Sun SPARC Enterprise M3000/M4000/M5000/ M8000/M9000 Servers

Product Notes For XCP Version 1100

Part No.: 821-2799-10,
December 2010, Revision A

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Contents

Preface

These product notes contain important and late-breaking information about the SPARC Enterprise M3000/M4000/M5000/M8000/M9000 server hardware, software, firmware, and documentation, covering the XCP 1100 firmware release.

Some references to server names and document names are abbreviated for readability. For example, if you see a reference to the M9000 server, note that the full product name is the SPARC Enterprise M9000 server. And if you see a reference to the *XSCF Reference Manual*, note that the full document name is the *SPARC Enterprise M3000/M4000/M5000/M8000/M9000 Servers XSCF Reference Manual*..

Note – Generally, Product Notes content supersedes that of other product documentation because Product Notes are published with more frequency. However, in case of a conflict, compare the publication date on each document's title page.

Besides this document, you also should read, at minimum, the overview guide for your server, the *SPARC Enterprise M3000/M4000/M5000/M8000/M9000 Servers Administration Guide*, and the *SPARC Enterprise M3000/M4000/M5000/M8000/M9000 Servers XSCF User's Guide.*

At publication of this document, servers described herein were shipping with XCP 1100 firmware installed. That might no longer be the latest available version, or the version now installed. Always see the Product Notes that apply to the firmware on your server, and those that apply to the latest firmware release.

This chapter includes the following sections:

Audience

This document is written for experienced system administrators with working knowledge of computer networks and advanced knowledge of the Oracle Solaris Operating System (Oracle Solaris OS).

Related Documentation

All documents for your sever are available online. For the web location of these documents, refer to the getting started guide packaged with your server.

Please check for the most recent version of product notes for your server. Product Notes are available only online.

Book Title
SPARC Enterprise M3000 Server Site Planning Guide
SPARC Enterprise M4000/M5000 Servers Site Planning Guide
SPARC Enterprise M8000/M9000 Servers Site Planning Guide
SPARC Enterprise Equipment Rack Mounting Guide
SPARC Enterprise M3000 Server Getting Started Guide[*]
SPARC Enterprise M4000/M5000 Servers Getting Started Guide[*]
SPARC Enterprise M8000/M9000 Servers Getting Started Guide[*]
SPARC Enterprise M3000 Server Overview Guide
SPARC Enterprise M4000/M5000 Servers Overview Guide
SPARC Enterprise M8000/M9000 Servers Overview Guide
SPARC Enterprise M3000/M4000/M5000/M8000/M9000 Servers Important Legal and Safety Information[*]
SPARC Enterprise M3000 Server Safety and Compliance Guide
SPARC Enterprise M4000/M5000 Servers Safety and Compliance Guide
SPARC Enterprise M8000/M9000 Servers Safety and Compliance Guide

Book Title
External I/O Expansion Unit Safety and Compliance Guide
SPARC Enterprise M4000 Server Unpacking Guide[*]
SPARC Enterprise M5000 Server Unpacking Guide[*]
SPARC Enterprise M8000/M9000 Servers Unpacking Guide[*]
SPARC Enterprise M3000 Server Installation Guide
SPARC Enterprise M4000/M5000 Servers Installation Guide
SPARC Enterprise M8000/M9000 Servers Installation Guide
SPARC Enterprise M3000 Server Service Manual
SPARC Enterprise M4000/M5000 Servers Service Manual
SPARC Enterprise M8000/M9000 Servers Service Manual
External I/O Expansion Unit Installation and Service Manual
SPARC Enterprise M3000/M4000/M5000/M8000/M9000 Servers Administration Guide
SPARC Enterprise M3000/M4000/M5000/M8000/M9000 Servers XSCF User's Guide
SPARC Enterprise M3000/M4000/M5000/M8000/M9000 Servers XSCF Reference Manual
SPARC Enterprise M4000/M5000/M8000/M9000 Servers Dynamic Reconfiguration (DR) User's Guide
SPARC Enterprise M4000/M5000/M8000/M9000 Servers Capacity on Demand (COD) User's Guide
SPARC Enterprise M3000/M4000/M5000/M8000/M9000 Servers Product Notes[†]
SPARC Enterprise M3000 Server Product Notes
SPARC Enterprise M4000/M5000 Servers Product Notes
SPARC Enterprise M8000/M9000 Servers Product Notes
External I/O Expansion Unit Product Notes
SPARC Enterprise M3000/M4000/M5000/M8000/M9000 Servers Glossary

* This is a printed document.

† Beginning with the XCP 1100 release.

Where to View Related Documentation

Hardware documents:

http://docs.sun.com/app/docs/prod/sparc.m3k~m3000-hw?l=en#hic
http://docs.sun.com/app/docs/prod/sparc.m4k~m4000-hw?l=en#hic
http://docs.sun.com/app/docs/prod/sparc.m5k~m5000-hw?l=en#hic
http://docs.sun.com/app/docs/prod/sparc.m8k~m8000-hw?l=en#hic
http://docs.sun.com/app/docs/prod/sparc.m9k~m9000-hw?l=en#hic

Software documents:

http://docs.sun.com/app/docs/prod/sparc.m9k~m9000-sw?l=en#hic

Oracle Solaris Operating System documents:

http://docs.sun.com

Text Conventions

This manual uses the following fonts and symbols to express specific types of information.

Font/symbol	Meaning	Example
AaBbCc123	What you type, when contrasted with on-screen computer output. This font represents the example of command output in the frame.	`XSCF> adduser jsmith`

AaBbCc123	The names of commands, files, and directories; on-screen computer output.
	This font represents the example of command input in the frame.
		`XSCF> showuser -P`
		`User Name: jsmith`
		`Privileges: useradm`
		`auditadm`

Italic	Indicates the name of a reference manual, a variable, or user-replaceable text.	See the *SPARC Enterprise M3000/M4000/M5000/M8000/M9000 Servers XSCF User's Guide*.
" "	Indicates names of chapters, sections, items, buttons, or menus	See Chapter 2, "System Features."

Syntax of the Command-Line Interface (CLI)

The command syntax is as follows:

- A variable that requires input of a value must be put in Italics.
- An optional element must be enclosed in [].
- A group of options for an optional keyword must be enclosed in [] and delimited by |.

Documentation Feedback

Submit comments about this document by clicking the Feedback[+] link at http://docs.sun.com. Include the title and part number of your document with your feedback:

SPARC Enterprise M3000/M4000/M5000/M8000/M9000 Servers Product Notes for XCP Verson 1100, part number 821-2799-10.

CHAPTER 1

Introduction and Support Matrix

This document describes the XCP 1100 firmware release as supported on M3000/M4000/M5000/M8000/M9000 servers. Except where noted otherwise, the information in this document applies to all of these servers.

This chapter contains important information that applies to firmware, hardware and software as of this firmware release. Other sections describe matters limited to firmware, software, or hardware.

Compatible Hardware, Firmware, and Software Matrix

Your server was shipped with the Oracle Solaris Operating System and Java Enterprise System software preinstalled.

TABLE 1-1 lists the supported hardware, firmware and operating system (OS) versions, as well as required software patches. Most recent releases appear first. Always refer to a patch's README for information about patch requirements and special installation instructions. The two-digit suffix of each patch represents the minimum revision level of the patch. Check `http://sunsolve.sun.com` for the latest patch revision. Apply patches in the order listed.

