

Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide for Oracle® VM



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Using This Documentation

This section provides product information, documentation and feedback links, and a document change history.

- [“Sun Server X2-8 Name Change”](#) on page 5
- [“Product Downloads”](#) on page 5
- [“Documentation and Feedback”](#) on page 6
- [“About This Documentation”](#) on page 7
- [“Change History”](#) on page 7

Sun Server X2-8 Name Change

The Sun Server X2-8 was formerly named the Sun Fire X4800 M2 server. This former name might still appear in the product. The name change does not indicate any change in system features or functionality.

The new name identifies the following:

- X identifies an x86 product.
- The first number, 2, identifies the generation of the server.
- The second number, 8, identifies the number of processors.

Product Downloads

You can find downloads for all Oracle x86 servers and server modules (blades) on Support (MOS). On MOS you can find two type of downloads:

- Software release bundles specific to the rackmount server, server module, modular system (blade chassis), or NEM. These software release bundles include Oracle ILOM, Oracle Hardware Installation Assistant and other platform software and firmware.
- Standalone software common across multiple types of hardware. This includes the Hardware Management Pack and Hardware Management Connectors.

▼ Get Software and Firmware Downloads

- 1 Go to <http://support.oracle.com>.
- 2 Sign in to My Oracle Support.
- 3 At the top of the page, click the Patches and Updates tab.
- 4 In the Patch Search box, click Product or Family (Advanced Search).
- 5 In the Product ? is field, type a full or partial product name, for example, Sun Server X2-8 until a list of matches is displayed and select the product of interest.
- 6 In the Release ? is pull-down list, click the Down arrow.
- 7 In the window that appears, click the triangle (>) by the product folder icon to show the choices and then select the release of interest and click Close.
- 8 In the Patches Search box, click Search.
A list of product downloads (listed as patches) appears.
- 9 Select the Patch name of interest, for example, 12684585, for the Sun Server X2-8 1.0 Firmware.
- 10 In the right-side pane that appears, click Download.

Documentation and Feedback

Documentation	Link
All Oracle products	http://www.oracle.com/documentation
Sun Server X2-8	http://docs.oracle.com/cd/E20815_01/index.html
Oracle ILOM 3.0	http://www.oracle.com/technetwork/documentation/sys-mgmt-networking-190072.html#ilom

Provide feedback on this documentation at: <http://www.oracle.com/goto/docfeedback>.

About This Documentation

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, appendices, or section numbering.

You can get a PDF that includes all information about a particular topic subject (such as hardware installation or product notes) by clicking the PDF button on the top of the page.

Change History

The following lists the release history of this documentation set:

- July 2011 – Initial publication.
- October 2011 – Revised for SW1.1.
- January 2012 – Revised for SW1.2.
- April 2012 – Revised to add preinstalled Oracle VM, and additional rack mounting instructions.
- June 2012 – Revised to add the preinstalled Solaris 11 operating system.
- July 2012 – Revised to change name and to add 32 Gb DIMMs.

Introduction to Oracle VM Installation

This document provides instructions for installing Oracle VM on your server. It provides the following sections:

- “Preparing for OS Installation” on page 11
- “Installing Oracle VM” on page 29
- The Sun Server X2-8 was formerly named the Sun Fire X4800 M2 server. This former name might still appear in the product. The name change does not indicate any change in system features or functionality.

Preinstalled Oracle VM

You can now order your server with Oracle VM 3.0.2 preinstalled.

If your server is shipped with this option, for initial configuration instructions, refer to “Configuring the Factory-Installed Oracle VM Software” in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide*.

For additional information, refer to:

<http://www.oracle.com/technetwork/documentation/vm-096300.html>

Preparing for OS Installation

Certain tasks must be done before you can install an operating system, depending on whether there is an OS already on your boot drive, or your drives are new with no previous partitions.

The following tasks are covered:

- “Connecting to the System Console” on page 11
- “How to Erase Your Boot Hard Disk” on page 11
- “How to Create a Virtual Disk” on page 12
- “How to Set the Boot Drive” on page 26

Connecting to the System Console

To connect to the system console, choose one of the following methods:

- Locally, using the multiport cable. Refer to “Removing and Installing the Multiport Cable” in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Service Manual*.
- Using the Oracle ILOM command-line interface (CLI). Refer to “Communicating With Oracle ILOM and the System Console” in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide*.
- Remotely, using the Oracle ILOM web interface. Refer to “Communicating With Oracle ILOM and the System Console” in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide*.
- Using a customized PXE image through the PXE environment. Refer to “Configuring a Linux Server to Support PXE Installation” in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide for Linux Operating Systems*.

▼ How to Erase Your Boot Hard Disk

Your server might have the Oracle Solaris OS preinstalled on the hard drive. If an OS is installed, you must erase it before installing Oracle VM.

Before You Begin Obtain a copy of the Tools and Drivers CD.



Caution – This procedure erases all data from the hard drive. Back up any data you wish to save before starting this procedure.

- 1 Back up any data on the hard drive that you want to save.**
- 2 Insert the Tools and Drivers CD into the remote console (JavaRConsole).**
Refer to “[Communicating With Oracle ILOM and the System Console](#)” in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide*.
- 3 Boot the system from the Tools and Drivers CD.**
The tools and drivers main menu appears.
- 4 Select Erase Primary Boot Hard Disk.**
The Erase Primary Boot Hard Disk command erases all partitions currently on the primary hard drive, except for the diagnostic partition. An existing diagnostic partition is not erased.

Next Steps Proceed to “[How to Create a Virtual Disk](#)” on page 12.

▼ How to Create a Virtual Disk

Before attempting to install the operating system, you must create a virtual disk on your server to make available space accessible for the image download. The download erases the contents of the disk.

Virtual disks for downloading the operating system can be created from the LSI firmware. The LSI firmware can be reached only during boot-up of the server. Before the OS is launched and when the LSI banner is shown, you can press the Control-H key combination to access the LSI interface.

Note – Virtual disks can also be created from the MegaRAID software (which is installed through the supplemental drivers on the Tools and Drivers DVD), but should not be used for installing the operating system.

