Sun SPARC Enterprise™ M8000/M9000 Servers

Product Notes for XCP Version 1090

Part No. 821-0335-12
June 2010, Revision A

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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.

Some references to server names are abbreviated for readability. For example, if you see a reference to the SPARC Enterprise M9000 server or simply the M9000 server, note that the full product name is the Sun SPARC Enterprise M9000 server.

Using UNIX Commands

This document might not contain information about basic UNIX® commands and procedures such as shutting down the system, booting the system, and configuring devices. Refer to the following for this information:

- Software documentation that you received with your system
- Solaris™ Operating System documentation, which is at:

http://docs.sun.com/app/docs/prod/solaris#hic

Shell Prompts

Shell	Prompt
C shell	*machine-name*%
C shell superuser	*machine-name*#
Bourne shell and Korn shell	$
Bourne shell and Korn shell superuser	#
XSCF Shell	XSCF>

Related Documentation

Instructions for installing, administering, and using your servers are provided in the Product Names documentation set. The entire documentation set for each server is available here:

- Sun SPARC Enterprise M8000 servers:

  http://docs.sun.com/app/docs/prod/sparc.m8k#hic

- Sun SPARC Enterprise M9000 servers:

  http://docs.sun.com/app/docs/prod/sparc.m9k#hic

Note – Information in these product notes supersedes the information in the Product Names documentation set.

Documentation, Support, and Training

Sun Function	URL
Documentation	http://www.sun.com/documentation/
Support	http://www.sun.com/support/
Training	http://www.sun.com/training/

Third-Party Web Sites

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Sun SPARC Enterprise M8000/M9000 Servers Product Notes for XCP Version 1090, part number 821-0335-12.

CHAPTER 1

Sun SPARC Enterprise M8000/M9000 Servers Product Notes for XCP 1090

This chapter contains the following sections:

What's New in XCP 1090

- Airflow Indicator

  For more information, see "Airflow Indicator" on page 2.
- Support for the new XSCF command `showdateoffset`(8).

  For details, see the manual page online or in the reference manual.
- The XCP 1090 firmware is the first XCP release to support the SPARC64 VII 2.88 GHz processor. Earlier XCP firmware releases do not support this faster version of the processor, which in all other respects is functionally identical to all SPARC64 VII processors. See "Minimum Supported Firmware and Operating Systems" on page 3.

Airflow Indicator

The Airflow indicator confirms the amount of airflow emitted while the SPARC Enterprise M8000/M9000 servers are up and running.

The Airflow indicator value indicates the volume of air exhausted from the server. The values do not include the peripheral devices. To display the amount of exhaust air, use the `showenvironment air` command.

```
XSCF> showenvironment air
Air Flow:5810CMH
```

Note – Airflow monitoring measurement values are for reference only.

For details of the `showenvironment`(8) command, refer to the man page.

You can also obtain the exhaust air data using the SNMP agent function. To obtain the data of exhaust air using the SNMP agent function, install the latest XSCF extension MIB definition file to the SNMP manager. For details on the XSCF extension MIB definition file, see the *SPARC Enterprise M3000/M4000/M5000/M8000/M9000 Servers XSCF User's Guide*.

Minimum Supported Firmware and Operating Systems

The Solaris™ Operating System and Sun Java™ Enterprise System software are preinstalled on new Product Names.

TABLE 1-1 lists the first firmware and operating system (OS) version to support SPARC64™ VI and SPARC64 VII processors.

TABLE 1-1 Minimum Required Firmware and Operating System Versions

Processor Type	Minimum XCP Version	Minimum Operating System Version
SPARC64 VI processors	XCP 1040	Solaris 10 11/06 – with patches* required Solaris 10 10/08 – with no patches required
SPARC64 VII processors, 2.52 GHz	XCP 1070	Solaris 10 8/07 – with patches* required Solaris 10 10/08 – with no patches required
SPARC64 VII processors, 2.52 GHz with 8GB DIMMs	XCP 1081	Solaris 10 8/07 – with patches* required Solaris 10 10/08 – with no patches required
SPARC64 VII processors, 2.88 GHz	XCP 1090	Solaris 10 8/07 – with the Solaris 10 10/09 Patch Bundle required. Solaris 10 10/09 – with no patches required

* See "Solaris Patch Requirements" on page 4.
Check `http://sunsolve.sun.com` for the latest patch revision.