Note – Installation of the latest SunAlert Patch Cluster is recommended for all releases that support it. The full name of MU8, shown as required in some parts of TABLE 1-1, is the Oracle Solaris 10 10/09 Patch Bundle.

Caution – Before installing any processor – such as the SPARC64 VII+ processor – verify that your server satisfies all requirements for that processor type. Such requirements include minimum required XCP firmware and Oracle Solaris OS versions, and all required patches.

TABLE 1-1 Hardware, Firmware and Software Matrix

Server and Processor	Minimum XCP Version	Supported OS's and Required Patches/Clusters
M4000/M5000, SPARC64 VII+ 2.66 GHz, M8000/M9000, SPARC64 VII+ 3.0 GHz	1100	• Oracle Solaris 10 9/10, no patches required • Oracle Solaris 10 10/09, no patches required • Oracle Solaris 10 5/09, requires Patch Bundle MU8, and SunAlert Patch Cluster is recommended. • Oracle Solaris 10 10/08, requires Patch Bundle MU8, and SunAlert Patch Cluster is recommended. • Oracle Solaris 10 5/08, requires Patch Bundle MU8, and SunAlert Patch Cluster is recommended. • Oracle Solaris 10 8/07, requires Patch Bundle MU8, and SunAlert Patch Cluster is recommended.*
M4000/M5000, SPARC64 VII 2.53 GHz, M8000/M9000, SPARC64 VII 2.88 GHz	1090	• Oracle Solaris 10 9/10, no patches required • Oracle Solaris 10 10/09, no patches required • Oracle Solaris 10 5/09, requires Patch Bundle MU8, and SunAlert Patch Cluster is recommended. • Oracle Solaris 10 10/08, requires Patch Bundle MU8, and SunAlert Patch Cluster is recommended. • Oracle Solaris 10 5/08, requires Patch Bundle MU8, and SunAlert Patch Cluster is recommended. • Oracle Solaris 10 8/07, requires Patch Bundle MU8, and SunAlert Patch Cluster is recommended.†
M4000/M5000, SPARC64 VII 2.4 GHz with 8GB DIMMs, M8000/M9000, SPARC64 VII 2.52 GHz with 8GB DIMMs	1081	• Oracle Solaris 10 9/10, no patches required • Oracle Solaris 10 10/09, no patches required • Oracle Solaris 10 5/09, no patches required • Oracle Solaris 10 10/08, no patches required • Oracle Solaris 10 5/08, requires Patch 137137-09 • Oracle Solaris 10 8/07, requires patches 119254-51, 125891-01, 127755-01, and 127127-11.† ‡

TABLE 1-1 Hardware, Firmware and Software Matrix

Server and Processor	Minimum XCP Version	Supported OS's and Required Patches/Clusters
M4000/M5000, SPARC64 VII 2.4 GHz, M8000/M9000, SPARC64 VII 2.52 GHz	1070	• Oracle Solaris 10 9/10, no patches required • Oracle Solaris 10 10/09, no patches required • Oracle Solaris 10 5/09, no patches required • Oracle Solaris 10 10/08, no patches required • Oracle Solaris 10 5/08, requires Patch 137137-09 • Oracle Solaris 10 8/07, requires patches 119254-51, 125891-01, 127755-01, and 127127-11
M4000/M5000, SPARC64 VI M8000/M9000, SPARC64 VI	1040	• Oracle Solaris 10 9/10, no patches required • Oracle Solaris 10 10/09, no patches required • Oracle Solaris 10 5/09, no patches required • Oracle Solaris 10 10/08, no patches required • Oracle Solaris 10 5/08, requires Patch 137137-09 • Oracle Solaris 10 8/07, no patches required • Oracle Solaris 10 11/06, requires these patches: 118833-36 (install first and restart domain before proceeding), 125100-04, 120068-03, 123839-07, 125424-01, 125075-01, and 125670-02.
M3000, SPARC64 VII 2.75 GHz	1091	• Oracle Solaris 10 9/10, no patches required • Oracle Solaris 10 10/09, no patches required • Oracle Solaris 10 5/09, requires Patch Bundle MU8 • Oracle Solaris 10 10/08, requires Patch Bundle MU8
M3000, SPARC64 VII 2.52 GHz with 8GB DIMMs	1081	• Oracle Solaris 10 9/10, no patches required • Oracle Solaris 10 10/09, no patches required • Oracle Solaris 10 5/09, no patches required • Oracle Solaris 10 10/08, no patches required
M3000, SPARC64 VII 2.52 GHz	1080	• Oracle Solaris 10 9/10, no patches required • Oracle Solaris 10 10/09, no patches required • Oracle Solaris 10 5/09, no patches required • Oracle Solaris 10 10/08, no patches required

* In this case you cannot do a fresh install of the Oracle Solaris OS on a domain that contains SPARC64 VII processors. To workaround the restriction, either create a fully patched image, then use Jumpstart. Or, start the OS install on a domain that contains only SPARC64 VI processors, add the required patches, then add the SPARC64 VII processors to the domain.

† In this case you cannot do a fresh install of the Oracle Solaris OS on a domain that contains SPARC64 VII processors. To workaround the restriction, either create a fully patched image, then use Jumpstart. Or, start the OS install on a domain that contains only SPARC64 VI processors, add the required patches, then add the SPARC64 VII processors to the domain.

‡ Oracle Solaris 10 8/07 OS with patch 127127-11 might panic/trap during normal domain operation (CR 6720261). To prevent this you must set the following parameter in the system specification file (`/etc/system`) – `set heaplp_use_stlb=0` – then reboot the domain.

Obtaining Oracle Solaris Patches

The Oracle 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`

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

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

- Use the Update Manager GUI to obtain patches. For more information, refer to the Sun Update Connection documentation at the links mentioned previously.
- Use the `smpatch`(1M) command to obtain patches. For more information, refer to the `smpatch`(1M) man page or the reference manual collection for your version of the Oracle Solaris OS.

Caution – For SPARC Enterprise M4000/M5000 servers running the Oracle 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.` Note that Oracle Solaris 10 11/06 does not support SPARC64 VII processors.

Compatible Web Browsers

Many web browsers support the XSCF Web. The browsers in TABLE 1-2 have demonstrated compatibility with the XSCF Web through testing.

TABLE 1-2 Tested Web Browser Versions

Web Browser Application	Version
Mozilla Firefox	3.0 and 3.5.9
Microsoft Internet Explorer	7.0 and 8.0

CHAPTER 2

Information About XCP 1100 Firmware

This chapter covers this XCP firmware release. Unless otherwise noted, the information here applies to all platforms in this series: the M3000/M4000/M5000/M8000/M9000 servers.

See also "Compatible Hardware, Firmware, and Software Matrix" on page 1.

What's New

This section also includes information about features or restrictions added in the current release.

- The airflow indicator feature was supported on earlier releases of M3000 and M8000/M9000 servers. Beginning with the XCP 1100 release it also is supported on M4000/M5000 servers. Airflow monitoring measurement values are for reference only.
- This release introduces support for the SPARC64 VII+ processor on M4000/M5000 and M8000/M9000 servers.

Note – SunVTS version 7.0ps10 is the first SunVTS release supported on servers with SPARC64 VII+ processors.

Upgrading and Downgrading XCP

Upgrading to XCP 1100

For information about upgrading your firmware, see the *Sun SPARC Enterprise M3000/M4000/M5000/M8000/M9000 Servers XSCF User's Guide*.

