing optional components). Purchased separately

Safety and Compliance Information

Before performing an installation, refer to the following documents for safety information regarding the Sun Blade Storage Module M2:

- *Important Safety Information for Sun Hardware Systems* – Printed document included in the ship kit.
- *Sun Blade Storage Module M2 Safety and Compliance Manual* – Available online on the Oracle web site.

Install Optional Components

Before installing the storage module into the blade chassis, first install any optional components that you ordered with the storage module, such as drives. Unless specified otherwise, only SAS-2 storage devices are supported in the Sun Blade Storage Module M2. Refer to the *Sun Blade Storage Module M2 Service Manual* for more information on installing optional components.

Confirm a Supported Hardware Environment

The Sun Blade Storage Module M2 supports SAS-2. To achieve maximum 6 Gb/s performance with SAS-2, all components that make up the chassis SAS-2 fabric (server modules, REMs, NEMs, chassis) must support SAS-2.

Note – Servers with a SAS-1 REM can access their own internal disks and the network portion of the NEM, but cannot access the chassis SAS-2 fabric. SAS-1 disk blades are not supported in the chassis SAS-2 fabric.

At the release of this document, the Sun Blade Storage Module M2 is supported in the following hardware environment (refer to the storage module documentation on the Oracle web site for up-to-date information).

Supported Sun Blade Server Modules	Supported SAS-2 RAID Expansion Modules (REM)	Supported Blade Chassis	Supported SAS-2 Network Express Modules (NEM)
Sun Blade T6320 (SPARC), with system firmware 7.2.8 or later. *See note below.*	• Sun Storage 6Gb SAS REM HBA (SGX-SAS6-REM-Z)	• Sun Blade 6000 Modular System with PCIe 2.0 midplane (minimum CMM ILOM firmware required is 3.0.10.15a, included in chassis software release 3.2.1)	• Sun Blade 6000 Virtualized Multi-Fabric 10GbE M2 NEM
Sun Blade T6340 (SPARC), with system firmware 7.2.8 or later. *See note below.*	• Sun Storage 6Gb SAS REM HBA (SGX-SAS6-REM-Z)	• Sun Blade 6000 Modular System with PCIe 2.0 midplane (minimum CMM ILOM firmware required is 3.0.10.15a, included in chassis software release 3.2.1)	• Sun Blade 6000 Virtualized Multi-Fabric 10GbE M2 NEM
Sun Blade X6270 M2 (x86)	• Sun Storage 6Gb SAS REM RAID HBA (SGX-SAS6-R-REM-Z) • Sun Storage 6Gb SAS REM HBA (SGX-SAS6-REM-Z)	• Sun Blade 6000 Modular System with PCIe 2.0 midplane (minimum CMM ILOM firmware required is 3.0.10.15a, included in chassis software release 3.2.1) • Sun Blade 6000 Modular System with PCIe 2.0 midplane (minimum CMM ILOM firmware required is 3.0.10.15b, included in chassis software release 3.2.2)	• Sun Blade 6000 Virtualized Multi-Fabric 10GbE M2 NEM

Note – The Sun Blade T6320 and T6340 server modules are supported for use in the chassis SAS-2 environment with a SAS-2 REM, but are limited to a maximum 3 Gb/s data transfer speed.

For an updated list of all compatible hardware that can be used with the storage module, refer to the *Sun Blade Storage Module M2 Product Notes.*

▼ Insert the Storage Module Into the Blade Chassis

1. **Ensure that your hardware environment supports SAS-2, as described in the previous section.**

2. **If not already done, power on the blade chassis.**

3. **Find a free blade chassis slot and remove the slot filler panel.**

   To maintain proper cooling, install the storage module within 60 seconds of removing the filler panel.

