Sun Blade 6000 Disk Module

Product Notes

Part No. 820-1709-14
May 2010, Revision A

Copyright © 2009, 2010, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related software documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, the following notice is applicable:

U.S. GOVERNMENT RIGHTS. Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle USA, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications which may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure the safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. UNIX is a registered trademark licensed through X/Open Company, Ltd.

This software or hardware and documentation may provide access to or information on content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services.

Copyright © 2009, 2010, Oracle et/ou ses affiliés. Tous droits réservés.

Ce logiciel et la documentation qui l'accompagne sont protégés par les lois sur la propriété intellectuelle. Ils sont concédés sous licence et soumis à des restrictions d'utilisation et de divulgation. Sauf disposition de votre contrat de licence ou de la loi, vous ne pouvez pas copier, reproduire, traduire, diffuser, modifier, breveter, transmettre, distribuer, exposer, exécuter, publier ou afficher le logiciel, même partiellement, sous quelque forme et par quelque procédé que ce soit. Par ailleurs, il est interdit de procéder à toute ingénierie inverse du logiciel, de le désassembler ou de le décompiler, excepté à des fins d'interopérabilité avec des logiciels tiers ou tel que prescrit par la loi.

Les informations fournies dans ce document sont susceptibles de modification sans préavis. Par ailleurs, Oracle Corporation ne garantit pas qu'elles soient exemptes d'erreurs et vous invite, le cas échéant, à lui en faire part par écrit.

Si ce logiciel, ou la documentation qui l'accompagne, est concédé sous licence au Gouvernement des Etats-Unis, ou à toute entité qui délivre la licence de ce logiciel ou l'utilise pour le compte du Gouvernement des Etats-Unis, la notice suivante s'applique :

U.S. GOVERNMENT RIGHTS. Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle America, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

Ce logiciel ou matériel a été développé pour un usage général dans le cadre d'applications de gestion des informations. Ce logiciel ou matériel n'est pas conçu ni n'est destiné à être utilisé dans des applications à risque, notamment dans des applications pouvant causer des dommages corporels. Si vous utilisez ce logiciel ou matériel dans le cadre d'applications dangereuses, il est de votre responsabilité de prendre toutes les mesures de secours, de sauvegarde, de redondance et autres mesures nécessaires à son utilisation dans des conditions optimales de sécurité. Oracle Corporation et ses affiliés déclinent toute responsabilité quant aux dommages causés par l'utilisation de ce logiciel ou matériel pour ce type d'applications.

Oracle et Java sont des marques déposées d'Oracle Corporation et/ou de ses affiliés.Tout autre nom mentionné peut correspondre à des marques appartenant à d'autres propriétaires qu'Oracle.

AMD, Opteron, le logo AMD et le logo AMD Opteron sont des marques ou des marques déposées d'Advanced Micro Devices. Intel et Intel Xeon sont des marques ou des marques déposées d'Intel Corporation. Toutes les marques SPARC sont utilisées sous licence et sont des marques ou des marques déposées de SPARC International, Inc. UNIX est une marque déposée concédée sous licence par X/Open Company, Ltd.

Please
Recycle

Contents

Preface vii

1. Sun Blade 6000 Disk Module Product Notes 1

Firmware Revision History 2

Obtaining the Latest Firmware Updates 2

2. Hardware Issues 5

Disk Drive's Green LED Does not Stop Blinking After Resync Completes (6717566) 6

Amber Locate LED Does not Show X6220 Server Blade HDDs (6711327) 6

Repeated Warning Messages When Inserting or Powering on a Disk Blade, SAS-NEM, or Disk (6694909) 7

Yellow Service LED for one Disk Comes on After RAID 1E Volume is Created (6706908) 8

Multiple HDD Resynch LEDs May Blink Simultaneously (6663520) 8

Expander Status Change Event Sent When Disk Blade is Hot-Plugged (6625472) 9

During Array Initialization with Build and Verify, HDDs Did Not Show the Green LED (6805033) 9

On the SP Console, Scrolling Characters Cause Difficulty in Cursor Navigation (6812100) 10

Power State of Blades From CMM Show Incorrect Environment (OFF) (6823893) 11

When Multiple Reset Commands are Performed the Sun Blade 6000 Will Fail to Power On (6824045) 11

Controller Kernel Stops Running After Reset (6793466) 11

- To reset the controller: 14
- To reboot the system after reset: 14

Server with a SAS-2 REM Might Hang When Inserted into a Chassis with SAS-1 Devices 14

3. Software Issues 17

VMWare 17

Oracle Solaris Issues 17

Linux Issues 18

Windows Issues 18

VMWare ESX does not recognize SCSI IDs (6790706) 18

Solaris OS Will not Install on 1 TByte RAID 19

Delete All Partitions Error With SUSE Linux Installer (6729550) 19

`raidctl` Operations Can Take More Than One Minute (6723851) 20

`format` Command Shows "Drive Not Available"(6725695) 20

Solaris Patch Required for Miniroot of Network Installers (6634536) 21

Solaris 0 5/08 Cannot be Installed From DVD on Server Blades in Filled Chassis (6735573) 22

mpxio-Capable SAS Disks Cannot be Managed by Solaris raidctl (6523832) 22

`raidctl -l` Truncates Solaris Volume Names (6729161) 23

Cannot Reactivate RAID Volumes on Servers Running the Solaris OS Using `raidctl` (6695619) 23

