Sun SPARC® Enterprise M8000/M9000 Servers Product Notes

For XCP Version 1070

Sun Microsystems, Inc.
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Contents

Preface

These product notes contain important and late-breaking information about the Sun SPARC® Enterprise M8000/M9000 servers hardware, software, and documentation.

Technical Support

If you have technical questions or issues that are not addressed in the Sun SPARC Enterprise M8000/M9000 servers documentation, contact your local Sun™ Service representative.

For customers in the U.S. or Canada, call 1-800-USA-4SUN (1-800-872-4786). For customers in the rest of the world, find the World Wide Solution Center nearest you by visiting the following web site:

http://www.sun.com/service/contacting/solution.html/

Software Resources

The Solaris™ Operating System and Sun Java™ Enterprise System software are preinstalled on your Sun SPARC Enterprise M8000/M9000 servers.

Sun Java Enterprise Server

The Sun Java Enterprise Server is a comprehensive set of software and lifecycle services that make the most of your software investment. For an overview and documentation, go to:

http://www.sun.com/service/javaes/index.xml

Note – Due to an issue that arises from the installation of the Java Enterprise System 5 Update 1 on your system (CR 6644798), it might be necessary to enable the WebConsole SMF service.

▼ To Enable the WebConsole SMF Service

- **Log in to a terminal as `root`, then type the following command:**

```
# svcadm enable svc:/system/webconsole:console
```

If it becomes necessary to reload the software, go to the following web site for download and installation instructions:

http://www.sun.com/software/preinstall

If you download a fresh copy of software, that software might not include patches that are mandatory for your server. After installing the software, refer to "Solaris Patch Information" on page 3 for information about required patches and to "Latest Solaris Patches" on page viii for information about checking for and installing required patches.

Latest Solaris Patches

Mandatory Solaris patches for the SPARC Enterprise M8000/M9000 servers should be preinstalled on your system. See "Solaris Patch Information" on page 3 for the list of patches required on your version of the Solaris OS. Currently, patches are required only for servers running Solaris 10 11/06 OS.

Caution – For Sun SPARC Enterprise M8000/M9000 servers running Solaris 10 11/06 OS, patches 123003-03 and 124171-06 must be installed on your system prior to using Sun Connection Update Manager. These patches can be downloaded from http://sunsolve.sun.com/ if needed. These patches are not required for servers running later versions of Solaris 10 OS.

The Sun Connection Update Manager can be used to reinstall the patches if necessary or to update the system with the latest set of mandatory patches. For more Information about the Sun Connection Update Manager, refer to the *Sun Update Connection System Administration Guide* at:

`http://docs.sun.com/app/docs/prod/updconn.sys`

Or visit:

`http://wikis.sun.com/display/SunConnection/Update+Manager`

There are two options available to register your system and to use the Sun Connection Update Manager to obtain the latest Solaris OS patches:

- "Using the Update Manager GUI to Obtain Patches" on page ix
- "Using the `smpatch` CLI to Obtain Patches" on page x

Installation information and README files are included in the patch downloads.

Using the Update Manager GUI to Obtain Patches

1. **As root, launch the Update Manager from either of the following:**
   - From JDS Launch menu:

     Click Launch->Applications->System Tools->Update Manager
   - From a terminal window:

     Type `/usr/bin/updatemanager`
2. **Complete the registration.**
   - If you have already registered, proceed to Step 3.
   - If you have not yet registered, the Update Manager interface guides you through the registration process. Follow the onscreen instructions.

Note – If you are unable to complete registration using the the Sun Connection Update Manager GUI , use the command-line interface (CLI) option to obtain patches. See "Using the `smpatch` CLI to Obtain Patches" on page x.

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3. **In the Available tab in the Update Manager, open the Update Collection drop-down menu and select Sun SPARC(R) Enterprise M4000/M5000/M8000/M9000 Servers.**

   Update Manager analyzes your system for any patches that are needed.
4. **If a kernel patch, such as *118833-xx*, is recommended, select it by clicking the box to the left of the patch ID, then click the Install button.**

   The patch is downloaded to `/var/sadm/spool`.

Note – Patch 118833-*xx* is a kernel patch that requires special instructions for installation (see the patch README for specifics) and therefore is a download-only (interactive) patch requiring manual installation. You must install patch 118833-*xx* first in order for any remaining patches in the patch set to be installed.

5. **For a kernel patch such as 118833-*xx*, ontinue by typing:**

```
# cd /var/sadm/spool
# unzip patchid-xx.jar
```

6. **Follow the installation instructions in the file** `/var/sadm/spool/`*patchid-xx*`/README.`*patchid-xx*.

7. **After installing** *patchid-xx*, **restart the system with the** `shutdown` **command.**

   The `reboot` command does not complete installations of patches that require a restart. You must use instead the Update Manager or the `shutdown` command.

```
# shutdown -i6
```

8. **Launch the Update Manager again, and select the collection again, as in** Step 3.

9. **If the Update Manager does not automatically start a new analysis, click the Check for Updates button.**

10. **Select any patches that are listed by checking the boxes to the left of the patch IDs.**

11. **Click the Install button.**

    Update Manager downloads and installs the patches.

12. **If any of the patches requires a system restart, follow the instructions in** Step 7.

    If any patches are installed that require restart, Update Manager offers to restart the system. Alternatively, you can use the `shutdown` command, as described in Step 7. For patches that require restart, you must perform the restart in order for the installation to take effect.

The patch installation is now complete.

Using the `smpatch` CLI to Obtain Patches

1. **Copy the file** `/usr/lib/breg/data/RegistrationProfile.properties` **to your** `/tmp` **directory.**

2. **Edit the file** `/tmp/RegistrationProfile.properties` **to add your user name, password, network proxy (if necessary), and port (if required).**

Note – The user name and password is a Sun Online Account. To create an account, go to `http://sunsolve.sun.com`.

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3. **Register your system by typing:**

```
# sconadm register -a -r /tmp/RegistrationProfile.properties
```

4. **Obtain the correct patches for your system by typing:**

```
# smpatch set patchpro.patchset=sem4k5k8k9k
```

5. **Install kernel patch 118833-*xx*:**

   This patch can be downloaded through the Sun Connection Update Manager.

   a. **Download the patch to your** `/var/sadm/spool` **directory by typing:**

```
# smpatch update -i 118833-xx
```

   b. **Unzip the patch by typing:**

```
# cd /var/sadm/spool
# unzip 118833-xx.jar
```

   c. **Install the patch by following the installation instructions in the file:** `/var/sadm/spool/`**118833**-*xx*`/README.`**118833**-*xx*.