- 1 Log in to the server using the IP address of the service processor (SP) module.**
- 2 In the Web interface window, click the Remote Control tab to launch Oracle ILOM remote control.**
- 3 Click the KVMS tab > Mouse Mode > Relative, and then click Save.**

Note – The Relative option enables the mouse to move from window to window while you are in Remote Console. At the end of this procedure, you are asked to change this mouse setting to Absolute.

4 Click the Redirection tab.

The Redirection screen appears.

5 Click Launch Remote Console.

The Oracle ILOM 3.0 remote console window appears.

6 Click the Devices menu, and then select Mouse to enable the mouse.

7 Reboot your system.

8 Wait for the LSI banner. When the devices appear in the banner page, press the Control-H key combination.

The Adapter Selection screen appears.

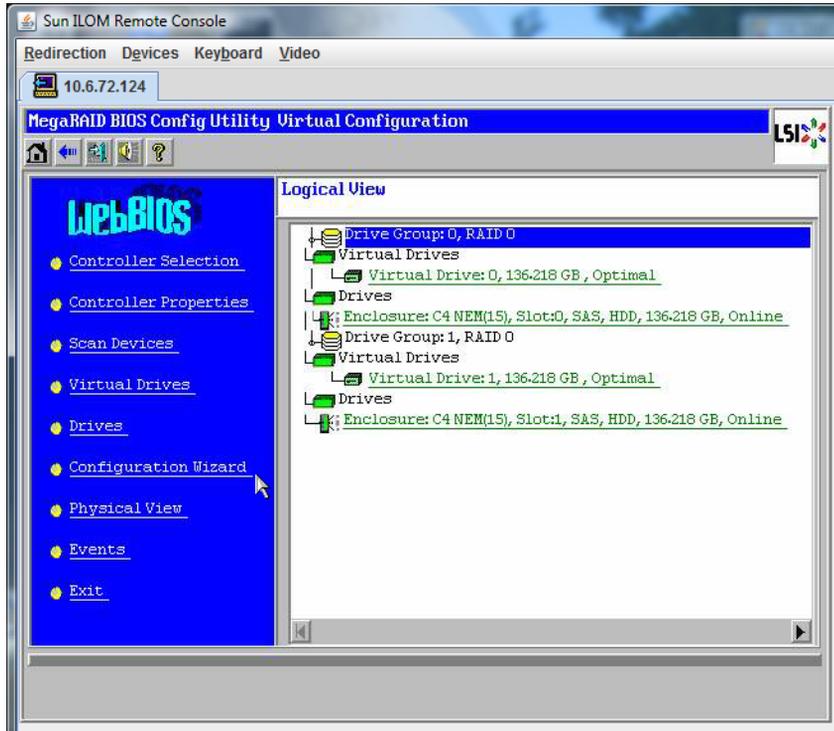
9 Click Start.

The MegaRAID BIOS Config Utility Virtual Configuration screen opens.

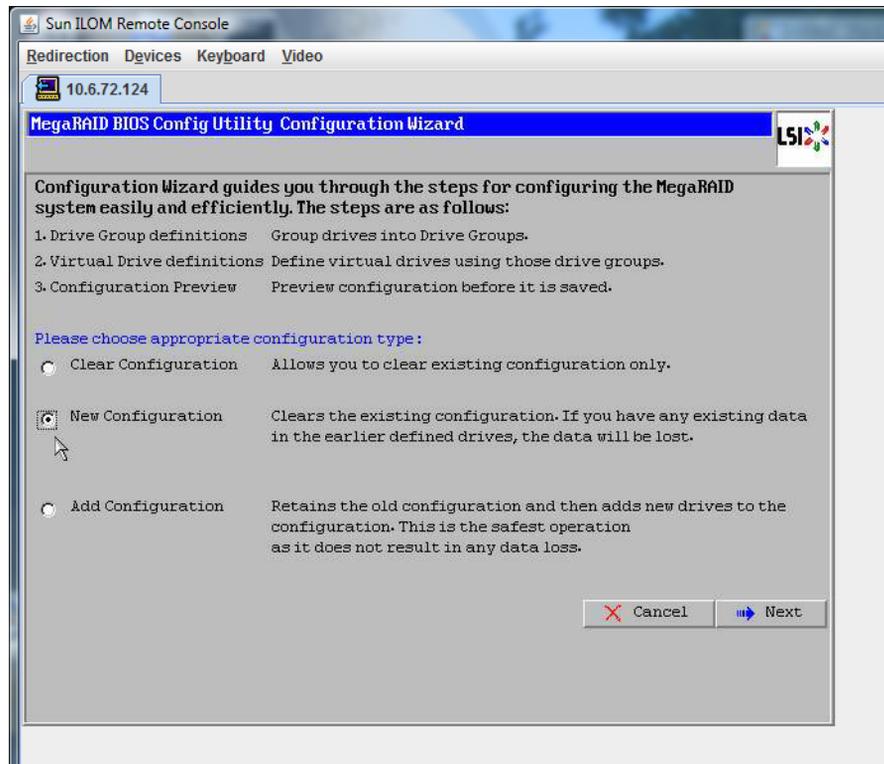


10 Click Configuration Wizard.

The Configuration Wizard screen opens.



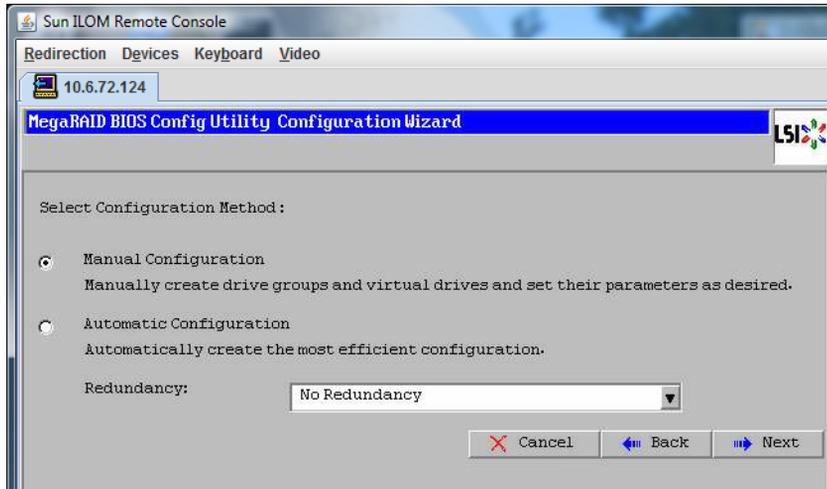
11 Click New Configuration, then click Next.