Note – After upgrading XCP firmware, use the `rebootxscf`(8) command to reset the XSCF.

Upgrading From a Version Earlier Than XCP 1050

If you are currently running a version earlier than XCP 1050, you cannot directly upgrade to this XCP release. You must first upgrade to an interim version of XCP (between 1050 and 1070, inclusive). Contact your Oracle representative for access to older XCP releases.

Note – Use the `deleteuser`(8) command to delete any accounts named `admin` prior to updating to XCP 1050 or later. The `admin` account name is reserved starting in XCP 1050.

Domain Restart Required After Certain Type of XCP Upgrade

On a domain that has been in operation during an update to XCP 1100 from a version between XCP 1050 and 1070 (inclusive), when you perform dynamic reconfiguration (DR) to add or replace the SPARC64 VII processors, you need to update the OpenBoot PROM firmware. The OpenBoot PROM firmware is updated as you update the XCP and restart the domain. For this reason, restart all the domains after you update the firmware to the latest XCP release, regardless of whether you added or replaced the SPARC64 VII processors.

Downgrading XCP Firmware

Downgrading your XCP firmware to an earlier release is not advised. However, if you must downgrade your XCP 1100 release, execute the following command afterward to clear old-style audit logs:

```
XSCF> restoredefaults -c xscfu
```

XCP Functionality Issues and Limitations

This section describes known XCP firmware issues.

Note – 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

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TABLE 2-1 XCP Functionality Issues and Limitations

M3000	M4000/ M5000	M8000/ M9000	Issue
o	o	o	In the `settimezone -c adddst` command, when you set eight or more letters to the abbreviation of time zone and the name of Daylight Saving Time, execution of the `showlogs` command induces a segmentation fault and results in an error. [CR 6789066] Workaround: Specify the abbreviation of time zone and the name of Daylight Saving Time in seven letters or less.
o	o	o	You cannot use the following user account names, as they are reserved for system use: `adm`, `admin`, `apache`, `bin`, `daemon`, `default`, `ldap`, `nobody`, `ntp`, `operator`, `proxyuser`, `root`, `rpc`, `rpcuser`, and `sshd`. See "Remote Initial Login" on page 13
o	o	o	An XSCF user account user name cannot match an LDAP user name, and an XSCF user account number (UID) cannot match an LDAP UID number.

TABLE 2-1 XCP Functionality Issues and Limitations

M3000	M4000/ M5000	M8000/ M9000	Issue
o	o	o	When you import XCP or update the firmware using the XSCF you might see Web session ID errors displayed on the web browser. When you specify the timeout period as over 30 minutes in the Autologout setting Internal Server Errors might be displayed. To reconnect to the XSCF Web, close the current browser and open the new browser.
o	o	o	Before using the XSCF Web, disable pop-up blocking and remove any plug-ins such as the search tool installed with the browser.
o	o	o	XSCF-LAN is compliant with auto-negotiation. Set the network device that connects with XSCF-LAN to the auto-negotiation mode. Otherwise when you connect the XSCF-LAN and the network device (fixed to the full-duplex mode, according to the IEEE 802.3 rule) the XSCF-LAN communicates in half-duplex mode and network communication speed might slow down or communication errors may occur.
	o	o	For this XCP release, the XSCF browser user interface (XSCF Web) does not support the External I/O Expansion Unit Manager feature.
	o	o	Due to DR and ZFS file system interoperability issues, M4000/M5000 servers are shipped pre-installed using the UFS file system. See CR 6522017 in TABLE 3-2.
o	o	o	The XCP 1093 release was the first XCP release to support a domain running Oracle Solaris 10 9/10 with the processor groups observability feature enabled. Please refer to Oracle Solaris 10 9/10 Product Notes for more information.

XCP Known Issues (CRs) and Workarounds

This section lists significant CRs and, if available, suggested workarounds,

TABLE 2-2 XCP Known Issues (CRs) and Workarounds

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround
CR 6994665	o	o	o	Pressing Ctrl-Z can cause the XSCF shell terminal to stop working. If the XSCF is not accessible using a LAN connection, it will be not be possible to use the XSCF until the server is powered off and powered on.	Do not press Ctrl-Z when using the XSCF shell terminal. If pressing Ctrl-Z caused the terminal to stop working, reboot the XSCF using a XSCF LAN connection if available.

CHAPTER 3

Information About Software

This chapter describes Oracle Solaris software issues and workarounds as related to this XCP firmware release. See also "Compatible Hardware, Firmware, and Software Matrix" on page 1.

Note – Information in this chapter applies to all platforms unless otherwise specified.

Remote Initial Login

In addition to the standard *default* login, the servers are delivered with a temporary login called `admin` to enable remote initial login, through a serial port. The admin user 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. The temporary `admin` account has no password, and one cannot be added for it.

The temporary `admin` account is disabled after someone logged in as the default user or as temporary `admin` has successfully added the first user with valid password and privileges.

For more information about login account names, see also TABLE 2-1 in Chapter 2.

Fault Management

Fault management software does not differentiate between SPARC64 VII+ and SPARC64 VII processors. Ereport/fault event strings display SPARC64 VII for both processor types, for example:

```
fault.chassis.SPARC-Enterprise.cpu.SPARC64-VII.core.ce
```

However, the FRU field of the fault does contain the correct part number, allowing you to identify the processor type. For example:

```
XSCF> fmdump -v
Nov 19 00:58:18.6244 1147afbe-d006-4d46-8cf2-d9b6e5a893dc SCF-8007-AR
  100%  fault.chassis.SPARC-Enterprise.cpu.SPARC64-VII.way.ce

        Problem in: hc:///chassis=0/cmu=1/cpu=0
           Affects: hc:///chassis=0/cmu=1/cpu=0
               FRU: hc://:product-id=SPARC Enterprise M8000:chassis-id=
2030638006:server-id=aaa-dc1-3-sf0:serial=PP1032026V:part=CA06620-D061 B1   \
371-4929-02:revision=0a01/component=/CMU#1/CPUM#0
          Location: /CMU#1/CPUM#0
```

Identifying Degraded Memory in a System

▼ To Identify Degraded Memory in a System:

1. **Log in to XSCF.**
2. **Type the following command:**

```
XSCF> showstatus
```

3. The following example reveals that DIMM number 0A on the Motherboard unit has degraded memory:

```
XSCF> showstatus
    MBU_A Status: Normal;
      MEM#0A Status:Degraded
```

Sun Java Enterprise System

The Sun Java Enterprise System software is a comprehensive set of software and life cycle services that make the most of your software investment. The software and installation instructions can be found at the following web address:

http://www.sun.com/software/javaenterprisesystem/index.jsp

The software might not include patches that are mandatory for your server. After installing the software, refer to TABLE 1-1 for information about required patches.

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, it might be necessary to enable the WebConsole SMF service.

Enabling the Web Console SMF Service

▼ To Enable the Web Console SMF Service

- **Log in to a terminal as `root`, then enable the service.**

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

If you have 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 TABLE 1-1 in "Introduction and Support Matrix" on page 1 for information about checking for and installing required patches.

Software Functionality Issues and Limitations

This section describes software functionality issues and limitations in this release.