6. **After installing patch 118833-*xx*, restart the system using the** `shutdown` **command.**

   The `reboot` command does not complete installation of patches that require a restart.

```
# shutdown -i6
```

7. **Display a list of patches to be installed by typing:**

```
# smpatch analyse
```

8. **Download and install the patches by typing:**

```
# smpatch update
```

9. **If any of the patches requires a system restart, see** Step 6**.**

The patch installation is now complete.

Additional Information

For additional information, see the release notes for the version of the Solaris OS that you are using, as well as the Big Admin web site:

http://www.bigadmin.com

Accessing Documentation

Instructions for installing, administering, and using your Sun SPARC Enterprise M8000/M9000 servers are provided in the Sun SPARC Enterprise M8000/M9000 servers documentation set. The entire documentation set is available for download from the following web sites:

- SPARC Enterprise M8000:
  http://docs.sun.com/app/docs/prod/sparc.m8k
- SPARC Enterprise M9000:
  http://docs.sun.com/app/docs/prod/sparc.m9k

Note – Information in these product notes supersedes the information in the Sun SPARC Enterprise M8000/M9000 servers documentation set.

Solaris 10 Operating System (Solaris OS) documentation is located at:

http://docs.sun.com/app/docs/prod/solaris.10

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

Sun™ SPARC® Enterprise M8000/M9000 Servers Product Notes, part number 820-4293-10

Sun SPARC Enterprise M8000/M9000 Servers Product Notes

This document includes these sections:

New in XCP 1070

In XCP Version 1070, the following new feature is introduced:

- Support for SPARC64® VII processors

Supported Firmware and Software Versions

TABLE 1 lists the minimum required versions of some supported software and firmware for XCP 1070 on Sun SPARC® Enterprise M8000/M9000 servers.

TABLE 1 Minimum Software and Firmware Versions

Software or Firmware	Version
XSCF Control Package	
SPARC64 VII processors:	XCP 1070
Capacity on Demand (COD) support:	XCP 1050
Solaris Operating System	
SPARC64 VI processors:	Solaris 10 11/06, with required patches*
SPARC64 VII processors:	Solaris 10 5/08

* See "Solaris Patch Information" on page 3 for information about patches.

TABLE 2 lists minimum supported versions of Web browsers for use with the XSCF Web.

TABLE 2 Minimum Web Browser Versions

Web Browser Application	Version
Firefox	2.0
Microsoft Internet Explorer	6.0
Mozilla	1.7
Netscape Navigator	7.1

Using a WAN Boot Server

If you plan to boot your Sun SPARC Enterprise M8000/M9000 server from a Solaris WAN boot server on the network, you must have the appropriate wanboot executable intalled to provide the needed hardware support. See "Booting From a WAN Boot Server" on page 27 for details.

Solaris Patch Information

Currently, patches are required only for servers running Solaris 10 11/06 OS. The following patches are required:

- 118833-36
- 125100-10
- 123839-07
- 120068-03
- 125424-01
- 118918-24
- 120222-21
- 125127-01
- 125670-02
- 125166-05

These patch identifiers represent the *minimum* level of the patches that must be installed. The two-digit suffix represents the minimum revision level of the patch. Check `SunSolve.Sun.COM` for the latest patch revision, and see "Latest Solaris Patches" on page viii for information on how to find the latest patches.

Installing the Solaris Patches

- **Install the following patches in numerical order.**

  Always refer to the patch README for information about patch requirements and special installation instructions. For general installation instructions, refer to "Latest Solaris Patches" on page viii.

1. 118833-36 – Reboot your domain before proceeding.
2. 125100-10 – See the patch README file for a list of other patch requirements.
3. 123839-07
4. 120068-03
5. 125424-01
6. 118918-24
7. 120222-21

8. 125127-01 – Reboot your domain before proceeding.
9. 125670-02
10. 125166-05

Upgrading to XCP 1070

If you are upgrading to XCP 1070 from a version of XCP 1041 or lower, refer to "Upgrading From XCP 1041 or Lower" on page 19 for important instructions.

If you are upgrading from a more recent version of XCP, refer to the *Sun SPARC Enterprise M4000/M5000/M8000/M9000 Servers XSCF User's Guide* for instructions.

General Functionality Issues and Limitations

This section describes known hardware and software issues in this release.

Limitations for SPARC64 VII Processors

Caution – Upgrading a SPARC Enterprise M8000/M9000 server with SPARC 64 VII processors must be completed via cold-swap. XCP software must be upgraded to 1070 prior to inserting any SPARC 64 VII processors into the chassis.

- The combination of SPARC64 VI and SPARC64 VII processors in a SPARC Enterprise M8000/M9000 server is *not* supported in this release.
- Do not exceed a domain size of 256 virtual processors in a single Solaris domain. For more details about this restriction, refer to CR ID 6619224 in TABLE 5.

General Functionality Issues and Limitations

Caution – For dynamic reconfiguration (DR) and hot-plug issues, see "Solaris OS Issues and Workarounds" on page 8.

Note – For power-on after power-off, wait at least 30 seconds before turning the system power back on, by using the main line switch or the circuit breakers on the distribution panel.

- DR and XSCF failover are not compatible. Do not start an XSCF failover while a DR operation is running. Wait for a DR operation to finish before starting the failover. If you start the failover first, wait for the failover to finish before starting the DR operation.
- For 1027A-Z/X1027A-Z, PCIe Dual 10 Gigabit Ethernet Fiber XFP cards, these limits apply:
  - Do not use more than two cards per domain.
  - Do not use these cards in an External I/O Expansion Unit.
- For 4447A-Z/X4447A-Z, PCIe Quad-port Gigabit Ethernet Adapter UTP cards, these maximum limits apply:
  - No more than four cards in an External I/O Expansion Unit (two per PCIe I/O boat).
  - No more than eight cards in a domain.
- Do not install more than six IOUA cards per domain in a SPARC Enterprise M8000/M9000 server if you are using a version of Solaris earlier than Solaris 10 5/08.]
- To complete updating the OpenBoot™ PROM firmware in the target domain, be sure to power off/on the domain.
- When the Solaris OS is in single user mode, do not switch from the domain console to the XSCF Shell as the Solaris OS might switch to multi-user mode.
- Do not use the CD-RW/DVD-RW drive unit and the TAPE drive unit at the same time.
- The XSCF browser interface (XSCF Web), does not support the External I/O Expansion Unit Manager feature.
- The use of the External I/O Expansion Unit to connect the host server to an external boot disk drive is not supported.
- You cannot use the following user account names, as they are reserved by the XSCF firmware for system use: `adm`, `admin`, `apache`, `bin`, `daemon`, `default`, `ldap`, `nobody`, `ntp`, `operator`, `root`, `rpc`, `rpcuser`, and `sshd`.