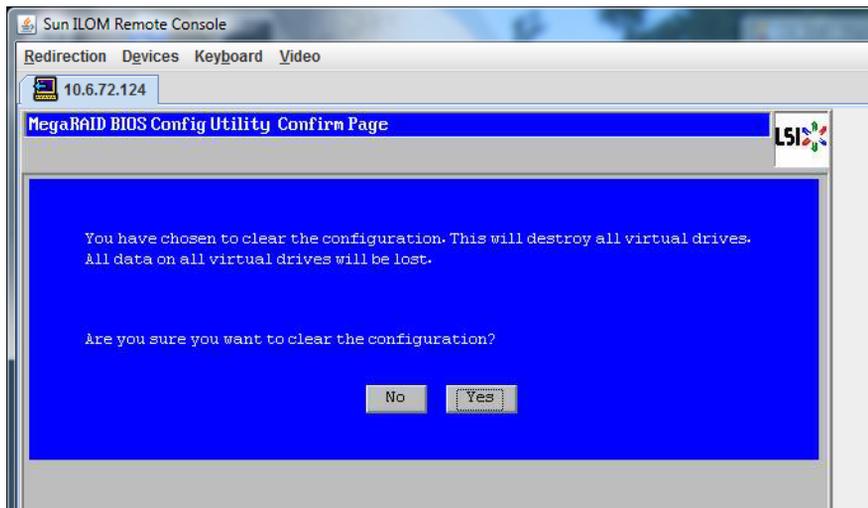
12 Select Manual Configuration.

Automatic Configuration creates a single virtual drive that includes all the hard drives on your system. More than one drive is configured as a striped set (RAID 0) and appears as a single virtual drive of combined storage space.

Note – This configuration might not be optimal, because it can enable multiple points of failure. For example, if one drive fails, then the operating system can not boot. Then, you must remove all drives except one. Alternatively, you can use Manual Configuration to create a virtual drive using only one hard drive.

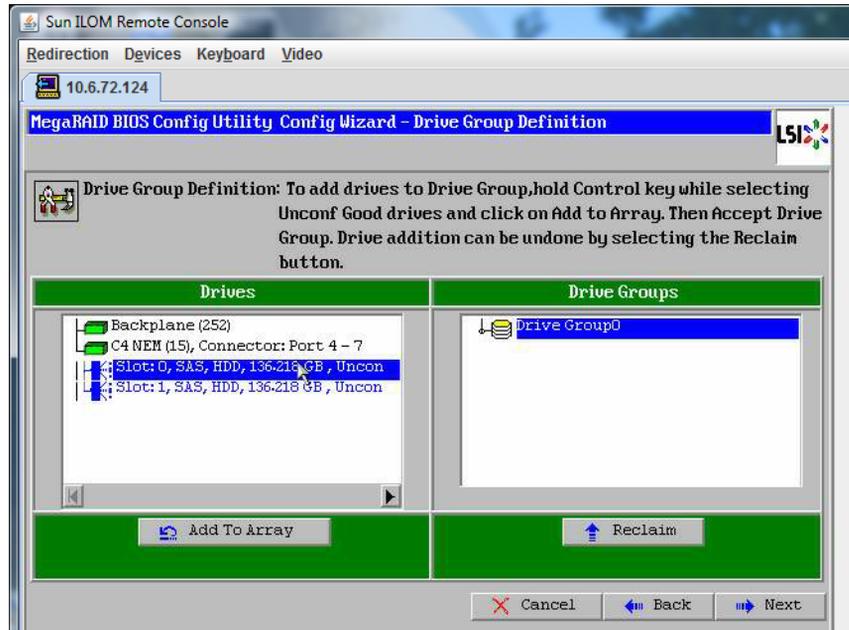


- 13 If a confirmation window appears, click Yes.



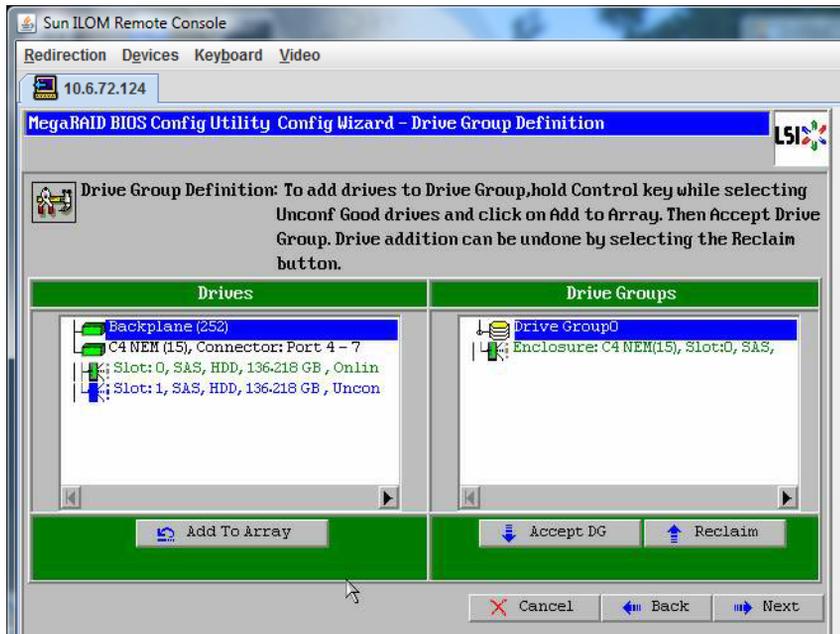
The MegaRAID BIOS Config Utility Config Wizard – Drive Group Definition screen appears.