`raidctl` Cannot set Hot-Spare (6692827) 24

`raidctl -d` Operation Can Delete a Mounted RAID Volume (6750744) 24

`mpt` Driver Warning Messages During Solaris System Boot up (6634061) 25

Sun Blade T6300 and T63200 Server Modules Might Hang at Boot (6662335) 26

`scsi_vhci.conf` Setting for MPxIO Needs to be Reset (6742736) 26

Solaris `mpxio-upgrade` Incompatible with ZFS (6707555) 27

Failure to Complete Partition Request With SAS Disks and Windows Server 2003 27

Removing One NEM Causes Windows Server 2003 to Reboot (6715806) 28

Cannot Create Partition on Both Instances of a Dual-Pathed Disk With Windows Server 2003 (6715806) 28

Preface

This document intended to bring you late breaking information about the system, as well as workarounds for problems you might encounter when installing, configuring, or operating Oracle's Sun Blade 6000 Disk Module. This information is designed for system administrators who are experienced with the installation and configuration of the basic system components and its software.

Issues include information that you should know about, such as prerequisites, tips, troubleshooting hints, and change requests. Change requests have tracking numbers shown in parentheses.

Related Documentation

For a description of the document set for the Sun Blade 6000 Disk Module, see the *Where To Find Sun Blade 6000 Disk Module Documentation* sheet that is packed with your system and also posted at the product's documentation site at this URL:

`http://docs.sun.com/app/docs/coll/blade6000dskmod`

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

Typographic Conventions

Typeface	Meaning	Examples
`AaBbCc123`	The names of commands, files, and directories; onscreen computer output	Edit your `.login` file. Use `ls -a` to list all files. `% You have mail.`
`AaBbCc123`	What you type, when contrasted with onscreen computer output	`% su` `Password:`
AaBbCc123	Book titles, new words or terms, words to be emphasized. Replace command-line variables with real names or values.	Read Chapter 6 in the *User's Guide*. These are called *class* options. You *must* be superuser to do this. To delete a file, type `rm` *filename*.

Documentation Comments

Your comments on improving our documentation are welcome. Send feedback to:

http://www.sun.com/hwdocs/feedback

Please include the title and part number of your document with your feedback:

Sun Blade 6000 Disk Module Product Notes, part number *820-1709-14.*

CHAPTER 1

Sun Blade 6000 Disk Module Product Notes

This document contains late-breaking information and issues for the Sun Blade 6000 Disk Module. Sections included in this document:

- "Firmware Revision History" on page 2
- "Obtaining the Latest Firmware Updates" on page 2
- "Hardware Issues" on page 5
- "Software Issues" on page 17

Firmware Revision History

The firmware release history for the Sun Blade 6000 Disk Module and supported SAS NEMs is listed in the following table.

Note – Both the disk module and the SAS NEM firmware need to be at the same revision level.

TABLE 1-1 Sun Blade 6000 Disk Module and SAS NEM Firmware

Firmware Revision	Base Firmware Delivery Platform	Supported Hardware	Description
5.02.10 (502A)	Sun Common Array Manager 6.1.2	• Sun Blade 6000 Disk Module • Sun Blade 6000 Multi-Fabric Network Express Module • Sun Blade 6000 10GbE Multi-Fabric Network Express Module • Sun Blade 6000 Virtualized Multi-Fabric 10GbE Network Express Module	Initial release.
5.02.14 (502E)	Sun Common Array Manager 6.4.1	• Sun Blade 6000 Disk Module • Sun Blade 6000 Multi-Fabric Network Express Module • Sun Blade 6000 10GbE Multi-Fabric Network Express Module • Sun Blade 6000 Virtualized Multi-Fabric 10GbE Network Express Module	Support was added for second source to monitor disk module temperature and voltage.
5.04.03	Oracle Hardware Management Pack 2.0 (fwupdate utility)	• Sun Blade 6000 Disk Module • Sun Blade 6000 Multi-Fabric Network Express Module • Sun Blade 6000 10GbE Multi-Fabric Network Express Module • Sun Blade 6000 Virtualized Multi-Fabric 10GbE Network Express Module	Support added for SAS-1/SAS-2 device coexistence in a Sun Blade 6000 Modular System chassis.

Obtaining the Latest Firmware Updates

The latest firmware for the Sun Blade 6000 Disk Module is available as follows:

- Using the Sun Common Array Manager (CAM), available on the Sun download web site, at:

  http://www.sun.com/storagetek/management_software/resource_management/cam/get_it.html

- Using the `fwupdate` utility of Oracle Management Pack 2.0, you will need to download:
  - Oracle Hardware Management Pack 2.0 available on the Oracle download site:

    http://www.sun.com/systemmanagement/managementtools.jsp

  - The latest Sun Blade 6000 Disk Module software release available on the Oracle download site:

    http://www.sun.com/servers/blades/downloads.jsp

CHAPTER 2

Hardware Issues

This chapter describes hardware issues related to the Sun Blade6000 disk module. The following issues are described:

- "Disk Drive's Green LED Does not Stop Blinking After Resync Completes (6717566)" on page 6
- "Amber Locate LED Does not Show X6220 Server Blade HDDs (6711327)" on page 6
- "Repeated Warning Messages When Inserting or Powering on a Disk Blade, SAS-NEM, or Disk (6694909)" on page 7
- "Yellow Service LED for one Disk Comes on After RAID 1E Volume is Created (6706908)" on page 8
- "Multiple HDD Resynch LEDs May Blink Simultaneously (6663520)" on page 8
- "Expander Status Change Event Sent When Disk Blade is Hot-Plugged (6625472)" on page 9
- "During Array Initialization with Build and Verify, HDDs Did Not Show the Green LED (6805033)" on page 9
- "On the SP Console, Scrolling Characters Cause Difficulty in Cursor Navigation (6812100)" on page 10
- "Power State of Blades From CMM Show Incorrect Environment (OFF) (6823893)" on page 11
- "When Multiple Reset Commands are Performed the Sun Blade 6000 Will Fail to Power On (6824045)" on page 11
- "Controller Kernel Stops Running After Reset (6793466)" on page 11
- "Server with a SAS-2 REM Might Hang When Inserted into a Chassis with SAS-1 Devices" on page 14

Disk Drive's Green LED Does not Stop Blinking After Resync Completes (6717566)

When a RAID resync is in progress, the disk drive's green LED blinks in a regular pattern. It should stop blinking and stay lit after the resync completes. However, when a faulty disk in a RAID 1 mirror is replaced (in the same slot) the LED continues to blink in some cases, indicating the resynch is still in progress.

Workaround

The resync status of a RAID volume can be observed using the MegaRAID Storage Manager (MSM) software in Windows and Linux, `raidctl` in Solaris, or the LSI BIOS Configuration Utility. These are all documented in the *Sun LSI 106x RAID User's Guide* (820-4933).

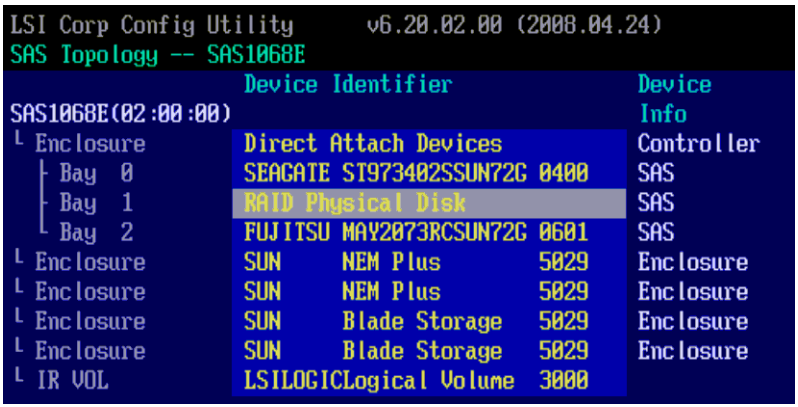
The green LED can be reset to the normal condition (solid green) by power cycling the Sun Blade 6000 Modular System Chassis and then removing and re-inserting the Sun Blade 6000 Disk Module.

Amber Locate LED Does not Show X6220 Server Blade HDDs (6711327)

In the SAS Topology screen of the LSI BIOS Configuration Utility, there is a mechanism to turn on the disk amber LED of the disks in a RAID volume to locate them. This locate feature is not functional for directly attached disks in host server blade disk bays.

Workaround

In the SAS Topology screen, you can select Direct Attach Devices to view direct attached disks on host server blades.



The bay number next to the disk shown as a member of the RAID volume corresponds to the silk-screen number on the host server blade's bays. In the case above, the disk that is a member of the RAID volume is in the disk bay with silk-screen label 1.

Repeated Warning Messages When Inserting or Powering on a Disk Blade, SAS-NEM, or Disk (6694909)

The following pair of warning messages may appear repeatedly upon insertion of HDDs and upon powering on Sun Blade 6000 Disk Module or Sun Blade 6000 Multi-Fabric Network Expansion Module:

scsi: WARNING: /pci@7c0/pci@0/pci@2/LSILogic,sas@0 (mpt0):

mpt_handle_event_sync: IOCStatus=0x7, IOCLogInfo=0x0

Workaround

These warning messages are benign and can be ignored.

Yellow Service LED for one Disk Comes on After RAID 1E Volume is Created (6706908)

After creating a RAID 1E volume, one or more of the member disk drive's amber service LEDs may turn on, even though there is no HDD fault.

Workaround

If you create a RAID 1E volume, ignore the amber service LEDs on the disk drives. Instead, view the disk drive's status using the MegaRAID Storage Manager (MSM) software in Windows and Linux, `raidctl` in Solaris, or the LSI BIOS Configuration Utility. These are all documented in *Sun LSI 106x RAID User's Guide* (820-4933).

Multiple HDD Resynch LEDs May Blink Simultaneously (6663520)

Only one RAID volume at a time can resynch. When volume B needs to resynch, but volume A is resynching, volume B must wait to resynch until the volume A resynch is completed.

If a disk in an LSI RAID volume B fails while another RAID volume (volume A) is resynching, the resynch light on the hot-spare for volume B starts blinking even though volume B has not begun to resynch.

Workaround

This is expected behavior. One volume is resynching and the other is in queue to resynch. You can view the status of each RAID (A is resynching and B is degraded) using the MegaRAID Storage Manager (MSM) software in Windows and Linux, `raidctl` in Solaris, or the LSI BIOS Configuration Utility. These are all documented in *Sun LSI 106x RAID User's Guide* (820-4933).

Expander Status Change Event Sent When Disk Blade is Hot-Plugged (6625472)

When you change your storage hardware configuration, you may see the following Solaris message:

```
mpt0: unknown event 1b received
```

The message is harmless and may be safely ignored.

Workaround

Ignore the message. Check for the availability of a patch for this defect.