TABLE 3-1 Software Functionality Issues and Limitations

M3000	M4000/ M5000	M8000/ M9000	Issue
o	o	o	The `setsnmp`(8) and `showsnmp`(8) commands do not notify the user of authorization failure. Upon such failure, confirm that the SNMP trap host is working and re-execute the command using the correct user name.
	o		The following functions, which display power consumption, are not supported on M4000/M5000 servers. Any values displayed are invalid: • The `power` operand of the `showenvironment`(8) command. • XSCF Web.

Oracle Solaris OS Issues (CRs) and Workarounds

This section contains information about Oracle Solaris OS issues known at time of publication. The following tables list issues you might encounter, depending in part on which Oracle Solaris OS release you are using.

Known Issues in All Supported Oracle Solaris Releases

TABLE 3-2 lists Oracle Solaris OS issues that you might encounter in any Oracle Solaris release. If your domains are not running the latest Oracle Solaris release, also take notice of CRs fixed in releases later than yours, as noted in the tables that follow.

TABLE 3-2 Solaris OS Issues and Workarounds for All Supported Releases *(1 of 3)*

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround
CR 4816837		o	o	System hangs when executing parallel hot-plug operation with SP DR in suspend phase.	There is no workaround.

CR 6459540		o	o	The DAT72 internal tape drive connected to M4000/M5000/ M8000/M9000 servers 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`.

CR 6522017		o	o	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.
CR 6531036	o	o	o	The error message `network initialization failed` appears repeatedly after a boot net installation.	There is no workaround.
CR 6532215	o	o	o	`volfs` or `dscp` services might fail when a domain is booted.	Restart the service. To avoid the problem, issue the following commands. **`# svccfg -s dscp setprop \`** **`start/timeout_seconds=count: 300`** **`# svccfg -s volfs setprop \`** **`start/timeout_seconds=count: 300`** **`# svcadm refresh dscp`** **`# svcadm refresh volfs`**

TABLE 3-2 Solaris OS Issues and Workarounds for All Supported Releases *(2 of 3)*

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround
CR 6588650		o	o	On occasion, a M4000/M5000/M8000/M9000 server is unable to DR after an XSCF failover to or from backup XSCF	There is no workaround.
CR 6589644			o	When XSCF switchover happens on an M8000/M9000 server after the system board has been added using the `addboard` command, the console is no longer available.	The console can be recovered by pressing CTRL-q.
CR 6592302		o	o	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. Otherwise try `deleteboard`(8) again.
CR 6660168	o	o	o	See "CR 6660168" on page 19, removed from this table due to the length of the description.	

CR 6674266 and 6611966		o	o	DR `deleteboard`(8) and `moveboard`(8) operations might fail. Example for messages on domain:
				`drmach: WARNING: Device driver failure: /pci dcs: <xxxx> config_change_state:`
				Hardware specific failure:
				`unconfigure SB1: Device driver failure: /pci`
					Try DR operations again.

CR 6723202	o	o	o	The `raidctl` command cannot be used to create a hardware RAID using the onboard SAS/LSI controller on the M3000 server. The `raidctl` command can be used to view disk/controller status, and can be used on any PCI Host Bus Adapter (HBA) installed in the system.	No workaround is available.
CR 6745410	o	o	o	Boot program ignores the `Kadb` option which causes the system not to boot.	Use `kmdb` instead of `kadb`.

TABLE 3-2 Solaris OS Issues and Workarounds for All Supported Releases *(3 of 3)*

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround
CR 6794630	o	o	o	An attempt to use the GUI to install Oracle Solaris in a domain larger than 2TB might fail.	Use the command-line interface to install the Oracle Solaris OS.

CR 6660168

If a `ubc.piowbeue-cpu` error occurs on a domain, the Oracle 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:

```
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 Oracle 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.
```

`Workaround:` If fmd service fails, issue the following command on the domain to recover:

```
# svcadm clear fmd
```

Then restart cpumem-diagnosis:

```
# fmadm restart cpumem-diagnosis
```

Issues Fixed in Oracle Solaris 10 9/10

TABLE 3-3 lists issues that have been fixed in the Oracle Solaris 10 9/10 OS. You might encounter them in earlier releases.

TABLE 3-3 Oracle Solaris OS Issues and Workarounds Fixed in Oracle Solaris 10 9/10

CR ID	M3000	M4000/ M5000	M4000/ M5000	Description	Workaround
CR 6888928	o	o	o	The IPMP interface fails since probe packets are not sent through that interface. Problem occurs with M3000/M4000/M5000/M8000/M9000 servers running the Oracle Solaris 10 10/09 OS and IPMP, or any Oracle Solaris release running IPMP with Patch 141444-09 installed.	Disable probe-based failure detection. See InfoDoc 211105 (86869).
CR 6668237	o	o	o	After DIMMs are replaced, the corresponding DIMM faults are not cleared on the domain.	Use the `fmadm repair` *fmri*|*uuid* to record the repair. Then use the `fmadm rotate` command to clear out any leftover events.
CR 6872501	o	o	o	Cores are not offlined when requested by the XSCF. This CR affects only Oracle Solaris 10 5/09 and Oracle Solaris 10 10/09 releases.	Use `fmdump`(1M) with its `-v` option on the Service Processor to identify the faulty core. Once identified, use `psradm`(8) on the domain to offline the core.

Issues Fixed in Oracle Solaris 10 10/09

TABLE 3-4 lists issues that have been fixed in the Oracle Solaris 10 10/09 OS. You might encounter them in earlier releases.

TABLE 3-4 Oracle Solaris OS Issues and Workarounds Fixed in Oracle Solaris 10 10/09

CR ID	M3000	M4000/ M5000	M4000/ M5000	Description	Workaround
CR 6572827	o	o	o	The `prtdiag -v` command reports PCI bus types incorrectly. It reports "PCI" for PCI-X leaf devices and "UNKN" for legacy PCI devices.	There is no workaround.
CR 6724307			o	Scheduler decisions are occasionally unbalanced. Sometimes two threads will be on one core (causing both to run at about half speed) while another core is idle. For many OpenMP and similar parallel applications, the application performance is limited by the speed of the slowest thread. Uneven scheduling is not common, perhaps 1 in 50 or 1 in 100 decisions. But if there are 128 threads running, then the application might have at least one uneven schedule event.	Use processor sets to prevent uneven threads to core assignment.
CR 6800734		o	o	deleteboard hang in a domain	There is no workaround.
CR 6816913		o	o	The XSCF `showdevices` command displays the incorrect processor cache size for fractional processor cache sizes, such as displaying "5MB" when the correct display would be "5.5MB."	Use the `prtdiag`(1M) command on the domain to report processor information.
CR 6821108		o	o	DR and "showdevices" don't work after XSCF reboot.	Reboot the XSCF service processor twice. Half the SAs are deleted the first time, half are deleted the second time, so the second addition succeeds and IPsec communication is reestablished.
CR 6827340	o	o	o	DR and Memory patrol may fail due to SCF command error.	There is no workaround.

Issues Fixed in Oracle Solaris 10 5/09

TABLE 3-5 lists issues that have been fixed in the Oracle Solaris 10 5/09 OS. You might encounter them in earlier releases.