4. **Insert the storage module into the chassis as shown in the following illustration.**

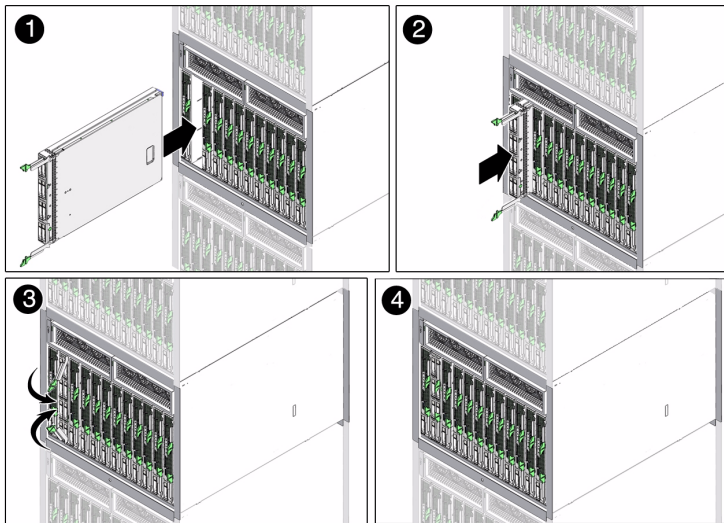   The storage module can be installed in any free chassis slot.

Figure Legend

1	Insert into empty slot.
2	Push in to engage backplane connection.
3	Rotate ejectors until they snap into place.
4	Storage module should be flush with chassis.

Chassis power will immediately be applied to the storage module. The following power-on sequence will take place:

- The storage module green activity LED will blink and then remain steady on as the module is initially discovered by the Chassis Monitoring Module (CMM).

- Full discovery of the storage module resources by the CMM can take 3 to 5 minutes. After full discovery, an "added to SAS-2 fabric" event will be added in the CMM Integrated Lights Out Manager (ILOM) event log for the storage module and each of its drives. At this point, you can assign storage module resources to hosts as described in the "Assign Storage Module Resources"section.

Note – A host server module's REM will not be able to see storage module resources until those resources are assigned on a per-host basis using the Sun Blade Zone Manager feature of the CMM ILOM.

Check Storage Module Status

Check to ensure the storage module is powered-on and that there are no faults. The green storage module activity and disk drive activity LEDs (shown below) should be steady on.

If you see an amber fault LED, do the following:

- For a module fault, try removing and reinstalling the storage module.

- For a single disk fault, try removing and reinstalling the disk drive.

- For a multiple disk fault, try removing and reinstalling the storage module.

Additional event information can be obtained through the CMM ILOM. For more on troubleshooting and servicing your storage module, refer to the *Sun Blade Storage Module M2 Administrator Guide* and the *Sun Blade Storage Module M2 Service Manual*.
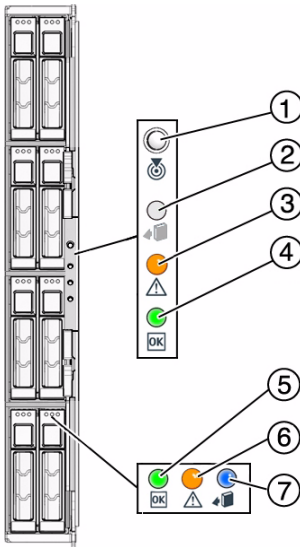

Figure Legend

1	Locate LED button.
2	Not used.
3	Module fault LED.
4	Module status LED.
5	Disk drive activity LED.
6	Disk drive fault/locate LED.
7	Disk drive ready-to-remove LED.

Upgrade Firmware

Oracle recommends that you upgrade your chassis CMM ILOM, SAS-2 NEMs, server module REMs, and storage module firmware to the latest version. This will help ensure compatibility with all installed components. To determine the firmware version of chassis devices, login to the CMM ILOM and view the CMM components. For a REM, launch the REM's BIOS configuration utility available during server boot.

For Sun Blade systems, firmware is available as part of a software release for the individual blade product and is posted on the Oracle site (http://www.oracle.com/goto/blades). More about upgrading storage module firmware can be found in the *Sun Blade Storage Module M2 Administrator Guide*.

▼ Assign Storage Module Resources

Before a host server module can see storage module resources, you must run the Sun Blade Zone Manager from the CMM ILOM to assign storage resources on a per-host basis (this process is also called *zoning*). Storage module resources can be assigned to either one host, or divided among several hosts.

The blade chassis SAS-2 fabric must be fully established and discovered by the CMM. This means that the components that make up the SAS-2 fabric (SAS-2 NEMs, server modules with SAS-2 REMs, and storage modules) must be online with no faults. CMM discovery of storage modules and devices in the chassis can take three to five minutes.