- Do not use the Service Processor (SP) as the Network Time Protocol (NTP) server. Using an independent NTP server provides optimal reliability in maintaining consistent time on the SP and the domains. For more information about NTP, see the Sun Blueprint document, *Using NTP to Control and Synchronize System Clocks*: `http://www.sun.com/blueprints/0701/NTP.pdf`

Hardware Installation and Service Issues

TABLE 3 lists known issues for which a defect change request ID has been assigned. The table also lists possible workarounds. To check for availability of new patches that fix these issues, go to:

`http://sunsolve.sun.com`

TABLE 3 Hardware Issues and Workarounds

CR ID	Description	Workaround
6433420	The domain console might display a Mailbox timeout or IOCB interrupt timeout error during boot.	Issue a `reset-all` command from the OBP (`OK`) prompt and reboot.

Software and Firmware Issues

This section describes specific software and firmware issues and workarounds. To obtain patches and to check for availability of new patches that fix these issues, go to:

`http://sunsolve.sun.com`

XCP Issues and Workarounds

TABLE 4 lists XCP issues and possible workarounds.

TABLE 4 XCP Issues and Workarounds

ID	Description	Workaround
6565422	The `Latest communication` field in `showarchiving` is not updated regularly.	Disabling and re-enabling archiving refreshes the `Latest communication` field in `showarchiving` output.
6575425	Most XSCF commands should display "Permission denied" when they are executed on the Standby XSCF. Instead, some commands report various errors.	Only the following commands can be executed on the Standby XSCF: `snapshot`, `switchscf` Do not attempt to run any other command on the Standby XSCF.
6588650	On occasion, the system is unable to DR after an XSCF failover to or from backup XSCF.	There is no workaround.
6624646	Sun Connection Update Manager GUI might fail to register correctly.	Use the command-line interface (CLI) if you run into any GUI registration issues.
6665174	Following a dynamic reconfiguration operation using the XSCF commands `deleteboard`(8) and `addboard`(8), you might see I/O channel degradation, resulting in error messages and entries in the corresponding ereport. If you run into this problem, the `fmdump`(8) command will show a report: `ereport.chassis.SPARCEnterprise.asic.ioc.ch.leaf.fe`	This error can be cleared. You can clear the errors using the following commands. • To identify the resource, use: `fmadm faulty -ia` • To clear the resource, run the following command using the `uuid` resource identified from the previous command: `fmadm repair` *resource*
6675409	If COD licensed capacity is changed while a COD board is undergoing DR, some of the COD CPUs might be marked as `Faulted`. This will require a service action to correct.	Do not attempt to modify the COD licensed capacity while a DR operation is in progress on a COD board. COD licensed capacity is modified by adding or removing licenses (with the `addcodlicense` or `deletecodlicense` commands) or by changing headroom (with the `setcod` command). Do not use these commands (or equivalent browser operations) while a DR operation is in progress. You can change the COD licensed capacity after the DR operation is completed.
6679286	When you use the command `setsnmpusm passwd` to set a password, if you set a password of fewer than eight characters, a segmentation fault occurs.	Always set a password of at least eight characters.

Solaris OS Issues and Workarounds

This section contains information about Solaris OS issues. TABLE 5, TABLE 6, and TABLE 7 list issues you might encounter, depending upon which Solaris OS release you are using.

Solaris Issues for All Supported Releases

TABLE 5 lists Solaris OS issues that you might encounter in any supported release of Solaris OS.

TABLE 5 Solaris OS Issues and Workarounds for All Supported Releases *(1 of 4)*

CR ID	Description	Workaround
6449315	The Solaris `cfgadm`(1M) command does not unconfigure a DVD drive from a domain on a Sun SPARC Enterprise M8000/M9000 server.	Disable the Volume Management Daemon (`vold`) before unconfiguring a DVD drive with the `cfgadm`(1M) command. To disable `vold`, stop the daemon by issuing the command `/etc/init.d/volmgt stop`. After the device has been removed or inserted, restart the daemon by issuing the command `/etc/init.d/volmgt start`.

6459540	The DAT72 internal tape drive might time out during tape operations.
	The device might also be identified by the system as a QIC drive.
		Add the following definition to `/kernel/drv/st.conf`:
		
		`tape-config-list=`
		`"SEAGATE DAT  DAT72-000",`
		`"SEAGATE_DAT____DAT72-000",`
		`"SEAGATE_DAT____DAT72-000";`
		`SEAGATE_DAT____DAT72-000=`
		`1,0x34,0,0x9639,4,0x00,0x8c,0x8c,`
		`0x8c,3;`
		
		There are four spaces between `SEAGATE DAT` and `DAT72-000`.

6511374	Memory translation warning messages might appear during boot if memory banks were disabled due to excessive errors.	After the system is rebooted, the `fmadm repair` command can be used to prevent a recurrence of the problem on the next boot.
6522017	Domains using the ZFS file system cannot use DR.	Set the maximum size of the ZFS ARC lower. For detailed assistance, contact your authorized service representative.

TABLE 5 Solaris OS Issues and Workarounds for All Supported Releases *(2 of 4)*

CR ID	Description	Workaround
6531036	The error message `network initialization failed` appears repeatedly after a boot net installation.	There is no workaround.

6533686	When XSCF is low on system resources, DR `deleteboard` or `moveboard` operations that relocate permanent memory might fail with one or more of these errors:
	`SCF busy`
	`DR parallel copy timeout`
	This applies only to Quad-XSB configured System Boards hosting multiple domains.
		Retry the DR operation at a later time.

6535018	In Solaris domains that include SPARC64 VII processors, workloads that make heavy use of the Solaris kernel might not scale as expected when you increase the thread count to a value greater than 256.	For Solaris domains that include SPARC64 VII processors, limit domains to a maximum of 256 threads.
6564332	Hot-plug operations on Sun Crypto Accelerator (SCA)6000 cards can cause Sun SPARC Enterprise M8000/M9000 servers to panic or hang.	Version 1.0 of the SCA6000 driver does not support hot-plug and should not be attempted. Version 1.1 of the SCA6000 driver and firmware supports hot-plug operations after the required bootstrap firmware upgrade has been performed.
6572827	On Sun SPARC Enterprise M8000/M9000 platforms, one of the columns in the IO Devices section of the output from `prtdiag -v` is "Type". This reports "PCIe", "PCIx", "PCI" or "UNKN" for each device. The algorithm used to compute this value is incorrect. It reports "PCI" for PCI-X leaf devices and "UNKN" for legacy PCI devices.	There is no workaround.
6588555	Permanent memory DR operation during XSCF failover might cause domain panic.	Do not start an XSCF failover while a DR operation is running. Wait for a DR operation to finish before starting the failover. If you start the failover first, wait for the failover to finish before starting the DR operation.
6589644	When XSCF switchover happens after the SB has been added using the `addboard` command, the console is no longer available.	There is no workaround.