TABLE 3-5 Oracle Solaris OS Issues and Workarounds Fixed in Oracle Solaris 10 5/09

CR ID	M3000	M4000/ M5000	M4000/ M5000	Description	Workaround
CR 6588555		o	o	Resetting the XSCF during a DR operation on permanent memory might cause domain panic.	Do not start an XSCF reset while a DR operation is underway. Wait for the DR operation to complete before starting the reset.
CR 6623226	o	o	o	The Oracle Solaris command `lockstat`(1M) or the dtrace lockstat provider might cause a system panic.	Do not use the Oracle Solaris `lockstat`(1M) command or the dtrace lockstat provider.
CR 6680733	o	o	o	Sun Quad-port Gigabit Ethernet Adapter UTP (QGC) & Sun Dual 10 GigE Fiber XFP Low Profile Adapter (XGF) NICs might panic under high load conditions.	If possible, use the card in x8 slot. Otherise, there is no workaround.
CR 6689757	o	o	o	Sun Dual 10 GigE Fiber XFP Low Profile adapter (XGF) with a single or improperly installed XFP optical transceivers might cause the following error to show on the console: `The XFP optical transceiver is broken or missing.`	Check and make sure that both XFP optical transceivers are firmly seated in the housing. Do not mix INTEL and Sun XFP optical transceivers in the same Adapter. Do NOT plumb a port with the `ifconfig` command if the port does not contain an XFP optical transceiver or it contains one but the transceiver is not in use.
CR 6725885	o			`cfgadm` will display non-existent M3000 system boards (SB1 to SB15).	The `cfgadm` output for SB1-SB15 can be ignored.

Issues Fixed in Oracle Solaris 10 10/08

TABLE 3-6 lists issues that have been fixed in the Oracle Solaris 10 10/08 OS. You might encounter them in earlier releases.

TABLE 3-6 Oracle Solaris OS Issues and Workarounds Fixed in Oracle Solaris 10 10/08 *(1 of 4)*

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround
CR 6511374		o	o	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.

CR 6533686		o	o	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.

CR 6535018			o	In Oracle Solaris domains that include SPARC64 VII processors, workloads that make heavy use of the Oracle Solaris kernel might not scale as expected when you increase the thread count to a value greater than 256.	For Oracle Solaris domains that include SPARC64 VII processors, limit domains to a maximum of 256 threads.
CR 6556742	o	o	o	The system panics when DiskSuite cannot read the `metadb` during DR. This bug affects the following cards: • SG-XPCIE2FC-QF4, 4-Gigabyte PCI-e Dual-Port Fiber Channel HBA • SG-XPCIE1FC-QF4, 4-Gigabyte PCI-e Single-Port Fiber Channel HBA • SG-XPCI2FC-QF4, 4-Gigabyte PCI-X Dual-Port Fiber Channel HBA • SG-XPCI1FC-QF4, 4-Gigabyte PCI-X Single-Port Fiber Channel HBA	Panic can be avoided when a duplicated copy of the `metadb` is accessible via another Host Bus Adaptor.

TABLE 3-6 Oracle Solaris OS Issues and Workarounds Fixed in Oracle Solaris 10 10/08 *(2 of 4)*

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround
CR 6589833		o	o	The DR `addboard` command might cause a system hang if you are adding a Sun StorageTek Enterprise Class 4-Gigabyte Dual-Port Fiber 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.
CR 6608404		o	o	Hot-plug of the X4447A-Z, PCI-e Quad-port Gigabit Ethernet Adapter UTP card in slot 1 might cause other network devices to fail.	To avoid the defect, do not install this card in slot 1.
CR 6614737		o	o	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`. • *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. If a DR command hangs, reboot the domain to recover.

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

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround
CR 6619224			o	For Oracle 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 Oracle Solaris domains that include SPARC 64 VII processors, do not exceed a domain size of 256 virtual processors in a single Oracle Solaris domain. This means a maximum of 32 CPUs in a single domain configuration (maximum configuration for an M8000 server).
CR 6632549		o	o	`fmd service` on domain might fail to go into maintenance mode after DR operations.	Issue the following command on the domain: `# svcadm clear fmd`
CR 6660197		o	o	DR might cause the domain to hang if either of the following conditions exist: • A domain contains 256 or more CPUs. • Memory error occurred and the DIMM has been degraded.	1. Set the following parameter in the system specification file (`/etc/system`): `set drmach:drmach_disable_mcopy=1` 2. Reboot the domain.

CR 6679370		o	o	The following message may be output on the console during system boot, addition of the External I/O Expansion Unit using hotplug, or an FMEMA operation by DR:
				`SUNW-MSG-ID: SUN4-8000-75, TYPE: Fault, VER: 1, SEVERITY: Critical ... DESC:`
				`A problem was detected in the PCIExpress subsystem.`
				`For morei nformation see:`
				`http://sun.com/msg/SUN4-8000-75`
				`...`
					Add the following to the `/etc/system` file, then reboot the domain.
					`set pcie_expected_ce_mask = 0x2001`

CR 6720261	o	o	o	If your domain is running Oracle Solaris 10 5/08 OS, the system might panic/trap during normal operation.	Set the following parameter in the system specification file (`/etc/system`): `set heaplp_use_stlb=0` Then reboot the domain.

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

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround

CR 6737039	o			WAN boot of M3000 servers fails intermittently with a panic early in the boot process. Sample output:
				`ERROR: Last Trap: Fast Data Access MMU Miss`
				`%TL:1 %TT:68 %TPC:13aacc`
				`%TnPC:13aad0 %TSTATE:1605`
				`%PSTATE:16 ( IE:1 PRIV:1 PEF:1 )`
				`DSFSR:4280804b ( FV:1 OW:1 PR:1`
				`E:1 TM:1 ASI:80 NC:1 BERR:1 )`
				`DSFAR:fda6f000`
				`DSFPAR:401020827000 D-TAG:6365206f66206000`
					Power off and power on the chassis, then retry the operation.

Issues Fixed in Oracle Solaris 10 5/08

TABLE 3-7 lists issues that have been fixed in the Oracle Solaris 10 5/08 OS. You might encounter them in earlier releases.

TABLE 3-7 Oracle Solaris OS Issues and Workarounds Fixed in Oracle Solaris 10 5/08 *(1 of 5)*

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround

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

CR 6348554		o	o	Using the `cfgadm -c disconnect` command on the following cards might hang the command: • SG-XPCIE2FC-QF – 4Sun StorageTek Enterprise Class 4-Gigabyte Dual-Port Fiber Channel PCI-E HBA • SG-XPCIE1FC-QF4 – Sun StorageTek Enterprise Class 4-Gigabyte Single-Port Fiber Channel PCI-E HBA • SG-XPCI2FC-QF4 – Sun StorageTek Enterprise Class 4-Gigabyte Dual-Port Fiber Channel PCI-X HBA • SG-XPCI1FC-QF4 – Sun StorageTek Enterprise Class 4-Gigabyte Single-Port Fiber Channel PCI-X HBA	Do not perform `cfgadm -c disconnect` operation on the affected cards.
CR 6402328			o	Customers using more than six IOUA (Base I/O Card) cards in a single domain might experience panic during a period of high I/O stress.	Limit the maximum number of IOUAs in a single domain to 6.
CR 6472153		o	o	If you create a Oracle Solaris Flash archive on a sun4u server other than an M4000/M5000/M8000/M9000 server, then install it on one of these servers, the console's TTY flags will not be set correctly. This can cause the console to lose characters during stress.	Just after installing Oracle Solaris OS from a Oracle Solaris Flash archive, telnet into the M4000/M5000/ 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.