During Array Initialization with Build and Verify, HDDs Did Not Show the Green LED (6805033)

When a Sun Blade 6000 Disk Module is connected to a Sun Blade RAID 5 Expansion Module (X4620A) and you build a RAID volume that includes disks in slot 4 and/or slot 6, the LEDs on these disk will not blink during RAID initialization, rebuilding or verification.

Workaround

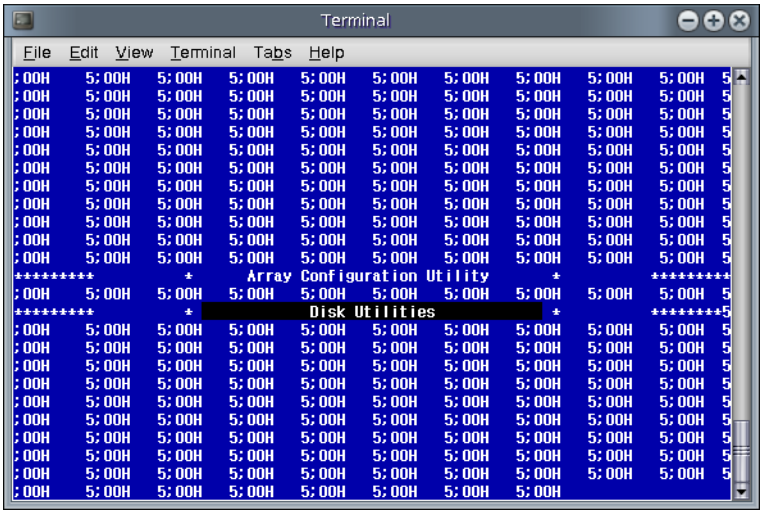
Use the Sun RAID Manager interface to confirm that disks four and/or six are part of the RAID volume. Alternatively, use the Sun Blade G2 RAID 0/1 Expansion Module (X4607A).

On the SP Console, Scrolling Characters Cause Difficulty in Cursor Navigation (6812100)

When a Sun Blade 6000 Disk Module is connected to a Sun Blade RAID 5 Expansion Module (X4620A) and you attempt to connect to the BIOS through the SP the screen will be obscured by scrolling "5;00H" characters.

[I 5 ; 0 0 H

FIGURE 2-1 Scrolling Characters in Adaptec BIOS Main Menu



Workaround

1. Don’t use the SP. Connect to the host blade directly.
2. Use the Sun Blade G2 RAID 0/1 Expansion Module (X4607A).

Power State of Blades From CMM Show Incorrect Environment (OFF) (6823893)

When power is removed from the Sun Blade 6000 Disk Module, whether by power cycling the blade itself or the entire chassis, the power state shown by the CMM command `show /CH/` will show the blade as powered off when it is actually powered on

Workaround

Run the `start /CH/` command from the CMM.

When Multiple Reset Commands are Performed the Sun Blade 6000 Will Fail to Power On (6824045)

When resetting the Sun Blade 6000 Disk Module though the CMM, the power state shown by the CMM command `show /CH/` will show the blade as powered off when it is actually powered on.

Workaround

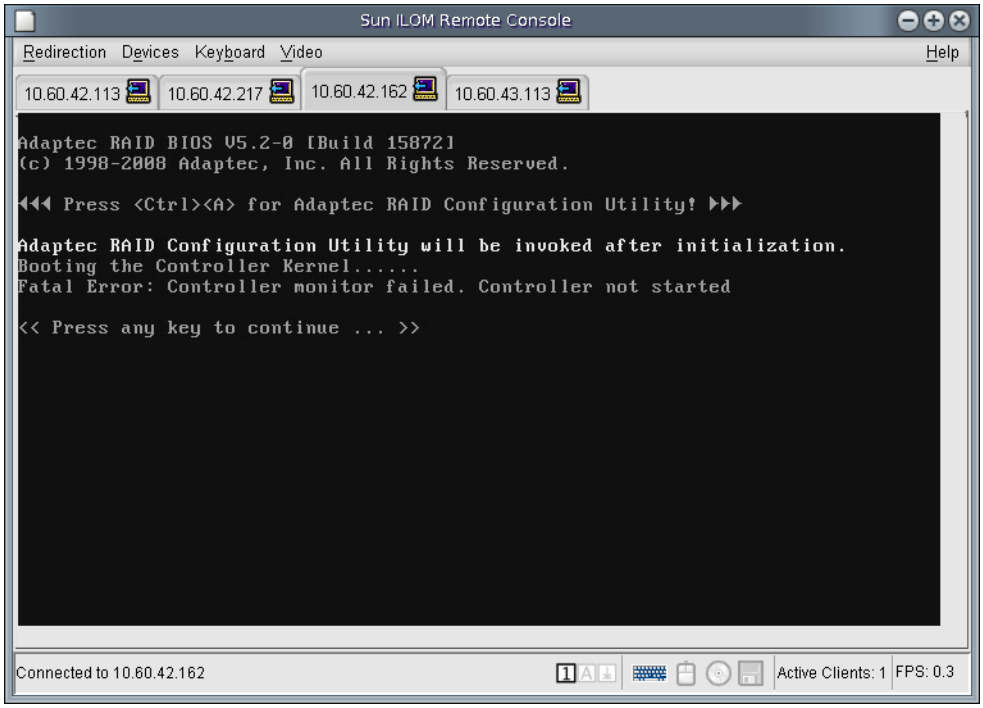
Use the `start /CH/` and `stop /CH/` command from the CMM instead of the reset command.