TABLE 5 Solaris OS Issues and Workarounds for All Supported Releases *(3 of 4)*

CR ID	Description	Workaround
6589833	The DR `addboard` command might cause a system hang if you are adding a Sun StorageTek Enterprise Class 4Gb Dual-Port Fibre Channel PCI-E HBA card (SG-XPCIE2FC-QF4) at the same time that an SAP process is attempting to access storage devices attached to this card. The chance of a system hang is increased if the following cards are used for heavy network traffic: • X4447A-Z, PCI-e Quad-port Gigabit Ethernet Adapter UTP • X1027A-Z1, PCI-e Dual 10 Gigabit Ethernet Fiber XFP Low profile Adapter	There is no workaround.
6592302	Unsuccessful DR operation leaves memory partially configured.	It might be possible to recover by adding the board back to the domain with an `addboard -d` command.
6614737	The DR `deleteboard`(8) and `moveboard`(8) operations might hang if any of the following conditions exist: A DIMM has been degraded. The domain contains system boards with different memory size.	Avoid performing DR operations if any of the following conditions exist: • *Degraded memory* – To determine whether the system contains degraded memory, use the XSCF command `showstatus`. For sample output see "Identifying Degraded Memory in a System" on page 28. • *Differing memory sizes* – To determine whether the domain contains system boards with different memory sizes, display the list of memory sizes using the XSCF command `showdevices` or the `prtdiag` command on the domain. For sample output, see "Identifying Different Memory Sizes in a System Board" on page 28. If a DR command hangs, reboot the domain to recover.
6619224	For Solaris domains that include SPARC 64 VII processors, a single domain of 256 threads or more might hang for an extended period of time under certain unusual situations. Upon recovery, the `uptime` command will show extremely high load averages.	For Solaris domains that include SPARC 64 VII processors, do not exceed a domain size of 256 virtual processors in a single Solaris domain. This means a maximum of 32 CPUs in a single domain configuration (maximum configuration for an M8000 server).
6623226	The Solaris command `lockstat`(1M) might cause a system panic.	Do not use the Solaris `lockstat`(1M) command.

TABLE 5 Solaris OS Issues and Workarounds for All Supported Releases *(4 of 4)*

CR ID	Description	Workaround
6625734	Systems with large number of processors in a single domain environment might have suboptimal performance with certain workloads.	Use processor sets to bind application processes or LWPs to groups of processors. Refer to the `psrset`(1M) man page for more information.
6632549	`fmd` service on domain might fail to maintenance mode after DR operations.	If `fmd` service fails, issue the following commands on the domain to recover: `# svcadm clear fmdt`

6660168	If a `ubc.piowbeue-cpu` error occurs on a domain, the Solaris Fault Management cpumem-diagnosis module might fail, causing an interruption in FMA service.
	If this happens, you will see output similar to the following sample in the console log:
		• Manually restart `fmd` using the command:
		`svcadm clear fmd`
		• Or, restart the cpumem-diagnosis:
		`fmadm restart cpumem-diagnosis`

	`SUNW-MSG-ID: FMD-8000-2K, TYPE: Defect, VER: 1, SEVERITY: Minor`
	`EVENT-TIME: Fri Apr 4 21:41:57 PDT 2008`
	`PLATFORM: SUNW,SPARC-Enterprise, CSN: 2020642002, HOSTNAME: <hostname>`
	`SOURCE: fmd-self-diagnosis, REV: 1.0`
	`EVENT-ID: 6b2e15d7-aa65-6bcc-bcb1-cb03a7dd77e3`
	`DESC: A Solaris Fault Manager component has experienced an error that required the module to be disabled. Refer to http://sun.com/msg/FMD-8000-2K for more information.`
	`AUTO-RESPONSE: The module has been disabled. Events destined for the module will be saved for manual diagnosis.`
	`IMPACT: Automated diagnosis and response for subsequent events associated with this module will not occur.`
	`REC-ACTION: Use fmdump -v -u <EVENT-ID> to locate the module. Use fmadm reset <module> to reset the module.`	

6660197	DR might cause the domain to hang if either of the following conditions exist: • A domain contains 256 or more CPUs. • More than 256 memory errors are detected.	Follow these steps: **1. Set the following parameter in the system specification file (`/etc/system`):** `set drmach:drmach_disable_mcopy=1` **2. Reboot the domain.**
6663570	DR operations involving the lowest number CPU might cause the domain to panic.	Do not use DR to remove the system board that hosts the CPU with the lowest CPU ID. Use the Solaris `prtdiag` command to identify the CPU with the lowest CPU ID.
6668237	After DIMMs are replaced, the corresponding DIMM faults are not cleared on the domain.	Use the command `fmadm repair` *fmri*|*uuid* to record the repair. Then you can use the command `fmadm rotate` to clear out any leftover events.

Solaris Issues Fixed in Solaris 10 5/08

TABLE 6 lists issues that have been fixed in Solaris 10 5/08 OS. You might encounter them in supported releases earlier than Solaris 10 5/08.

TABLE 6 Solaris OS Issues and Workarounds Fixed in Solaris 10 5/08 *(1 of 4)*

CR ID	Description	Workaround

5076574	A PCIe error can lead to an invalid fault diagnosis on a large M9000/M8000 domain.	Create a file `/etc/fm/fmd/fmd.conf` containing the following lines;
		`setprop client.buflim 40m`
		`setprop client.memlim 40m`

6348554	Using the `cfgadm -c disconnect` command on the following cards might hang the command: • SG-XPCIE2FC-QF4 Sun StorageTek Enterprise Class 4Gb Dual-Port Fibre Channel PCI-E HBA • SG-XPCIE1FC-QF4 Sun StorageTek Enterprise Class 4Gb Single-Port Fibre Channel PCI-E HBA • SG-XPCI2FC-QF4 Sun StorageTek Enterprise Class 4Gb Dual-Port Fibre Channel PCI-X HBA • SG-XPCI1FC-QF4 Sun StorageTek Enterprise Class 4Gb Single-Port Fibre Channel PCI-X HBA	Do not perform `cfgadm -c disconnect` operation on the affected cards.
6472153	If you create a Solaris Flash archive on a non-Sun SPARC Enterprise M8000/M9000 sun4u server and install it on a Sun SPARC Enterprise M8000/M9000 sun4u server, the console's TTY flags will not be set correctly. This can cause the console to lose characters during stress.	Just after installing Solaris OS from a Solaris Flash archive, telnet into the Sun SPARC Enterprise M8000/M9000 server to reset the console's TTY flags as follows: **# sttydefs -r console** **# sttydefs -a console -i "9600 hupcl opost onlcr crtscts" -f "9600"** This procedure is required only once.
6522433	The incorrect motherboard might be identified by `fmdump` for cpu faults after reboot.	None at this time.
6527811	The `showhardconf`(8) command on the XSCF cannot display PCI card information that is installed in the External I/O Expansion Unit, if the External I/O Expansion Unit is configured using PCI hot-plug.	There is no workaround. When each PCI card in the External I/O Expansion Unit is configured using PCI hot-plug, the PCI card information is displayed correctly.