CR 6505921			o	Correctable error on the system PCIe bus controller generates an invalid fault.	Create a file `/etc/fm/fmd/fmd.conf` containing the following lines;
					`setprop client.buflim 40m`
					`setprop client.memlim 40m`

TABLE 3-7 Oracle Solaris OS Issues and Workarounds Fixed in Oracle Solaris 10 5/08 *(2 of 5)*

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround
CR 6522433		o	o	The incorrect motherboard might be identified by `fmdump` for cpu faults after reboot.	Check system status on XSCF.
CR 6527811		o	o	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.

CR 6536564		o	o	`showlogs`(8) and `showstatus`(8) command might report wrong I/O component.	To avoid this problem, issue the following commands on the domain.
					`# cd /usr/platform/SUNW,SPARCEnterprise/lib/fm/topo/plugins`
					`# mv ioboard.so ioboard.so.orig`
					`# svcadm restart fmd`
					
					Contact a service engineer if the following messages are displayed:
					`SUNW-MSG-ID: SUNOS-8000-1L, TYPE: Defect, VER: 1, SEVERITY: Minor, EVENT-TIME: Sun May 6 18:22:24 PDT 2007 PLATFORM: SUNW,SPARC-Enterprise, CSN: BE80601007, HOSTNAME: sparc`

CR 6545143		o	o	There is a low probability that a system panic can occur during trap processing of a TLB miss for a user stack address. The problem can occur if the user stack is unmapped concurrently with the user process executing a flush windows trap (`ta 3`). The panic message will contain the following string: `bad kernel MMU trap at TL 2`	There is no workaround.
CR 6545685		o	o	If the system has detected Correctable Memory Errors (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`

TABLE 3-7 Oracle Solaris OS Issues and Workarounds Fixed in Oracle Solaris 10 5/08 *(3 of 5)*

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround
CR 6546188		o	o	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.
CR 6551356		o	o	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	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.
CR 6559504		o	o	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.
CR 6563785		o	o	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 Ultra 320 SCSI HBA	After disconnecting a card, wait for a few seconds before re-connecting.

TABLE 3-7 Oracle Solaris OS Issues and Workarounds Fixed in Oracle Solaris 10 5/08 *(4 of 5)*

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround
CR 6564934		o	o	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.
CR 6568417		o	o	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`
CR 6571370		o	o	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`
CR 6584984			o	The `busstat`(1M) command with `-w` option might cause M8000/M9000 server domains to reboot.	There is no workaround. Do not use `busstat`(1M) command with `-w` option on pcmu_p.
CR 6589546		o	o	`prtdiag` does not show all IO devices of the following cards: • SG-XPCIE2FC-EM4 Sun StorageTek Enterprise Class 4-Gigabyte Dual-Port Fiber Channel PCI-E HBA • SG-XPCIE1FC-EM4 Sun StorageTek Enterprise Class 4-Gigabyte Single-Port Fiber Channel PCI-E HBA	Use `prtdiag -v` for full output.

TABLE 3-7 Oracle Solaris OS Issues and Workarounds Fixed in Oracle Solaris 10 5/08 *(5 of 5)*

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround
CR 6663570		o	o	DR operations involving the lowest numbered 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 Oracle Solaris `prtdiag` command to identify the CPU with the lowest CPU ID.

Issues Fixed in Oracle Solaris 10 8/07

TABLE 3-8 lists issues that have been fixed in the Oracle Solaris 10 8/07 OS. You might encounter them in earlier releases. M4000/M5000, CR

TABLE 3-8 Oracle Solaris OS Issues and Workarounds Fixed in Oracle Solaris 10 8/07 *(1 of 4)*

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround
CR 6303418			o	M9000 server 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 Oracle Solaris `psradm` command to disable the excess CPU threads. For example, disable all odd-numbered CPU threads.
CR 6416224		o	o	System performance can degrade using a single NIC card with more than 5,000 connections.	Use multiple NIC cards to split network connections.
CR 6441349		o	o	I/O error can hang the system.	There is no workaround.
CR 6485555		o	o	On-board Gigabit Ethernet NVRAM corruption could occur due to a race condition. The window of opportunity for this race condition is very small.	There is no workaround.

TABLE 3-8 Oracle Solaris OS Issues and Workarounds Fixed in Oracle Solaris 10 8/07 *(2 of 4)*

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround

CR 6496337		o	o	The "cpumem-diagnosis" module may fail to load after uncorrectable error(UE) panic. Systems will function correctly but events normally automatically diagnosed by FMA using this module will require manual diagnosis.
				Example:
				`SUNW-MSG-ID: FMD-8000-2K, TYPE: Defect, VER: 1, SEVERITY: Minor EVENT-TIME: Thu Feb 15 15:46:57 JST 2007 PLATFORM: SUNW,SPARC-Enterprise, CSN: BE80601007, HOSTNAME: col2-ffem7-d0`
					If the problem has already occurred:
					1. Remove the `cpumemdiagnosis` file.
					`# rm /var/fm/fmd/ckpt \ /cpumemdiagnosis/cpumem-diagnosis`
					2. Restart `fmd service`.
					`# svcadm restart fmd`
					
					To avoid this problem in advance, add the following line in the file `/lib/svc/method/svc-dumpadm`:
					
					`# savedev=none rm -f /var/fm/fmd/ckpt/cpumemdiagnosis \ /cpumem-diagnosis #`

CR 6495303		o	o	The use of a PCIe Dual-Port Ultra320 SCSI controller card (SG-(X)PCIE2SCSIU320Z) in IOU Slot 1 on a Sun SPARC Enterprise M4000/M5000 server might result in a system panic.	Do not use this card in IOU Slot 1.
CR 6498283		o	o	Using the DR `deleteboard` command while `psradm` operations are running on a domain might cause a system panic.	There is no workaround.
CR 6499304		o	o	Unexpected message is displayed on console and CPU isn't offlined when numerous correctable errors (CEs) occur. Example: `SUNW-MSG-ID: FMD-8000-11, TYPE: Defect, VER: 1, SEVERITY: Minor EVENT-TIME: Fri Feb 2 18:31:07 JST 2007, PLATFORM: SPARC-Enterprise, CSN: BE80601035, HOSTNAME: FF2-35-0`	Check CPU status on XSCF.

TABLE 3-8 Oracle Solaris OS Issues and Workarounds Fixed in Oracle Solaris 10 8/07 *(3 of 4)*

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround
CR 6502204		o	o	Unexpected error messages may be displayed on console on booting after CPU UE panic. Example: `SUNW-MSG-ID: FMD-8000-11, TYPE: Defect, VER: 1, SEVERITY: Minor EVENT-TIME: Tue Jan 9 20:45:08 JST 2007 PLATFORM: SUNW,SPARC-Enterprise, CSN: 2030636002, HOSTNAME: P2-DC1- 16-d0`	If you see unexpected messages, use the `showdomainstatus`(8) command to check system status on XSCF.
CR 650275		o	o	Inserted or removed hotplugged PCI card may not output notification message.	There is no workaround.
CR 6508432		o	o	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`
CR 6508434		o	o	The domain may panic when an additional PCI-X card is installed or a PCI-X card is replaced using PCI hot-plug.	Do not insert a different type of PCI-X card on the same PCI slot by using PCI hot-plug.
CR 6510861		o	o	When using the PCIe Dual-Port Ultra320 SCSI controller card (SG-(X)PCIE2SCSIU320Z), a PCIe correctable error causes a Oracle Solaris panic.	Add the following entry to `/etc/system` to prevent the problem: `set pcie:pcie_aer_ce_mask = 0x31c1`
CR 6520990		o	o	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`
CR 6527781			o	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.
CR 6530178		o	o	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.
CR 6530288		o	o	`cfgadm`(1M) command may not correctly show Ap_Id format.	There is no workaround.