Controller Kernel Stops Running After Reset (6793466)

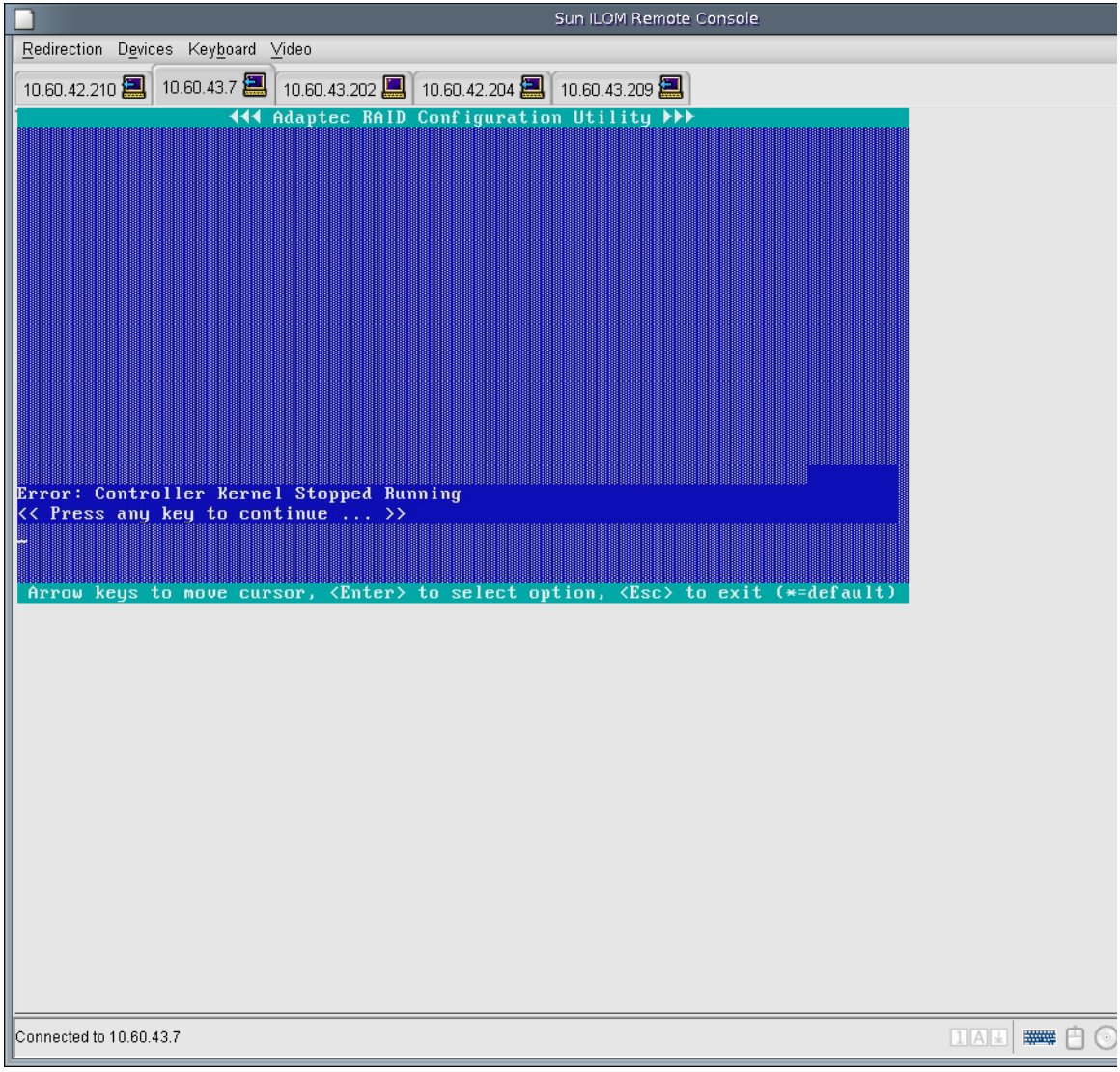
The HBA hangs during system reboot or boot up.

FIGURE 2-2 Reboot Hang

FIGURE 2-3 Controller Error



The HBA crashes in the Adaptec BIOS RAID manager.


Sun ILOM Remote Console
Redirection Devices Keyboard Video
10.60.42.210
10.60.43.7
10.60.43.202
10.60.42.204
10.60.43.209
Adaptec RAID Configuration Utility
Error: Controller Kernel Stopped Running
<< Press any key to continue ... >>
Arrow keys to move cursor, <Enter> to select option, <Esc> to exit (*=default)
Connected to 10.60.43.7

Workaround

▼ To reset the controller:

1. **Shut down the CPU blade by pressing the power button in the front panel.**
2. **Eject the Sun Blade 6000 away from the chassis backplane.**
3. **Eject all internal HDDs from the backplane (if any).**
4. **Power up the CPU blade.**
5. **Press <Ctrl-A> at the RAID BIOS to enter BIOS CU. Make sure that there is no disk in the system.**
6. **Press <Esc> to exit RAID BIOS and reboot the system. Repeat Step 5, and continue to step 7**
7. **Press the CPU blade power button to shut down the system.**

▼ To reboot the system after reset:

1. **At the power off, insert Vela back to the same slot configuration.**
2. **Insert all internal hard disk drives back to their own slots (If any)**
3. **Power up the CPU blade.**