TABLE 6 Solaris OS Issues and Workarounds Fixed in Solaris 10 5/08 *(2 of 4)*

CR ID	Description	Workaround
6545143	When `kcage` daemon is expanding the kcage area, if the user stack exists in the expanded area, its area is demapped and might cause a `ptl_1` panic during the `flushw` handler execution.	There is no workaround.
6545685	If the system has detected Correctable MemoryErrors (CE) at power-on self-test (POST), the domains might incorrectly degrade 4 or 8 DIMMs.	Increase the memory patrol timeout values used via the following setting in `/etc/system` and reboot the system: `set mc-opl:mc_max_rewrite_loop = 20000`
6546188	The system panics when running hot-plug (`cfgadm`) and DR operations (`addboard` and `deleteboard`) on the following cards: • X4447A-Z, PCI-e Quad-port Gigabit Ethernet Adapter UTP • X1027A-Z1, PCI-e Dual 10 Gigabit Ethernet Fiber XFP Low profile Adapter	There is no workaround.
6551356	The system panics when running hot-plug (`cfgadm`) to configure a previously unconfigured card. The message "WARNING: PCI Expansion ROM is not accessible" will be seen on the console shortly before the system panic. The following cards are affected by this defect: • X4447A-Z, PCI-e Quad-port Gigabit Ethernet Adapter UTP • X1027A-Z1, PCI-e Dual 10 Gigabit Ethernet Fiber XFP Low profile Adapter	**Note - Do not** use `cfgadm -c unconfigure` to disconnect the I/O card. Use `cfgadm -c disconnect` to completely remove the card. After waiting at least 10 seconds, the card might be configured back into the domain using the `cfgadm -c configure` command.
6556742	The system panics when DiskSuite cannot read the `metadb` during DR. This bug affects the following cards: • SG-XPCIE2FC-QF4, 4Gb PCI-e Dual-Port Fibre Channel HBA • SG-XPCIE1FC-QF4, 4Gb PCI-e Single-Port Fibre Channel HBA • SG-XPCI2FC-QF4, 4Gb PCI-X Dual-Port Fibre Channel HBA • SG-XPCI1FC-QF4, 4Gb PCI-X Single-Port Fibre Channel HBA	Panic can be avoided when a duplicated copy of the `metadb` is accessible via another Host Bus Adaptor.

TABLE 6 Solaris OS Issues and Workarounds Fixed in Solaris 10 5/08 *(3 of 4)*

CR ID	Description	Workaround
6559504	Messages of the form `nxge: NOTICE: nxge_ipp_eccue_valid_check: rd_ptr = nnn wr_ptr = nnn` will be observed on the console with the following cards: • X4447A-Z, PCI-e Quad-port Gigabit Ethernet Adapter UTP • X1027A-Z1, PCI-e Dual 10 Gigabit Ethernet Fiber XFP Low profile Adapter	These messages can be safely ignored.
6563785	Hot-plug operation with the following cards might fail if a card is disconnected and then immediately reconnected: • SG-XPCIE2SCSIU320Z Sun StorageTek PCI-E Dual-Port Ultra320 SCSI HBA • SGXPCI2SCSILM320-Z Sun StorageTek PCI Dual-Port Ultra320 SCSI HBA	After disconnecting a card, wait for a few seconds before re-connecting.
6564934	Performing a DR `deleteboard` operation on a board which includes Permanent Memory when using the following network cards results in broken connections: • X4447A-Z, PCI-e Quad-port Gigabit Ethernet Adapter UTP • X1027A-Z1, PCI-e Dual 10 Gigabit Ethernet Fiber XFP Low profile Adapter	Reconfigure the affected network interfaces after the completion of the DR operation. For basic network configuration procedures, refer to the `ifconfig` man page for more information.
6568417	After a successful CPU DR `deleteboard` operation, the system panics when the following network interfaces are in use: • X4447A-Z, PCI-e Quad-port Gigabit Ethernet Adapter UTP • X1027A-Z1, PCI-e Dual 10 Gigabit Ethernet Fiber XFP Low profile Adapter	Add the following line to `/etc/system` and reboot the system: `set ip:ip_soft_rings_cnt=0`
6571370	Use of the following cards have been observed to cause data corruption in stress test under laboratory conditions: • X4447A-Z, PCI-e Quad-port Gigabit Ethernet Adapter UTP • X1027A-Z1, PCI-e Dual 10 Gigabit Ethernet Fiber XFP Low profile Adapter	Add the following line in `/etc/system` and reboot the system: `set nxge:nxge_rx_threshold_hi=0`

TABLE 6 Solaris OS Issues and Workarounds Fixed in Solaris 10 5/08 *(4 of 4)*

CR ID	Description	Workaround
6584984	`The busstat`(1M) command with `-w` option might cause domains to reboot.	There is no workaround. Do not use `busstat`(1M) command with `-w` option on pcmu_p.
6589546	`prtdiag` does not show all IO devices of the following cards: • SG-XPCIE2FC-EM4 Sun StorageTek Enterprise Class 4Gb Dual-Port Fibre Channel PCI-E HBA • SG-XPCIE1FC-EM4 Sun StorageTek Enterprise Class 4Gb Single-Port Fibre Channel PCI-E HBA	Use `prtdiag -v` for full output.

Solaris Issues Fixed in Solaris 10 8/07

TABLE 7 lists issues that have been fixed in Solaris 10 8/07 OS. You might encounter them in Solaris 10 11/06.

Caution – If you are running a version of Solaris earlier than Solaris 10 8/07, the system might panic or trap during a normal operation. For further information, see CR ID 6534471 in TABLE 7.