TABLE 3-8 Oracle Solaris OS Issues and Workarounds Fixed in Oracle Solaris 10 8/07 *(4 of 4)*

CR ID	M3000	M4000/ M5000	M8000/ M9000	Description	Workaround
CR 6534471		o	o	Systems might panic/trap during normal operation.	If a patch is not available, disable the kernel large page sTLB programming. In the file `/etc/system`, change the `heaplp_use_stlb` variable to 0: `set heaplp_use_stlb=0`
CR 6535564		o	o	PCI hot-plug to PCI slot #0, #1 or External I/O Expansion Unit may fail on XSB added by DR.	Use DR instead of PCI hot plug if need to add or remove PCI card on the XSB.
CR 6539084		o	o	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.	There is no workaround.
CR 6539909		o	o	Do not use the following I/O cards for network access when you are using the `boot net install` command to install the Oracle 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 Oracle Solaris OS via the network.
CR 6542632		o	o	Memory leak in PCIe module if driver attach fails.	There is no workaround.

Software Documentation Updates

This section contains late-breaking information that became known after the documentation set was published or was very recently added.

Note – Online man pages are updated more frequently than the *SPARC Enterprise M3000/M4000/M5000/ M8000/M9000 Servers XSCF Reference Manual*.

The `showenvironment`(8) man page

The `showenvironment`(8) man page states that the `showenvironment air` command is supported only on M3000 and M8000/M9000 servers. As of this release, it also is supported on M4000/M5000 servers.

Recent COD Terminology Changes

In previous releases, descriptions of the Capacity On Demand feature employed the terms 'license', 'Right-to-Use', and 'RTU'. Beginning with the XCP 1093 firmware release, these terms have been replaced in code and in documentation, including man pages. Appropriate documents have been updated and republished. Beginning with this release use the following new XSCF commands on Oracle servers instead of their previous counterparts:

- `addcodactivation`(8) replaces `addcodlicense`(8)
- `deletecodactivation`(8) replaces `deletecodlicense`(8)
- `showcodactivation`(8) replaces `showcodlicense`(8).

CHAPTER 4

Information About Hardware

This chapter describes issues about M3000/M4000/M5000/M8000/M9000 server hardware as related to this XCP release. Unless otherwise noted, the information in this chapter applies to all of the above platforms.

See also "Compatible Hardware, Firmware, and Software Matrix" on page 1.

Important Notes, Issues and Workarounds – All M-Series Servers

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 M4000/M5000 servers from a WAN boot server, you must have the appropriate `wanboot` executable installed and OpenBoot version 4.24.10 or above to provide the needed hardware support.