Server with a SAS-2 REM Might Hang When Inserted into a Chassis with SAS-1 Devices

If a server module with a SAS-2 REM is inserted into a Sun Blade 6000 Modular System chassis that has SAS-1 NEMs, or SAS-1 NEMs and Sun Blade 6000 Disk Module, the server's SAS-2 REM might hang. To prevent this, you need to upgrade the firmware of your SAS-1 NEMs and Sun Blade 6000 Disk Modules to a firmware version that supports SAS-1/SAS-2 coexistence. The minium SAS expander firmware required for SAS-1 NEMs and the Sun Blade 6000 Disk Module is 5.04.03. **This upgrade must be done before you insert a SAS-2 server blade into the chassis.**

Available SAS-1 NEMs and disk modules that would require this upgrade include:

- Sun Blade 6000 Disk Module (B18-AA)
- Sun Blade 6000 Multi-Fabric Network Express Module (X4212A)
- Sun Blade 6000 10GbE Multi-Fabric Network Express Module (X4236A)
- Sun Blade 6000 Virtualized Multi-Fabric 10GbE Network Express Module (X4238)

An example of a SAS-2 server module is the Sun Blade X6270 M2. This server includes a SAS-2 REM. Available SAS-2 REMs include:

- Sun Storage 6 Gb SAS REM RAID HBA (SGX-SAS6-R-REM-Z)
- Sun Storage 6 Gb SAS REM HBA (SGX-SAS6-REM-Z)

Refer to your product documentation to find out if your server blade includes a SAS-2 REM.

For detailed instructions on performing the upgrade, refer to the *SAS-1/SAS-2 Compatibility Upgrade Guide for the Sun Blade 6000 Modular System* (821-1800) which can be found in:

`http://docs.sun.com/coll/blade6000dskmod`

CHAPTER 3

Software Issues

This chapter describes software issues related to the Sun Blade 6000 disks module. The following issues are described:

VMWare

"VMWare ESX does not recognize SCSI IDs (6790706)" on page 18

Oracle Solaris Issues

- "Solaris OS Will not Install on 1 TByte RAID" on page 19
- "`raidctl` Operations Can Take More Than One Minute (6723851)" on page 20
- "`format` Command Shows "Drive Not Available"(6725695)" on page 20
- "Solaris Patch Required for Miniroot of Network Installers (6634536)" on page 21
- "Solaris 0 5/08 Cannot be Installed From DVD on Server Blades in Filled Chassis (6735573)" on page 22
- "mpxio-Capable SAS Disks Cannot be Managed by Solaris raidctl (6523832)" on page 22
- "`raidctl -l` Truncates Solaris Volume Names (6729161)" on page 23
- "Cannot Reactivate RAID Volumes on Servers Running the Solaris OS Using `raidctl` (6695619)" on page 23
- "`mpt` Driver Warning Messages During Solaris System Boot up (6634061)" on page 25
- "Sun Blade T6300 and T63200 Server Modules Might Hang at Boot (6662335)" on page 26
- "`scsi_vhci.conf` Setting for MPxIO Needs to be Reset (6742736)" on page 26
- "Solaris `mpxio-upgrade` Incompatible with ZFS (6707555)" on page 27

Linux Issues

- "Delete All Partitions Error With SUSE Linux Installer (6729550)" on page 19

Windows Issues

- "Failure to Complete Partition Request With SAS Disks and Windows Server 2003" on page 27
- "Removing One NEM Causes Windows Server 2003 to Reboot (6715806)" on page 28
- "Cannot Create Partition on Both Instances of a Dual-Pathed Disk With Windows Server 2003 (6715806)" on page 28

VMWare ESX does not recognize SCSI IDs (6790706)

VMware ESX 3.5 fails to recognize disks with SCSI IDs greater than 61 on the Sun Blade 6000 disk module. You may encounter this in installations with very high disk counts, which can occur when more than four disk blades are installed in a single Sun Blade 6000 chassis.

When larger configuration exist in the chassis and multipathing is enabled, some disks may not be available for use to ESX.

You may occasionally see the error, but there will be no interruption in service. This problem will be fixed in a future release.

Workaround

Limit the number of disk blades to four per Sun Blade 6000 chassis.

Solaris OS Will not Install on 1 TByte RAID

The Oracle Solaris OS cannot be installed on a RAID array larger than one terabyte.

The Solaris installer OS doesn't support it.

Workaround

There is no workaround for this issue.

Delete All Partitions Error With SUSE Linux Installer (6729550)

If you choose to delete all partitions during SUSE Linux installation and you are using a disk blade with two SAS-NEMs and no hardware RAID, you will see a popup window with message "system error code was: -1014". Then, when you click OK, the installation aborts.

Note – This problem only occurs when you are using an LSI SAS host bus adapter. If you are using an Adaptec host bus adapter, you *must* create volumes with the BIOS RAID configuration utility, so that the OS is unaware of the second path.

Explanation

Under the conditions described, each physical disk is shown to the OS as two logical disks. The SUSE installer is not multi-path aware, so it cannot combine two logical disks into one entity. When you choose to delete all partitions, the installer tries to delete partitions on both logical disks. This operation fails and you get the error message.

Workaround

There are two possible workarounds:

1. Choose only one instance of the disk for partition deletion: Reboot the system and restart the installation process. Do not choose to delete any partition except the boot and root file system. Once the OS is installed and booted up, you can make make modification to partition tables.
2. Use the LSI BIOS configuration utility to create a hardware RAID volume. Then the OS is unaware of the second path.