TABLE 7 Solaris OS Issues and Workarounds Fixed in Solaris 10 8/07 *(1 of 2)*

CR ID	Description	Workaround
6303418	A Sun SPARC Enterprise M9000 with a single domain and 11 or more fully populated system boards might hang under heavy stress.	Do not exceed 170 CPU threads. Limit the number of CPU threads to one per CPU core by using the Solaris `psradm` command to disable the excess CPU threads. For example, disable all odd-numbered CPU threads.
6498283	Using the DR `deleteboard` command while `psradm` operations are running on a domain might cause a system panic.	There is no workaround.
6508432	A large number of spurious PCIe correctable errors can be recorded in the FMA error log.	To mask these errors, add the following entry to `/etc/system` and reboot the system: `set pcie:pcie_aer_ce_mask = 0x2001`

TABLE 7 Solaris OS Issues and Workarounds Fixed in Solaris 10 8/07 *(2 of 2)*

CR ID	Description	Workaround
6510861	When using the PCIe Dual-Port Ultra320 SCSI controller card (SG-(X)PCIE2SCSIU320Z), a PCIe correctable error causes a Solaris panic.	Add the following entry to `/etc/system` to prevent the problem: `set pcie:pcie_aer_ce_mask = 0x31c1`
6520990	When a domain reboots, SCF might not be able to service other domains that share the same physical board. DR operation can exceed the default timeout period and panic can occur.	Increase the DR timeout period by setting the following statement in `/etc/system` and reboot your system.: `set drmach:fmem_timeout = 30`
6527781	The `cfgadm` command fails while moving the DVD/DAT drive between two domains.	There is no workaround. To reconfigure DVD/Tape drive, execute `reboot -r` from the domain exhibiting the problem.
6530178	DR `addboard` command can hang. Once the problem is observed, further DR operations are blocked. Recovery requires reboot of the domain.	There is no workaround.
6534471	Systems might panic/trap during normal operation.	Make sure you have the correct `/etc/system` parameter and reboot the system: `set heaplp_use_stlb=0`
6539084	There is a low probability of a domain panic during reboot when the Sun Quad GbE UTP x8 PCIe (X4447A-Z) card is present in a domain.	A fix is available in patch 125670-01.
6539909	Do not use the following I/O cards for network access when you are using the `boot net install` command to install the Solaris OS: • X4447A-Z/X4447A-Z, PCIe Quad-port Gigabit Ethernet Adapter UTP • X1027A-Z/X1027A-Z, PCIe Dual 10 Gigabit Ethernet Fiber XFP	Use an alternative type of network card or onboard network device to install the Solaris OS via the network.

Sun Management Center Software Issues and Workarounds

TABLE 8 lists issues and possible workarounds for Sun Management Center software.

TABLE 8 Sun Management Center Issues and Workarounds

CR ID	Description	Workaround
6654948	When viewing the PlatAdmin System Components table, you might experience a delay of about 26 minutes before an alarm is displayed. There is no actual error, just a delay.	There is no workaround.

Software Documentation Updates

This section contains late-breaking information on the software documentation that became known after the documentation set was published.

TABLE 9 Software Documentation Updates *(1 of 3)*

Document	Page Number	Change
Sun SPARC Enterprise M4000/M5000/M8000/M9000 Servers Glossary		The glossaries included in each of the documents supporting SPARC Enterprise M4000/M5000/M8000/M9000 servers have been removed from those documents. In their place, a separate document has been created, the *SPARC Enterprise M4000/M5000/M8000/M9000 Servers Glossary.*
Sun SPARC Enterprise M4000/M5000/M8000/M9000 Servers XSCF User's Guide	Page 9-6	Section 9.2.2, "Supported Browsers." Refer to TABLE 2 for the correct list of web browsers supported by the XSCF Web.

TABLE 9 Software Documentation Updates *(2 of 3)*

Document	Page Number	Change
Sun SPARC Enterprise M4000/M5000/M8000/M9000 Servers XSCF User's Guide	Page 2-2	Section 2.1.1, "Setup Summary by the XSCF Shell." Add the following note: **Note -** In addition to the standard *default* login, Sun SPARC Enterprise M4000/M5000/M8000/M9000 servers are delivered with a temporary login called `admin` to enable remote initial login, through a serial port. Its privileges are fixed to `useradm` and cannot be changed. You cannot log in as temporary admin using the standard UNIX user name and password authentication or SSH public key authentication. It has no password, and one cannot be added for it. The temporary `admin` account is disabled after someone logs in as the default user, or after someone logged in as temporary `admin` has successfully added the first user with valid password and privileges. If, before the default login is used, you cannot log in as temporary `admin`, you can determine if someone else has done so by executing the following command: `showuser -l`
Sun SPARC Enterprise M4000/M5000/M8000/M9000 Servers Administration Guide	Page 8	"Logging in to the System" section. Add the following note: **Note -** In addition to the standard *default* login, Sun SPARC Enterprise M4000/M5000/M8000/M9000 servers are delivered with a temporary login called `admin` to enable remote initial login, through a serial port. Its privileges are fixed to `useradm` and cannot be changed. You cannot log in as temporary `admin` using the standard UNIX user name and password authentication or SSH public key authentication. It has no password, and one cannot be added for it. The temporary `admin` account is disabled after someone logs in as the default user, or after someone logged in as temporary `admin` has successfully added the first user with valid password and privileges. If, before the default login is used, you cannot log in as temporary `admin`, you can determine if someone else has done so by executing the following command: `showuser -l`

TABLE 9 Software Documentation Updates *(3 of 3)*

Document	Page Number	Change
Sun SPARC Enterprise M4000/M5000/M8000/M9000 Servers Administration Guide	Page 70	"About Auditing" section. Add the following note at the end of the "Audit File Tools" section: **Note -** This chapter describes how to set up archived log files. The SP Security (`SUNWspec`) Package gives administrators and service providers a means to view those files. To display the XSCF audit log files archived to your server, use the `viewauditapp`(8) and `mergeaudit`(8) off-platform audit file viewers.
Sun SPARC Enterprise M4000/M5000/M8000/M9000 Servers XSCF Reference Manual	`adduser`(8) man page	The maximum length of the user name is 31 characters. The `adduser`(8) man page erroneously documents a maximum user name length of 32 characters.
Sun SPARC Enterprise M4000/M5000/M8000/M9000 Servers XSCF Reference Manual	`sendbreak`(8) man page	The `sendbreak`(8) command will not work when the domain mode is set to `on` while the mode switch on the operator panel is set to `locked`. Refer to the `setdomainmode`(8) man page for more information.
Sun SPARC Enterprise M4000/M5000/M8000/M9000 Servers XSCF Reference Manual	`viewaudit`(8) man page	The `viewaudit`(8) man pages show incorrect output for Example 5 and Example 6.

Upgrading From XCP 1041 or Lower

▼ To Prepare to Upgrade

1. **Delete any routes configured on the lan#0 and lan#1 interfaces (failover interfaces).**

Note – The `applynetwork` -n command will not run unless some network configuration has changed. Reseting the host name (`sethostname`) to exactly what it is will prompt the command to run.