1. **Log in to the chassis CMM ILOM.**

   You can use either the CMM ILOM web interface (described here), or the CMM ILOM CLI. Both methods are described in the *Sun Blade Storage Module M2 Administration Guide.*

2. **Select** `CMM` **from the left pane and then select the** `Storage` **tab.**

3. **Check the** `Enabled` **box [see 1] for the Sun Blade Zone Manager and then click Save.**
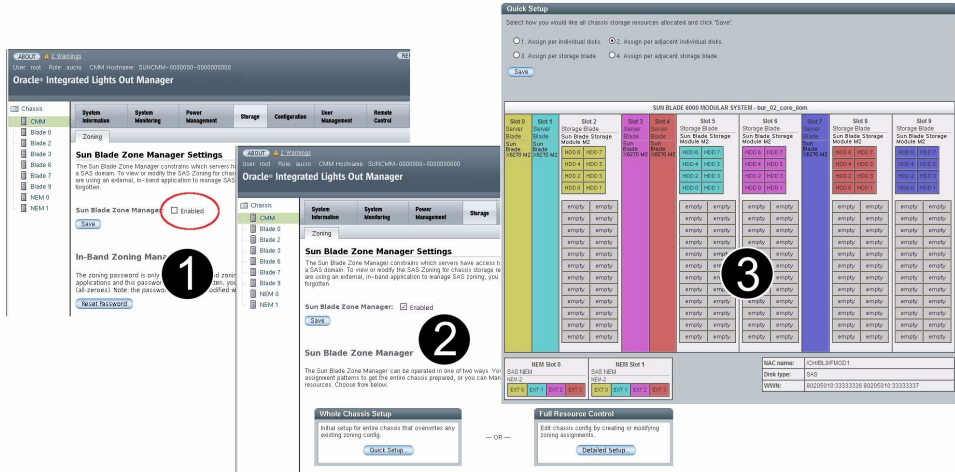
4. **Assign storage module resources to hosts using either the Quick (template-based) or Detailed (customized) setup option [see 2] of the Sun Blade Zone Manager.**

   The Sun Blade Zone Manager provides a graphical configuration of the chassis with supported servers and storage modules. Each participating host has its own assignments (called a zoned group). During the assignment process, each group (host and assigned storage) is assigned a unique color **[see 3]**. For detailed information on assigning storage module resources to hosts, refer to the *Sun Blade Storage Module M2 Administration Guide.*

Note – Host-to-storage assignments are not complete until you click Save and all affected devices display a green check mark. The configuration window must remain open until this process completes.

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5. **Log out of the CMM ILOM and access the console of a host to which you have assigned storage module resources.**

6. **Confirm that assigned storage module resources are discovered and available to the host (a rescan using the REM software or a server reboot might be required).**

   If your chassis has two SAS-2 NEMs, storage module SAS-2 drives will support dual path.

7. **Create your disk volumes using utilities supported by your server's REM.**

   For more information on creating volumes, refer to your REM documentation.

Install the Operating System and Storage Management Software

For a list of supported operating systems, see the *Sun Blade Storage Module M2 Installation Guide*. For more about storage management options (such as RAID support and storage module monitoring), see the *Sun Blade Storage Module M2 Administration Guide* and your REM documentation.

Documentation for This Product

The following table lists the documentation in the approximate order of the tasks that you might perform when installing a new system. Review the tasks on the left, then refer to the corresponding documentation on the right. You can find the most up-to-date versions of all the documents on the Oracle web site:

> http://www.oracle.com/technetwork/documentation/oracle-blade-sys-190001.html

For translated versions of the documentation, go to the web site and select your language to get the documentation set in your language.

Task	Document	Part Number
Review safety information.	*Safety and Compliance Manual*	821-0920
	Important Safety Information for Sun Hardware Systems	821-1590
Review any known issues and workarounds.	*Sun Blade Storage Module M2 Product Notes*	821-0911
	Sun Blade 6000 Modular System Product Notes	820-0055
Insert and power-on the storage module in the chassis for the first time.	*Sun Blade Storage Module M2 Installation Guide*	821-0913
Manage storage module storage, including host-to-storage assignment, RAID support, troubleshooting, and firmware upgrades.	*Sun Blade Storage Module M2 Administration Guide*	821-0914
Install optional storage module components. Remove and replace hardware components. Diagnose and isolate storage module problems.	*Sun Blade Storage Module M2 Service Manual*	821-0912