- 14 Verify that the drives in the system and the drive groups appear. Select the drive you want and click Add To Array.



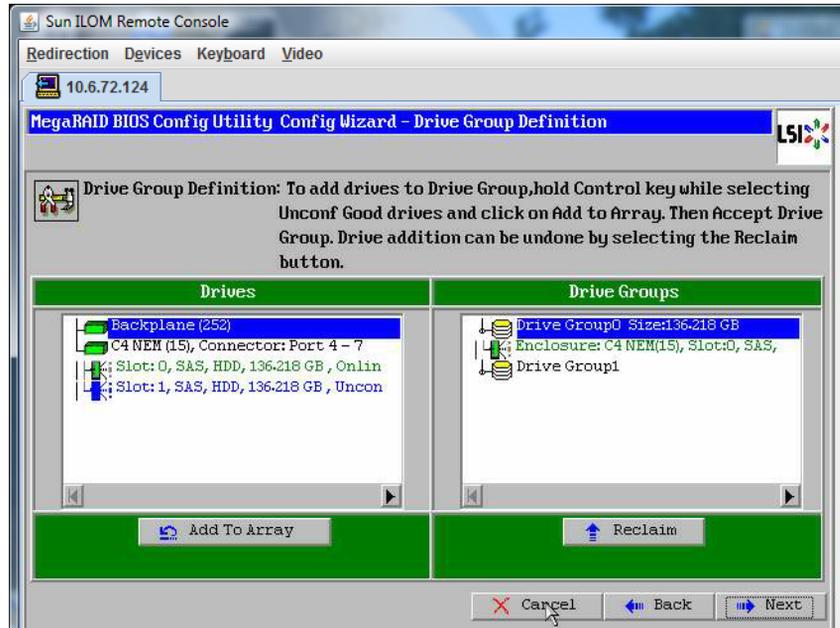
15 Click Accept DG to create the drive group.

You can now view Drive Group 0.

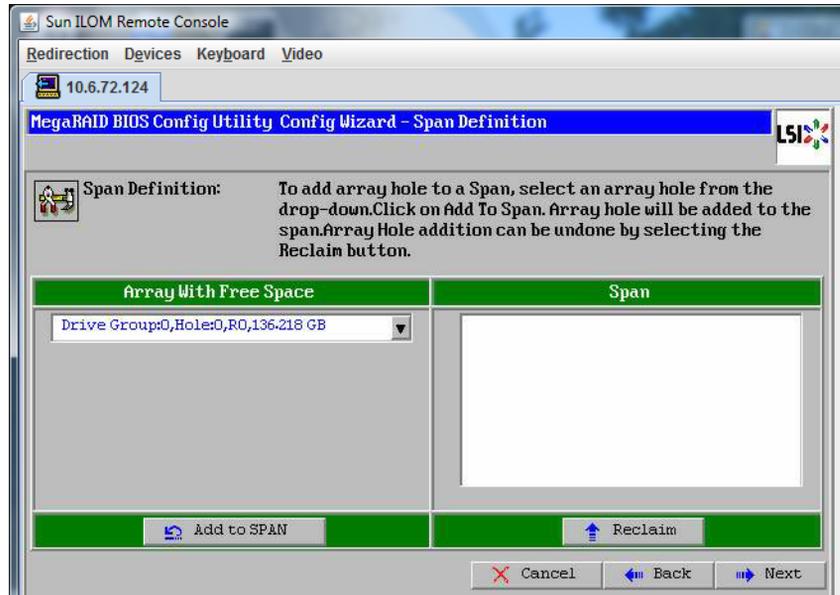
**16 Click Next.**

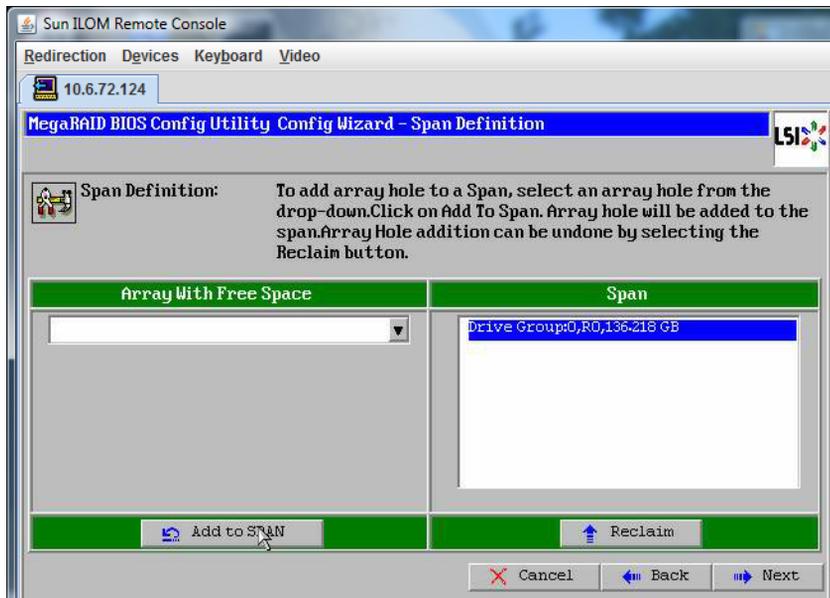
The drive group appears in the Span Definition window.

Note – You can undo the drive group selection by clicking the Reclaim button.