The following example shows two routes that must be deleted.

```
XSCF> applynetwork -n
The following network settings will be applied:
xscf#0 hostname  :m8000-0
xscf#1 hostname  :m8000-1
```

```
DNS domain name  :sun.com
nameserver       :100.200.300.400

interface        :xscf#0-lan#0
status           :up
IP address       :100.200.300.77
netmask          :255.255.254.0
route            :-n 0.0.0.0 -m 0.0.0.0 -g 100.200.300.1

interface        :xscf#0-lan#1
status           :down
IP address       :
netmask          :
route            :

interface        :xscf#0-if
status           :down
IP address       :
netmask          :

interface        :lan#0
status           :down
IP address       :
netmask          :
route            :-n 0.0.0.0 -m 0.0.0.0 -g 100.200.300.
route            :-n 0.0.0.0 -m 0.0.0.0 -g 100.200.300.2

interface        :xscf#1-lan#0
status           :down
IP address       :
netmask          :
route            :

interface        :xscf#1-lan#1
status           :down
IP address       :
netmask          :
route            :

interface        :xscf#1-if
status           :down
IP address       :
netmask          :

interface        :lan#1
status           :down
IP address       :
netmask          :
route            :
```

```
The XSCF will be reset. Continue? [y|n] :n
XSCF> setroute -c del -n 0.0.0.0 -m 0.0.0.0 -g 100.200.300.2 lan#0
XSCF> setroute -c del -n 0.0.0.0 -m 0.0.0.0 -g 100.200.300.1 lan#0
XSCF> applynetwork -y
```

2. **Configure the ISN network.**

   XCP 1050 or later supports dual XSCF configuration. The Inter-SCF Network provides an internal communication link between the two XSCF Units (active and standby).

   If you do not explicitly set the IP addresses on the ISN network, XCP will use the following default values:

```
xscf#0-if: 192.168.1.1
xscf#1-if: 192.168.1.2
```

   In case the IP address of XSCF-LAN or DSCP conflicts with the default subnet address of ISN, it is necessary to specify the IP address of ISN. The following is an example.

```
XSCF>setnetwork xscf#0-if -m 255.255.255.0 192.168.12.11
XSCF>setnetwork xscf#1-if -m 255.255.255.0 192.168.12.12
XSCF>applynetwork
```

3. **Delete any accounts named** `admin`**.**

   Use the `showuser -lu` command to list all XSCF accounts. Any accounts named `admin` must be deleted prior to upgrading to XCP 1070. The `admin` account name is reserved. Use the `deleteuser` command to delete the account.

Note – For more information on `admin` accounts, see TABLE 9, "Software Documentation Updates" on page 17.

▼ To Upgrade From XCP 1041 or Lower

Note – Do *not* access the XSCF units via the "Takeover IP address."

Note – LAN connections are disconnected when the XSCF resets. Use the XSCF serial connection to simplify the XCP upgrade procedure.

---

1. **Log in to the XSCF#0 using an account with platform administrative privileges.**

2. **Verify that there are no faulted or deconfigured components by using the** `showstatus`**(8) command.**

```
XSCF> showstatus
No failures found in System Initialization.
```

   If any failures are listed, contact your authorized service representative before proceeding.

3. **Power off all domains.**

```
XSCF> poweroff -a
```

4. **Confirm that all domains are stopped:**

```
XSCF> showlogs power
```

5. **Move the key position on the operator panel from Locked to Service.**

6. **Collect an XSCF snapshot to archive the system status for future reference.**

```
XSCF> snapshot -t user@host:directory
```

7. **Upload the XCP 1070 upgrade image by using the command** `getflashimage`**(8).**

   For example:

```
XSCF> getflashimage http://server.domain.com/XCP1070/images/DCXCP1070.tar.gz
```

   The XSCF Web on XSCFU#0 can also be used to upload the XCP 1070 upgrade image. For more detailed information about using XSCF Web and the `getflashimage`(8) command, see the *Sun SPARC Enterprise M4000/M5000/M8000/M9000 Servers XSCF User's Guide.*

8. **Update the firmware by using the** `flashupdate`**(8) command.**

```
XSCF> flashupdate -c update -m xcp -s 1070
```

   Specify the XCP version to be updated. In this example, it is 1070.

Caution – The `flashupdate` command will update one bank, reset the XSCF, and commence update of the second bank. Before proceeding to Step 9, you must verify that the current and reserve banks are both updated. If both banks indicate XCP revision 1070, proceed to the next step.

9. Confirm completion of the update.

```
XSCF> showlogs event
```

Confirm no abnormality happens while updating XCSF_B#0.

10. Confirm that both the current and reserve banks of XSCFU#0 display the updated XCP versions.

```
XSCF> version -c xcp

XSCF#0 (Active )
XCP0 (Reserve): 1070
XCP1 (Current): 1070
XSCF#1 (Standby)
XCP0 (Reserve): 0000
XCP1 (Current): 0000
```

If the Current and Reserve banks on XSCF#0 do not indicate XCP revision 1070, contact your authorized service representative.

11. Confirm the `servicetag`(8) facility is enabled.

a. Check the `servicetag` facility status by using the `showservicetag`(8) command.

```
XSCF> showservicetag
Disabled
```

b. If it is currently disabled, you must enable it.

```
XSCF> setservicetag -c enable
Settings will take effect the next time the XSCF is rebooted.
```

c. Reboot the XSCF to enable the `servicetag` facility.

```
XSCF> rebootxscf
The XSCF will be reset. Continue? [y|n] :y
```

d. Wait until XSCF firmware reaches the ready state.

This can be confirmed when the READY LED of the XSCF remains lit, or the following message appears on the serial console:

```
XSCF Initialize complete
```

12. **Turn off all the server power switches for 30 seconds.**
13. **After 30 seconds, turn the power switches back on.**
14. **Wait until XSCF firmware reaches the ready state.**

    This can be confirmed when the READY LEDs of XSCF_B#0 and XSCF_B#1 remain lit.

15. **Log on to XSCFU#0 using a serial connection or LAN connection.**
16. **Confirm no abnormality has occurred by using the** `showlogs error -v` **and** `showstatus` **commands.**

```
XSCF> showlogs error -v
XSCF> showstatus
```

Because XSCF#1 is not yet running XCP 1070, XSCF#0 is unable to communicate with XSCF#1. Therefore, it is normal that `showstatus` will show that XSCF#1 has faulted.

If you encounter any hardware abnormality of the XSCF contact your authorized service representative.

17. **Confirm and update the imported XCP image again.**

```
XSCF> flashupdate -c update -m xcp -s 1070
```

Specify the XCP version to be updated. In this example, it is 1070. XSCF#1 will be updated, and then XSCF#0 updated, again.

When the firmware update for XSCF#0 is complete, XSCF#1 is active.

18. **Log in to XSCFU#1 using a serial connection or LAN connection.**
19. **Confirm completion of the update by using the** `showlogs event` **command.**

```
XSCF> showlogs event
```

Confirm no abnormality is found during the update.

20. **Confirm that both the current and reserve banks of XSCFU#0 display the updated XCP versions**.

```
XSCF> version -c xcp

XSCF#1 (Active )
XCP0 (Reserve): 1070
XCP1 (Current): 1070
XSCF#0 (Standby)
XCP0 (Reserve): 1070
XCP1 (Current): 1070
```

If the Current and Reserve banks on XSCF#0 do not indicate XCP revision 1070, contact your authorized service representative.