`raidctl` Operations Can Take More Than One Minute (6723851)

On SPARC systems `raidctl -l` and `raidctl -S` operations could take more than one minutes per disk.

Workaround

None at present.Check for the availability of a patch for this problem.

`format` Command Shows “Drive Not Available”(6725695)

The Solaris `format` command shows disks as "drive not available" after RAID volumes are created or deleted using `raidctl`.

Workaround

There are wo workarounds:

1. Reboot the system.
2. When the `format` command results in a `driver not available` message, use the `cfgadm -c` command to unconfigure the corresponding disk access point, regardless of whether a volume is created or deleted.

Solaris Patch Required for Miniroot of Network Installers (6634536)

Solaris 10 5/08 cannot be installed on server blades whose paired disk blade contains above a certain number of hard drives. A patch must be added to the miniroot of network install servers for users who maintain network install servers.

Workaround

This is the procedure for adding patch 138076-02 to the x86 miniroot. The procedure must be done on an x86 system running the latest Solaris 10update, with the latest available packaging/patching utilities installed:

1. **cd to your Solaris_10/Tools directory.**
2. **Run setup_install_server to a local directory:**

   # **./setup_install_server -b /export/home/s10u5_patch**

3. **Unpack the miniroot:**

   # **/boot/solaris/bin/root_archive unpackmedia /export/home/s10u5_patch /export/home/s10u5_patch_mr**

4. **Install the patch.**

   # **patchadd -C /export/home/s10u5_patch_mr <patch directory>**

5. **Pack up the new miniroot:**

   # **/boot/solaris/bin/root_archive packmedia /export/home/s10u5_patch /export/home/s10u5_patch_mr**

Now on your install server, use setup_install_server and then copy the newly generated x86.miniroot over:

1. **cd to your Solaris_10/Tools directory.**
2. **Run setup_install_server to a local directory:**

./setup_install_server /export/home/s10u5_patch

3. **Save the old x86.miniroot file:**

cd /export/home/s10u5_patch/boot

cp -p x86.miniroot x86.miniroot.orig

4. **Copy the new x86.miniroot file from the machine on which you built it, for example:**

```
# cp -p
/net/<machine_name>/export/home/s10u5_patch/boot/x86.miniroot.
```

Solaris 0 5/08 Cannot be Installed From DVD on Server Blades in Filled Chassis (6735573)

Solaris 10 5/08 cannot be installed on X6220 blades in a Sun Blade 6000 chassis that contains above a certain number of hard drives in disk blades.

An installation from DVD will fail if the chassis is populated with server/disk pairs.

Workaround

Remove all blades from the chassis except for a single X6220 server blade or a pair of an X6220 server blade and a disk blade. Then install Solaris 10 5/08.

After the installation the system should be booted and patch 138076 applied before repopulating the chassis with other blades.

mpxio-Capable SAS Disks Cannot be Managed by Solaris raidctl (6523832)

If `MPxIO` is enabled for the `mpt` SAS driver, `raidctl` cannot be used to create and manage RAID volumes.

Workaround

Create RAID volumes with the raidctl utility before enabling `MPxIO`. If you need to change or create RAID volumes after `MPxIO` is enabled, disable `MPxIO` first, make the changes or create the RAID volumes, and re-enable `MPxIO`.

`raidctl -l` Truncates Solaris Volume Names (6729161)

When using raidctl -l with a volume name, the output will truncate the volume name to seven characters if the volume target ID is larger than 100. For example,

```
# raidctl -l c0t102d0

Volume                  Size    Stripe  Status   Cache  RAID
-------------------------------------------------------------
c0t102d                 136.6G  64K     OPTIMAL  OFF    RAID0
```

Workaround

Ignore the volume name that gets listed in the output when `raidctl -l` <*volume name*> is used. You can still use the rest of the information displayed.

Cannot Reactivate RAID Volumes on Servers Running the Solaris OS Using `raidctl` (6695619)

When a system motherboard or a daughter card (like REMs) with an LSI host bus adapter is replaced in the field, `raidctl` does not allow reactivation of the RAID volumes. The RAID volume information is in metadata on the disks, but the state of the volume is changed in inactive after the replacement.

The `raidctl` utility does not allow activation of RAID volumes, so that the volume cannot be reactivated on systems running the Solaris OS.

Workaround

The workaround for SPARC systems is documented in Appendix A of the *Sun Blade 6000 Disk Module Service Manual* (part number 820-1703).

For x64 systems running the Solaris OS (or Linux or Windows), you can reactivate the array using the LSI or Adaptec BIOS RAID configuration utilities.

For systems running Linux or Windows, you can also use the LSI MSM software or the Sun StorageTek RAID Manager software (Adaptec controllers).

`raidctl` Cannot set Hot-Spare (6692827)

The Solaris `raidctl` utility cannot set a disk as a hot-spare. The `raidctl -a -g` options do not work.

Workaround

None for SPARC systems.

For all OS on x64 servers, you can set hot-spares using the LSI or Adaptec BIOS RAID configuration utilities.

For systems running Linux or Windows, you can also use the MSM software or the Sun StorageTek RAID Manager software (Adaptec controllers).

`raidctl -d` Operation Can Delete a Mounted RAID Volume (6750744)

The `raidctl -d` operation does not check for mounted RAID volumes and will delete such a volume even if it is mounted.