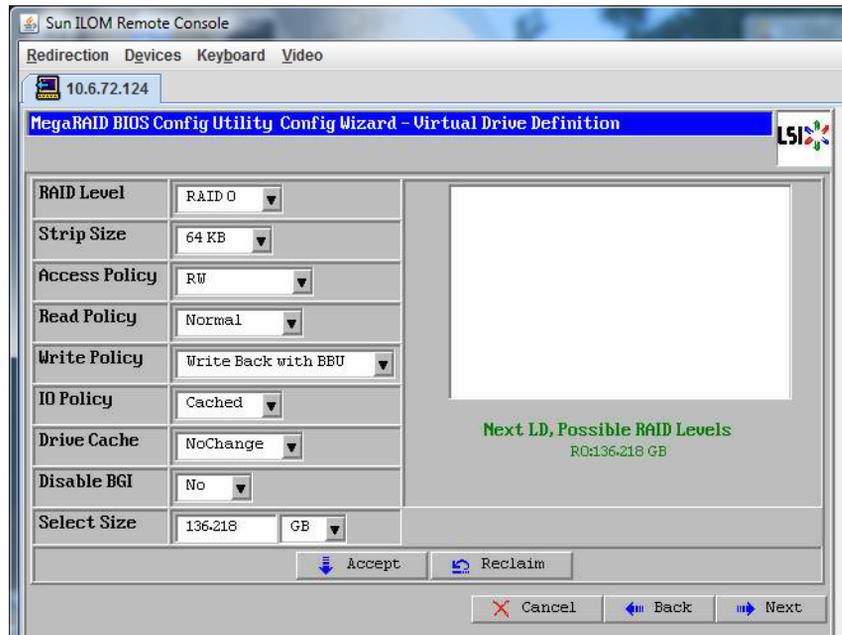
17 Click Add to SPAN.



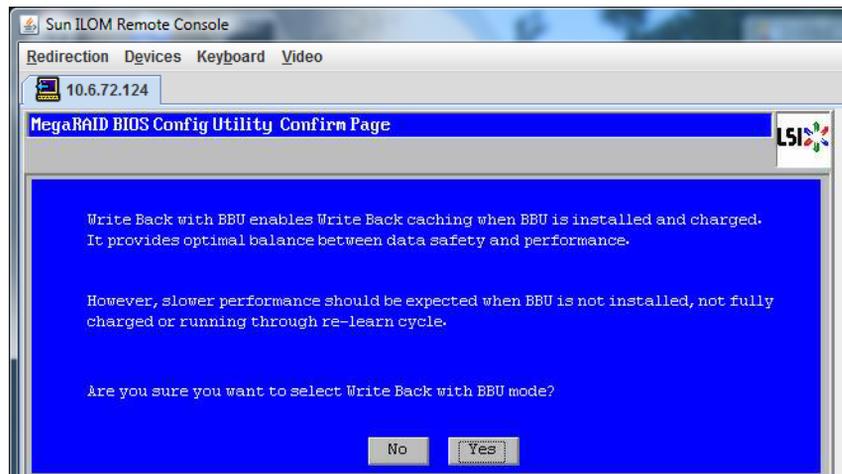
18 Verify that the drive group appears in the span. Click Next.

The Virtual Drive Definition screen appears.

- 19 Set the RAID level and configurations you want for your virtual drive, and click Accept.
For more information about configuring RAID, refer to your server's disk management documentation.

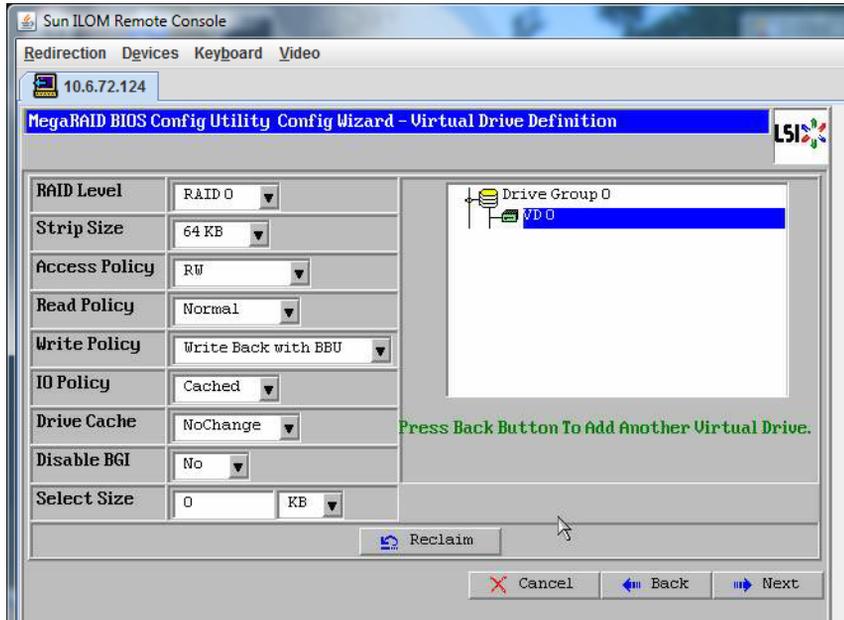


The system prompts you to confirm Write Back with BBU mode.



20 Click Yes.

The Config Wizard window appears.

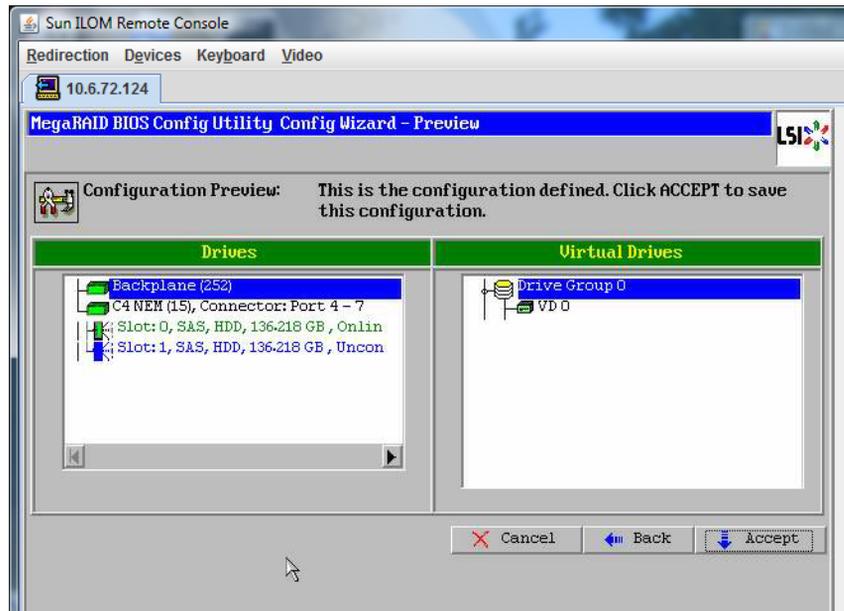
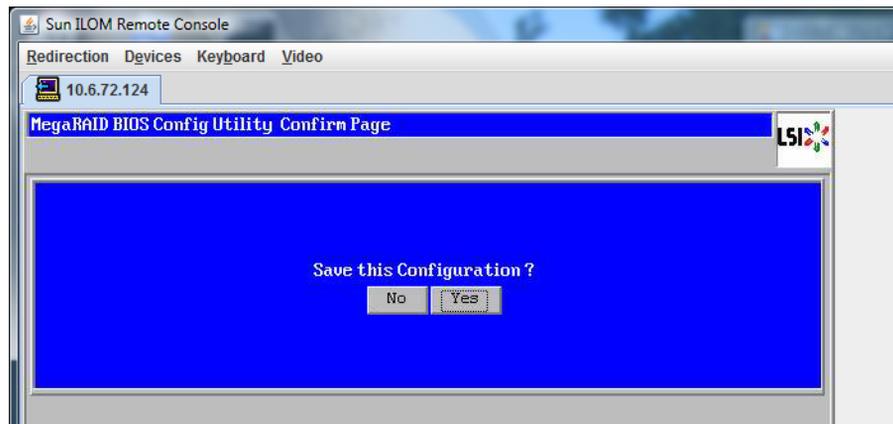