21. **Confirm that switching over between XSCF units works properly.**

    a. **Switch between the Active and Standby states:**

```
XSCF> switchscf -t Standby
The XSCF unit switch between the Active and Standby states.
Continue? [y|n] :y
```

    b. **When the READY LED on XSCFU_B#1 remains lit, log in to XSCFU#0 using a serial connection or LAN connection.**

    c. **Confirm XSCF#1 is now the standby, and that XSCF#0 has become the active unit:**

```
XSCF> showhardconf
```

    d. **Confirm no new errors have been recorded since the check in** Step 16**:**

```
XSCF> showlogs error
```

e. **Confirm that XSCF#1 has entered the active state:**

```
XSCF> showlogs event
....
Feb 26 16:10:28 PST 2008      XSCF#1 entered active state from standby state
```

f. **Confirm that no failures are found in system initialization:**

```
XSCF> showstatus
No failures found in System Initialization.
```

22. **Power on all domains.**

```
XSCF> poweron -a
```

23. **Log in to XSCFU#0 and confirm all domains start up properly.**

```
XSCF> showlogs power
```

24. **Check that there are no new errors.**

```
XSCF> showlogs error
```

- In case an abnormality is encountered, take appropriate maintenance action and contact your authorized service representative.
- If no abnormality is found, proceed to Step 25.

25. **Move position of the key switch on the operator panel from Service to Lock.**

Additional Software Procedures

This section contains instructions for accomplishing some of the workarounds mentioned earlier in this document.

Booting From a WAN Boot Server

The WAN boot installation method enables you to boot and install software over a wide area network (WAN) by using HTTP. To support booting the Sun SPARC Enterprise M8000/M9000 server from a WAN boot server, you must have the appropriate `wanboot` executable installed to provide the needed hardware support. If you have added SPARC64 VII processors to your server, for example, you must perform this procedure even if you have performed it previously, before the new processors were added.

For information about WAN boot servers, refer to the *Solaris 10 Installation Guide: Network-Based Installations* for the version of Solaris 10 OS that you are using. You can find Solaris 10 OS documentation here:

`http://docs.sun.com/app/docs/prod/solaris.10`

▼ To Upgrade the `wanboot` Executable

1. **Install the Solaris 10 OS on the WAN boot server.**

   Install the version of Solaris 10 OS that is required for your server. For information about minimum software requirements, refer to "Supported Firmware and Software Versions" on page 2.

2. **Copy the `wanboot` executable from that Solaris release to the appropriate location on the install server.**

   For more detailed information, refer to the *Solaris 10 Installation Guide: Network-Based Installations.* For Solaris 10 8/07, for example, the information in the English document is here:

   `http://docs.sun.com/app/docs/doc/820-0177/6nbuennmi?a=view`

3. **Create a WAN boot miniroot from the Solaris 10 OS.**

   For Solaris 10 8/07, for example, the information in the English document is here:

   `http://docs.sun.com/app/docs/doc/820-0177/eypqx?a=view`

   If you do not upgrade the `wanboot` executable, the Sun SPARC Enterprise M8000/M9000 server will panic, with messages similar to the following:

```
krtld: load_exec: fail to expand cpu/$CPU
krtld: error during initial load/link phase
panic - boot: exitto64 returned from client program
```

Identifying Degraded Memory in a System

▼ To Identify Degraded Memory in a System

- **Log in to XSCF anf type the following command:**

```
XSCF> showstatus
```

The following example identifies DIMM number 0A on Memory Board #5 has degraded memory.

```
XSCF> showstatus
    MBU_B Status:Normal;
        MEMB#5 Status:Normal;
*           MEM#0A Status:Degraded;
```

Identifying Different Memory Sizes in a System Board

To identify if the domain contains system boards with different memory sizes, you can use either of the following commands to display the list of memory sizes.:

- `showdevices` command on the XSCF
- `prtdiag` command on the domain

▼ To Use the showdevices Command

1. Log in to XSCF and type the following command:

```
XSCF> showdevices -d domain_id
```

The following example shows that 00-0 has 64 Gbytes of memory while the other system boards have 16 Gbytes.

```
XSCF> showdevices -d 0

...

Memory:
-------
           board   perm    base                domain  target deleted remaining
DID XSB    mem MB  mem MB  address             mem MB  XSB    mem MB  mem MB
01  00-0    63680       0  0x0000004000000000  260288
01  03-0    16384    7384  0x0000034000000000  260288
01  03-1    16384       0  0x0000030000000000  260288
01  03-2    16384       0  0x000002c000000000  260288
01  03-3    16384       0  0x0000028000000000  260288

...
```

▼ To Use the prtdiag Command to Identify Memory Size

- **On the domain, execute the** prtdiag **command.**

```
# prtdiag
```

The following example displays different memory sizes.

```
# prtdiag

...

============================ Memory Configuration ============================

       Memory  Available           Memory     DIMM    # of  Mirror Interleave
LSB    Group   Size                Status     Size    DIMMs Mode Factor
---    ------  ------------------  -------    ------  ----- ------- ----------
 00    A        32768MB            okay       2048MB     16 no       8-way
 00    B        32768MB            okay       2048MB     16 no       8-way
 03    A         8192MB            okay       2048MB      4 no       2-way
 03    B         8192MB            okay       2048MB      4 no       2-way
 04    A         8192MB            okay       2048MB      4 no       2-way
 04    B         8192MB            okay       2048MB      4 no       2-way
 05    A         8192MB            okay       2048MB      4 no       2-way
 05    B         8192MB            okay       2048MB      4 no       2-way
 06    A         8192MB            okay       2048MB      4 no       2-way

...
```

Identifying Permanent Memory in a Target Board

▼ To Identify Permanent Memory in a Target Board

1. **Log in to XSCF and type the following command:**

```
XSCF> showdevices -d domain_id
```

The following example shows a display of the `showdevices -d` command where 0 is the *domain_id*.

```
XSCF> showdevices -d 0

...

Memory:
-------
           board    perm      base               domain   target deleted remaining
DID XSB    mem MB   mem MB    address            mem MB   XSB    mem MB   mem MB
00  00-0     8192        0    0x0000000000000000   24576
00  00-2     8192     1674    0x000003c000000000   24576
00  00-3     8192        0    0x0000034000000000   24576

...
```

The entry for column 4 `perm mem MB` indicates the presence of permanent memory if the value is not zero.

The example shows permanent memory on 00-2, with 1674 Mbytes.

If the board includes permanent memory, when you execute the `deleteboard` command or the `moveboard` command, the following notice is displayed:

```
System may be temporarily suspended, proceed? [y|n]:
```