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

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

If you do not upgrade the `wanboot` executable, the 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
```

Booting Multiple Systems From a Single J4200 JBOD Storage Array

Sun Storage J4200 SAS JBOD arrays have six general-purpose SAS connectors. With FW version 3A32 or higher, each of them can be connected to separate SAS initiators, therefore up to six systems can be connected to the array. Each system can use a different disk on the array as its boot device. J4200 arrays have 12 disks, so each boot device can be mirrored for higher reliability. J4200 arrays can be configured into multiple zones to provide a more secure environment.

For related information, see Sun StorageTek Common Array Manager Software documentation, at:
http://docs.sun.com/app/docs/prod/stor.arrmgr#hic

See especially:

- *Sun StorageTek Common Array Manager Software Release Notes 6.4.1*
- *Sun StorageTek Common Array Manager User Guide for Open Systems*

Notes on the Use of USB Memory

To execute the `dumpconfig(8)`, `restoreconfig(8)` or `snapshot(8)` command, if you specify USB memory as the destination to store data, prepare the USB memory as a medium in advance.

The data stored will include the information about the system. To use USB memory, you need to pay attention to the management of the USB memory in which the data stored, from the data security viewpoint.

We do not provide guarantees on the proper operation and connectivity to the XSCF of every USB memory currently manufactured on the market. Depending on the USB memory in use, defects such as the XSCF firmware error or reset may occur. In case such defects occurred, stop the use of USB memory immediately.

To connect the USB memory to the USB port for the XSCF, connect the USB memory directly to the USB port. If connected via the USB hub or USB extension, it might cause errors.

Hardware Functionality Issues and Limitations

This section describes known issues in this release.

- When you use the external power control interface of the external power controller, the following notification signals are not supported:
  - The OS panic or the server hardware error signal (*CPUN/RTNU).
  - The server hardware error signal (power fail, temperature error, and fan error) (*ALARM).
- For information about I/O options and storage, such as the number of cards supported in a domain, see the Sun Cross Platform IO Support page:

  http://wikis.sun.com/display/PlatformIoSupport/Home/

Important Notes, Issues and Workarounds – M3000 Servers Only

Patches for Emulex PCI Express (PCIe) Cards

The following Emulex cards require drivers supplied in patch 120222-27:

- XSEFC402AF Sun StorageTek Enterprise Class 4-Gigabit Dual-Port Fiber Channel PCIe HBA
- XSEFC401AF Sun StorageTek Enterprise Class 4-Gigabit Single-Port Fiber Channel PCIeHBA

Hardware Functionality Issues and Limitations

This section describes known issues in this release.

- 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.
- For servers that have the B-type plug, confirm that a 15A overcurrent protection device is available outside the server. If one is not available, prepare an external 15A overcurrent protection that can be achieved by means of no-fuse breakers (NFBs) or fuses. The B-type plug refers to plugs other than grounding-type ones with two parallel blades, such as the NEMA L6-30, L6-20, L6-15, and L5-15.

- Connecting a SAS device containing multiple SAS targets to the onboard external SAS interface is not supported. Instead, use a Sun StorageTek Host Bus Adaptor (SG-XPCIE8SAS-E-Z).

Important Notes, Issues and Workarounds – M4000/M5000 and M8000/M9000 Servers

DVD Drives and `cfgadm`

The Oracle Solaris `cfgadm`(1M) command does not always unconfigure a DVD drive from a domain on SPARC Enterprise M8000/M9000 servers.

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`.

F20 PCIe Cards

This release supports Sun Flash Accelerator F20 PCIe cards on M4000/M5000 and M8000/M9000 servers. These cards are not supported on M3000 servers.

On M4000/M5000 servers, configure the F20 card only in slots 1 and 3. This restriction does not apply to M8000/M9000 servers.

For more information see the F20 documentation:

`http://docs.sun.com/app/docs/prod/flash.pcie?l=en&a=view`

Sun Crypto Accelerator 6000 Cards

If you are not using the correct version of the Sun Crypto Accelerator (SCA) 6000 card driver, hot-plug operations on SCA 6000 cards can cause SPARC Enterprise M8000/M9000 servers to panic or hang. Version 1.1 of the SCA6000 driver and

firmware supports hot-plug operations after the required bootstrap firmware upgrade has been performed. Version 1.0 of the SCA6000 driver does not support hot-plug and should not be used.

U320 PCIe SCSI Card

The U320 PCIe SCSI card, part number 375-3357-01/02, is not supported in PCI cassettes for Sun SPARC Enterprise M8000/M9000 servers. Customers must use part number 375-3357-03 at a minimum.

Patches for QLogic PCIe Cards

The following QLogic cards require drivers supplied in patch 125166-10:

- Sun StorageTek Enterprise Class 4-Gigabit Dual-Port Fiber Channel PCIe HBA (part SG-XPCIE2FC-QF4)
- Sun StorageTek Enterprise Class 4-Gigabit Single-Port Fiber Channel PCIe HBA (part SG-XPCIE1FC-QF4)

Patches for Emulex PCI Express (PCIe) Cards

The following Emulex cards require drivers supplied in patch 120222-27:

- Sun StorageTek Enterprise Class 4-Gigabit Dual-Port Fiber Channel PCIe HBA (part SG-XPCIE2FC-EM4)
- Sun StorageTek Enterprise Class 4-Gigabit Single-Port Fiber Channel PCIe HBA (part SG-XPCIE1FC-EM4)

Hardware Functionality Issues and Limitations

This section describes known issues in this release.

- The use of the External I/O Expansion Unit to connect the host server to an external boot disk drive is not supported.
- Do not use the CD-RW/DVD-RW drive unit and the TAPE drive unit at the same time.
- Power cables are not redundant on single power feed servers without the dual power feed option. All power cables must be connected and powered on at all times.
- DR operations on an M8000/M9000 server might fail with a misleading message regarding the board being unavailable for DR after the `addfru`(8) or `replacefru`(8) command has been used for active replacement. This happens

when the active replacement is done without the diagnostic test in the maintenance menu. Execute the diagnosis in the maintenance menu of the `addfru`(8) or `replacefru`(8) command to avoid this problem. To recover, execute the `testsb`(8) command or delete the CPU/memory board unit using the `deletefru`(8) command and then retry the `addfru`(8) command.

- Contact your sales representative for tape drive unit options.
- The M4000/M5000 servers are cold-service machines. Hot-swapping of the CPU module (CPUM), memory board (MEMB), I/O unit (IOU), or XSCF unit is not supported.

Hardware Documentation Updates for the M3000 Server

This section contains late-breaking hardware information that became known after the documentation set was published and corrections in the M3000 server hardware documentation.

The following table lists known documentation updates.

Title	Page Number	Update
SPARC Enterprise M3000 Server Site Planning Guide	2-4, 2-5	The height of container box indicated in TABLE 2-2 "Physical Specifications" and FIGURE 2-3 "Server Container Box" will be corrected. The correct value is 289 mm/11.4 in..
	3-6	The rush current and leakage current values will be added to TABLE 3-3 "Electrical Specifications". See "Electrical Specifications" on page 44 for detail.
SPARC Enterprise M3000 Server Site Planning Guide	Chapter 2	The article on "Power Consumption Monitoring Function" and "Airflow Indicator" is added.
SPARC Enterprise M3000 Server Overview Guide	1-24	Section 1.4.5.2, "CD-RW/DVD-RW Drive Unit" will be changed. See "CD-RW/DVD-RW Drive Unit" on page 45 for detail.
	1-25	The article on "SAS Port" will be replaced by the following. The SAS port connects the server to an external device, such as a tape drive, which has an SAS interface. For information on which devices can be connected, contact a service engineer. Note that the transfer rate of this port is up to 600MB/s (3Gbps x 2wide).
	11-1	"Accessing the CD-RW/DVD-RW Drive Unit," in Section 11.1, will explain and identify the type of drive unit. See "CD-RW/DVD-RW Drive Unit" on page 45 for detail.

Updates of the SPARC Enterprise M3000 Server Site Planning Guide

The following information supersedes the information in the *SPARC Enterprise M3000 Server Site Planning Guide*.

Electrical Specifications

This section explains the electrical specifications of the M3000 server.

Note – The electrical power values in TABLE 3-3 are the maximum values based on the fully configured server. The actual values may differ from these values, depending on the server configuration.

TABLE 3-3 Electrical Specifications

	Specification			
Item	**CPU: 2.52 GHz**		**CPU: 2.75 GHz**	
Input voltage	100 to 120 VAC	200 to 240 VAC	100 to 120 VAC	200 to 240 VAC
Number of power cords	2 (1 cord for each power supply unit)		2 (1 cord for each power supply unit)	
Power cord length	3 m/9.84 ft		3 m/9.84 ft	
Redundancy	1 + 1 redundant configuration		1 + 1 redundant configuration	
Rated current*	4.80 A	2.59 A	5.15 A	2.81 A
Frequency	50/60 Hz		50/60 Hz	
Maximum power consumption	470 W	460 W	505 W	500 W
Apparent power	480 VA	517 VA	515 VA	562 VA
Heat dissipation	1,603.7 BTU/hr (1,692 kJ/hr)	1,569.6 BTU/hr (1,656 kJ/hr)	1,723.1 BTU/hr (1,818 kJ/hr)	1,707.9 BTU/hr (1,802 kJ/hr)
Power factor	0.98	0.89	0.98	0.89
Rush current†	25 A or less	25 A or less	25 A or less	25 A or less
Leakage current†	1.75 mA or less	1.75 mA or less	1.75 mA or less	1.75 mA or less

* In a redundant configuration, the rated current per cord is half the value shown in TABLE 3-3.

† This value represents the current for each power cord.

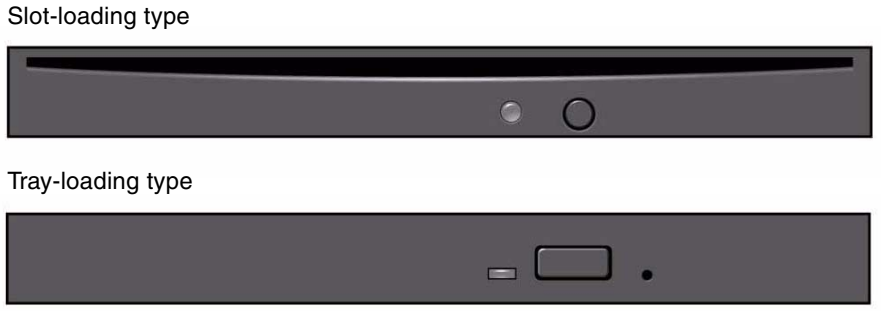
Updates in the SPARC Enterprise M3000 Server Overview Guide and Service Manual

The following information supersedes the information in the *SPARC Enterprise M3000 Server Overview Guide* and the *SPARC Enterprise M3000 Server Service Manual*.

CD-RW/DVD-RW Drive Unit

There are two types of CD-RW/DVD-RW drive units: slot-loading type and tray-loading type.

FIGURE 4-1 Types of CD-RW/DVD-RW Drive Unit



Note – The locations of LED and button may vary depending on the servers. When you use the medium on the tray-loading type CD-RW/DVD-RW drive unit, make sure that the center of the medium is secured to the clamp of the tray, and then push the tray into the drive.

Hardware Documentation Updates for the M4000/M5000 Server

This section contains late-breaking hardware information that became known after the documentation set was published and corrections in the M4000/M5000 servers hardware documentation.

All M4000/M5000 hardware documents were up-to-date as of this release.

Hardware Documentation Updates for the M8000/M9000 Server

This section contains late-breaking hardware information that became known after the documentation set was published and corrections in the M8000/M9000 servers hardware documentation.

All M8000/M9000 hardware documents were up-to-date as of this release.