21 Click Next.

The Preview screen appears.

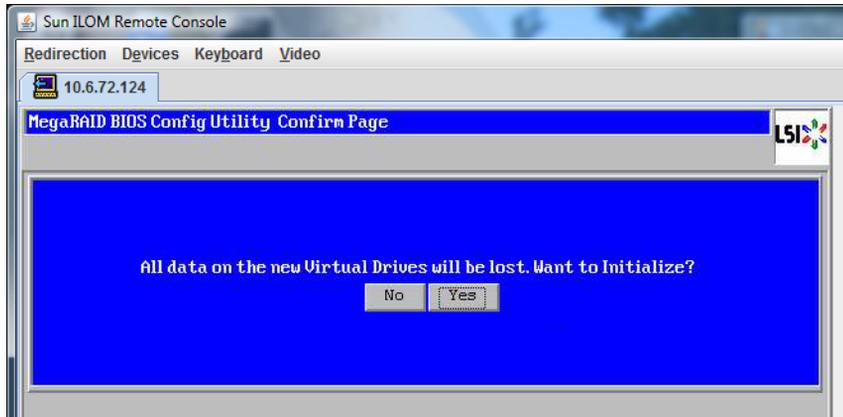
22 Verify that the virtual drive includes Drive Group 0.

This Preview screen example shows a single virtual drive using the Manual Configuration option:

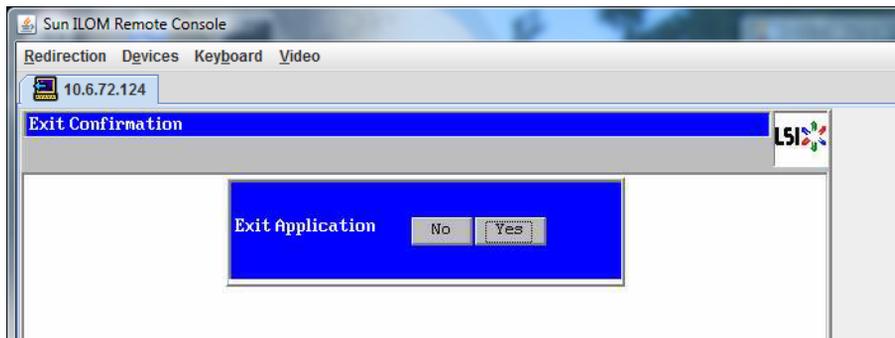
**23 Click Yes to save the Configuration.**

The All data on Virtual Drivers will be lost. Want to Initialize? prompt appears.

- 24 Click Yes to the prompt: All data on Virtual Drivers will be lost. Want to Initialize?



- 25 Click Yes to exit.

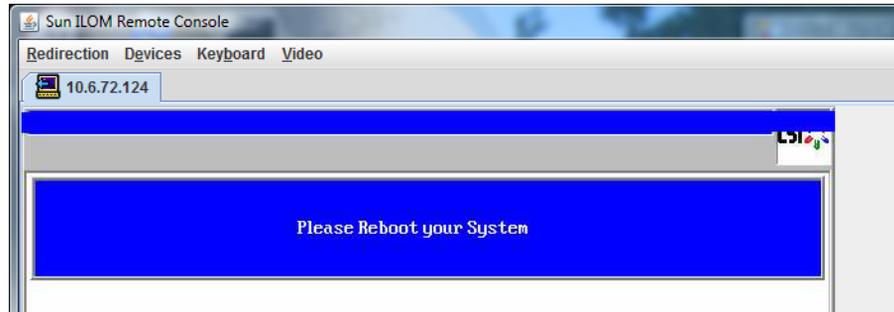


The Please Reboot Your System prompt appears.

- 26 Press the Alt-B key combination to view the keyboard pull-down menu.



Caution – You must do this step; otherwise, the next step using Control Alt Delete reboots your local machine.



- 27 Use the arrow keys to select Control Alt Delete in the menu to reboot the remote system. Press Enter.