Workaround

There is no workaround. Before deleting a volume using the `raidctl -d` option, please use the `mount` command to check to see if there are any mounted partitions on the volume.

For example:

```
# raidctl -l | egrep -i volume

Controller: 0
Volume:c0t20d0
```

To see if any partitions on volume `c0t20d0` are mounted, execute this command:

```
# mount | egrep c0t20d0

/ on /dev/dsk/c0t20d0s0
read/write/setuid/devices/intr/largefiles/logging/xattr/onerror=
panic/dev=800008 on Fri Oct  3 16:16:17 2008
/export/home on /dev/dsk/c0t20d0s7
read/write/setuid/devices/intr/largefiles/logging/xattr/onerror=
panic/dev=80000f on Fri Oct  3 16:16:28 2008
```

This output indicates that the volume does have mounted partitions, one of which is the root (boot) partition, so deleting the volume will lose that data and render the system unbootable. Deleting this volume is inadvisable.

`mpt` Driver Warning Messages During Solaris System Boot up (6634061)

After making storage hardware configuration changes, you may see warning messages during Solaris system boot up similar to the following:

```
WARNING: /pci@0/pci@0/pci@2/scsi@0 (mpt0):
mpt_get_sas_device_page0 config: IOCStatus=0x8022,
IOCLogInfo=0x30030501WARNING: /pci@0/pci@0/pci@2/scsi@0 (mpt0):
mpt_get_sas_device_page0 config: IOCStatus=0x8022,
IOCLogInfo=0x30030501WARNING: /pci@0/pci@0/pci@2/scsi@0 (mpt0):
mpt_get_sas_device_page0 config: IOCStatus=0x8022,
IOCLogInfo=0x30030501WARNING: /pci@0/pci@0/pci@2/scsi@0 (mpt0):
mpt_get_sas_device_page0 config: IOCStatus=0x8022,
IOCLogInfo=0x30030501WARNING: /pci@0/pci@0/pci@2/scsi@0 (mpt0):
```

These messages are harmless and may be safely ignored.

Workaround

Ignore the messages. To eliminate them from future reboots, run `devfsadm -C` to remove any outdated device links.

Sun Blade T6300 and T63200 Server Modules Might Hang at Boot (6662335)

Sun Blade T6300 and T6320 Server Modules can hang at boot when Sun Blade 6000 10GbE Multi-Fabric NEM is used. This occurs infrequently.

Workaround

Reboot or reset from Open boot until fix for is available. Contact Sun Service Center if three successive reboot cycles does not resolve the issue.

`scsi_vhci.conf` Setting for MPxIO Needs to be Reset (6742736)

By default when Solaris is installed, multi-pathed IO (MPxIO) to Vela disks is disabled. When this feature is enabled by the user, the `load-balance` variable in the file `/kernel/drv/scsi_vhci.conf` defaults to `round-robin`. It should be reset to `none`.

Setting

```
load-balance=none
```

will cause only one path to be used for active IO, with the other path used for failover.

A serious performance degradation will result if the `load-balance` variable is left set to `round-robin` since that would result in IO being attempted on the passive path.

Solaris `mpxio-upgrade` Incompatible with ZFS (6707555)

When enabling or disabling `MPxIO` in conjunction with ZFS root, the system will not reboot cleanly because the `mpxio-upgrade` does not know how to handle ZFS root.

Workaround

1. **Disable the `mpxio-upgrade` service.**
2. **Run `/lib/mpxio/stsmboot_util -u`**
3. **Reboot.**

Failure to Complete Partition Request With SAS Disks and Windows Server 2003

When a Windows Server 2003 (32-bit or 64-bit) OS is installed on a SAS disk in a Server Module disk and there are two Multi-Fabric NEMs in the chassis, each physical disk on a Sun Blade Disk Module will show up as two different disks in Windows. However, only one of these disks can have a physical partition allocation. If you attempt to create another partition on the second disk, Windows Logical Disk Manager will not be able to complete the request.

Workarounds

1. Create a partition on only one of the two disks.
2. Create a hardware RAID volume using the SAS host bus adapter's RAID configuration utility (entered through the server's BIOS on initial boot-up). The the OS will see only one disk.

Removing One NEM Causes Windows Server 2003 to Reboot (6715806)

When a Windows Server 2003 (32-bit and 64-bit) OS is installed on a SAS disk in a disk module and there are two Multi-Fabric NEMs in the chassis, there are two paths to the disk where the OS resides. Removing one NEM breaks one path and the OS automatically reboots.

Workarounds

- Install the OS on a disk in the server blade, if the server blade supports direct attached disks. Such disks have only one path to the SAS host bus adapter and thus to the OS. This path does not go through the Multi-Fabric NEM.
- If you install your OS on a disk in a disk blade, power down any Windows Server 2003 server blades in the system before when removing the NEM.

Cannot Create Partition on Both Instances of a Dual-Pathed Disk With Windows Server 2003 (6715806)

When a Windows Server 2003 (32-bit or 64-bit) OS is installed and there are two Multi-Fabric NEMs in the chassis, each physical disk on Oracle's Sun Blade Disk Module will show up as two different disks in Windows. However, only one of these disks can have a physical partition allocation. If the user attempts to create another partition with the second disk, Windows Logical Disk Manager will not be able to complete the request.

Workarounds

- Create a partition on only one of the "two" disks.
- Create a hardware RAID volume using the SAS host bus adapter's RAID configuration utility (entered through the server's BIOS on initial boot-up).