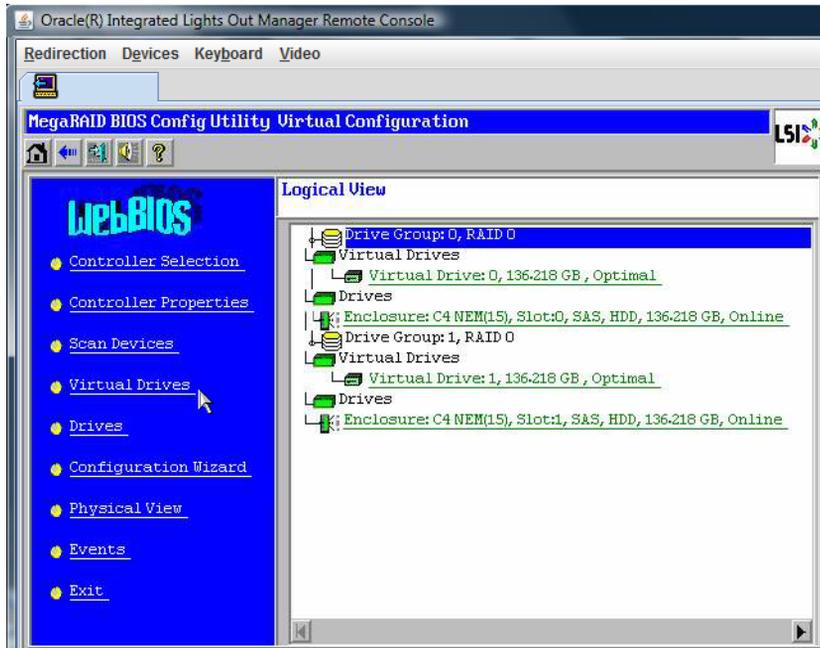
- 28 Go back and set the mouse mode to Absolute:
- a. In the Remote Control screen, click the KVMS tab.
 - b. Under Mouse Mode, select Absolute.
 - c. Click Save.

Next Steps "How to Set the Boot Drive" on page 26.

▼ How to Set the Boot Drive

After creating a virtual drive you need to set the drive to be the boot drive if you are going to install your operating system on it.

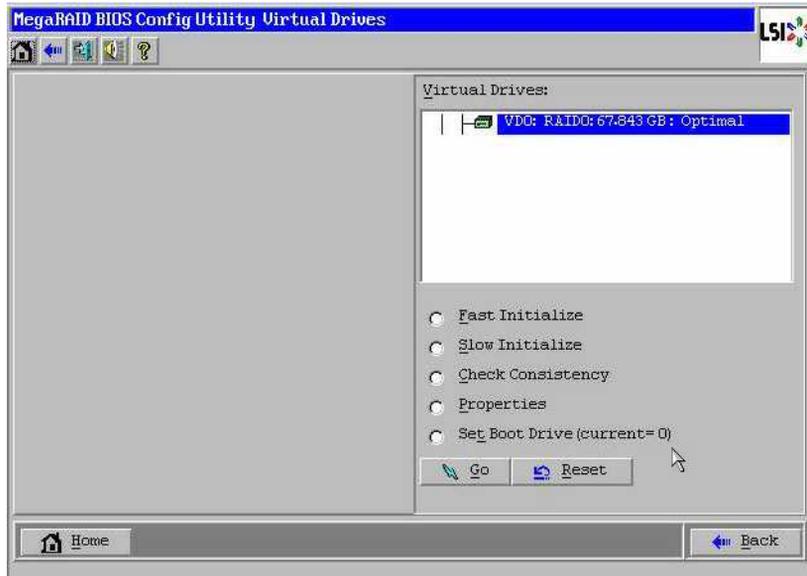
- 1 Go to the Configuration Wizard screen and select Virtual Drives.



The MegaRAID BIOS Config Utility Virtual Drives Configuration screen appears.

2 Check to see if Set_Boot Drive (current=none) is listed as one of the options:

If the Set_Boot Drive (current=none) option is listed, then the boot drive has not been set.

**3 Click Set_Boot Drive (current=none), and then click Go.**

The boot drive is set.

Installing Oracle VM

Your server is compatible for use with Oracle VM 2.2.2. Oracle VM is a virtualization environment platform that enables users to create and manage virtual machines (VMs). These virtual machines exist on the same physical server but behave like independent physical servers. Each virtual machine created with Oracle VM has its own virtual CPUs, operating system, network interfaces, and storage.

Oracle VM consists of the following components:

- **Oracle VM Manager:** A web application that acts as the user interface for creating and managing your virtual machines. This includes virtual machine creation (including templates), life cycle management (deploying, migrating, and deleting), and resource management (ISO files, templates, and shared storage resources).
- **Oracle VM Server:** A lightweight, secure virtualization environment based on Xen hypervisor used to run virtual machines and the Oracle VM Agent.
- **Oracle VM Agent:** Installed on Oracle VM Server, it communicates with Oracle VM Manager and includes a web services API for managing the Oracle VM Server, server pools, and resources.

The following topics describe the installation of Oracle VM and are included in this section:

Step	Description	Link
1	Check system requirements.	“System Requirements” on page 30
2	Obtain the installation image and burn it to a DVD or copy it onto a server.	“How to Obtain Oracle VM Software” on page 30
3	Install Oracle VM Server.	“How to Install Oracle VM Server” on page 31
4	Install Oracle VM Manager.	“How to Install Oracle VM Manager” on page 32
5	Create shared storage, a server pool, and virtual machines.	“Creating and Managing VM Resources” on page 33

System Requirements

- Two systems with static IP addresses are required to install Oracle VM: one system to run Oracle VM Server, and one to run Oracle VM Manager.
- For the system that will be running Oracle VM Server, you must start out with a clean installation (no preinstalled OS or firmware-level RAID volumes).
- The system that will be running Oracle VM Manager must have one of the following OSes installed:
 - Oracle Enterprise Linux Release 4.5 or later
 - Red Hat Enterprise Linux Release 4 or later
- Oracle VM media set or an equivalent ISO image. The ISO image can be used for remote installation or for creating an installation CD/DVD.
- Review the release notes for the Oracle VM software. Go to:
http://download.oracle.com/docs/cd/E15458_01/index.htm
- DVD-ROM drive.

Note – If you are installing remotely, the DVD-ROM drive, keyboard, mouse, and monitor are connected to the local system instead of the server. Also, you can use an ISO image instead of an actual CD/DVD.

- USB keyboard and mouse.
- Monitor.
- While configuring an operating system for a networked server, it might be necessary to provide the logical names (assigned by the OS) and the physical name (MAC address) of each network interface being used on the Oracle VM Server. Refer to “[Identifying Logical and Physical Network Interface Names for Linux OS Configuration](#)” in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide* for details.

▼ How to Obtain Oracle VM Software

- 1 **Download the Oracle VM software from the web at:**

<http://www.oracle.com/virtualization>

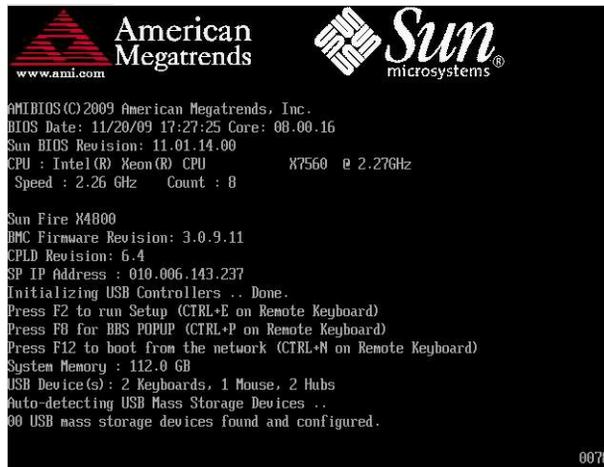
- 2 **If you plan on installing the software at the system, burn the ISO images to CD/DVDs.**

You should have a Oracle VM Manager CD/DVD, and a bootable Oracle VM Server CD/DVD.

▼ How to Install Oracle VM Server

Before You Begin See “System Requirements” on page 30.

- 1 **Connect to your server console.** For more information, refer to “Communicating With Oracle ILOM and the System Console” in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide*.
- 2 **If not done already, insert your Oracle VM Server distribution CD/DVD, or access the ISO image distribution media for the method you chose in step 1.**
- 3 **Power on or reset the server.**
BIOS messages appear on the console.



```

www.ami.com
American Megatrends
Sun
microsystems®

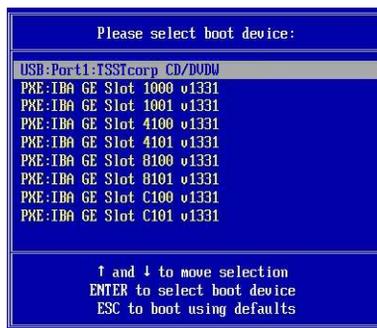
AMIBIOS (C) 2009 American Megatrends, Inc.
BIOS Date: 11/20/09 17:27:25 Core: 00.00.16
Sun BIOS Revision: 11.01.14.00
CPU : Intel(R) Xeon(R) CPU           X7560 @ 2.27GHz
Speed : 2.26 GHz      Count : 8

Sun Fire X4800
BMC Firmware Revision: 3.0.9.11
CPLD Revision: 6.4
SP IP Address : 010.006.143.237
Initializing USB Controllers .. Done.
Press F2 to run Setup (CTRL+E on Remote Keyboard)
Press F8 for BBS POPUP (CTRL+P on Remote Keyboard)
Press F12 to boot from the network (CTRL+N on Remote Keyboard)
System Memory : 112.0 GB
USB Device(s) : 2 Keyboards, 1 Mouse, 2 Hubs
Auto-detecting USB Mass Storage Devices ..
00 USB mass storage devices found and configured.

0078

```

- 4 **When you see a message offering a series of selections, press F8.**
After a delay, a menu offers a selection of boot devices (see the following example).



```

Please select boot device:
USB+Port1:TSScorp CD/DVD
PXE:IBA GE Slot 1000 v1331
PXE:IBA GE Slot 1001 v1331
PXE:IBA GE Slot 4100 v1331
PXE:IBA GE Slot 4101 v1331
PXE:IBA GE Slot 8100 v1331
PXE:IBA GE Slot 8101 v1331
PXE:IBA GE Slot C100 v1331
PXE:IBA GE Slot C101 v1331

↑ and ↓ to move selection
ENTER to select boot device
ESC to boot using defaults

```

5 Select a boot device from the list.

To boot from a physical CD/DVD or from an ISO image, select CD/DVD.

Refer to “Communicating With Oracle ILOM and the System Console” in *Sun Server X2-8 (formerly Sun Fire X4800 M2) Installation Guide*.

Control passes to the OS installation program on the media.

6 Type Enter at the boot prompt.

7 Follow the prompts to install the software.

Oracle VM Server and Oracle VM Agent software are installed.

For additional information, refer to the Oracle VM Server installation documentation at:

http://download.oracle.com/docs/cd/E15458_01/index.htm

▼ How to Install Oracle VM Manager

Before You Begin

If you are installing Oracle VM Server on an Oracle server, you can use Oracle Integrated Lights Out Manager (ILOM) to install software using either a CD/ DVD or an ISO image mounted on a remote system. The remote console feature allows you to use the keyboard, mouse, video, and storage of the remote system as if it were connected to the server where you are installing the operating system. After the remote console session is configured, the server can boot from the remotely mounted distribution media (either a CD/DVD or equivalent ISO file).

1 On a server running a supported operating system, insert and mount the Oracle VM Manager CD.

For supported operating system information, refer to the Oracle VM Manager installation documentation at:

http://download.oracle.com/docs/cd/E15458_01/index.htm

2 Navigate to the root of the CD and run the following script:

```
# sh runInstaller.sh
```

Note – If you are not already the root user, use the su command and enter the root password to give yourself the necessary privileges to launch the install script.

3 Follow the prompts to install the software.

For additional steps, refer to the Oracle VM Manager installation documentation at:

http://download.oracle.com/docs/cd/E15458_01/index.htm

Creating and Managing VM Resources

After installing Oracle VM Server (with Oracle VM Agent) and Oracle VM Manager, you can create and manage virtual resources.

- Create a shared storage repository. For fault tolerance, multiple virtual machines using this storage can be set up in a clustered configuration. Choose one of the following options for your shared storage:
 - OCFS2 (Oracle cluster file system) using the iSCSI (Internet SCSI) network protocol
 - OCFS2 using SAN (storage area network)
 - NFS (network file system)
 - Partition with multipath failover
- Create a server pool for your virtual machines.
- Create your virtual machines in the server pool.

For detailed information, refer to the Oracle VM installation documentation at:

http://download.oracle.com/docs/cd/E15458_01/index.htm