You cannot boot a domain mounted with SPARC64 VII processors using the Solaris 10 8/07 installation DVD. The Solaris 10 5/08 OS DVD is the first DVD to support booting a domain mounted with SPARC64 VII processors.

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
Firefox	2.0 and 3.0
Microsoft Internet Explorer	6.0 and 7.0

Solaris Patch Requirements

This section lists mandatory patches, patch bundles, and SunAlert patch clusters for the M8000/M9000 servers. Always refer to the patch README for information about patch requirements and special installation instructions.

The patch identifiers listed in this section represent the *minimum* level of the patches that must be installed. The two-digit suffix represents the minimum revision level of the patch. Check http://sunsolve.sun.com for the latest patch revision. Apply patches in the order listed.

Solaris 10 5/09 with SPARC64 VII 2.88 GHz Processors

The Solaris 10 10/09 Patch Bundle is required, and the SunAlert Patch Cluster is recommended. See:

http://sunsolve.sun.com/show.do?target=patches/patch-access

Solaris 10 10/08 with SPARC64 VII 2.88 GHz Processors

The Solaris 10 10/09 Patch Bundle is required, and the SunAlert Patch Cluster is recommended. See:

http://sunsolve.sun.com/show.do?target=patches/patch-access

Solaris 10 5/08 with SPARC64 VII 2.88 GHz Processors

The Solaris 10 10/09 Patch Bundle is required, and and the SunAlert Patch Cluster is recommended. See:

http://sunsolve.sun.com/show.do?target=patches/patch-access

Solaris 10 5/08 with SPARC64 VII 2.52 GHz Processors, SPARC64 VI Processors, or Both

Patch 137137-09 – SunOS 5.10: kernel patch.

Solaris 10 8/07 with SPARC64 VII 2.88 GHz Processors

- The Solaris 10 10/09 Patch Bundle required, and the SunAlert Patch Cluster recommended. See:

  http://sunsolve.sun.com/show.do?target=patches/patch-access

- In addition, you cannot do a fresh install of the Solaris 10 8/07 OS on a domain that contains SPARC64 VII processors. The following two workarounds apply:
  - Create a fully patched image, then use Jumpstart.
  - 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.

Note – See http://sunsolve.sun.com/search/document.do?assetkey=1-62-252447-1

Solaris 10 8/07 with SPARC64 VII 2.52 GHz Processors

The following patches are required for Solaris 10 8/07 OS only on servers containing SPARC64 VII 2.52 GHz processors. Install them in the order listed:

1. 119254-51 - SunOS 5.10: Install and Patch Utilities Patch
2. 125891-01 - SunOS 5.10: libc_psr_hwcap.so.1 patch
3. 127755-01 - SunOS 5.10: Fault Manager patch
4. 127127-11 - SunOS 5.10: kernel patch

   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.

In addition, you cannot do a fresh install of the Solaris 10 8/07 OS on a domain that contains SPARC64 VII processors. The following two workarounds apply:

- Create a fully patched image, then use Jumpstart.
- Start the OS install on a domain that contains only SPARC64 VI processors, add the required patches, then add the SPARC64 VII proce ssors to the domain.

Solaris 10 8/07 with SPARC64 VI Processors

None.

Solaris 10 11/06

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 are available from http://sunsolve.sun.com.

The following patches are required for Solaris 10 11/06 OS. Note that Solaris 10 11/06 does *not* support SPARC64 VII processors, even with these required patches. Install the patches in the order in which they are listed:

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

Patches for Emulex PCI Express (PCIe) Cards

The following Emulex cards require drivers supplied in patch 120222-26:

- 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)

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)

Obtaining Solaris Patches

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`

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

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

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 are available from `http://sunsolve.sun.com`.

Upgrading and Downgrading XCP

Upgrading to XCP 1090

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 XCP 1090. 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 the update to XCP 1090 from a version between XCP 1050 and 1070 (inclusive), when you perform dynamic reconfiguration (DR) to add or replace a SPARC64 VII processor, 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 a SPARC64 VII processor.

Downgrading XCP Firmware

Downgrading your XCP firmware to an earlier release is not advised. However, if you must downgrade your firmware to the XCP 1090 release, execute the following command afterward to clear old-style audit logs:

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

Functionality Issues and Limitations

This section describes known issues in this release.

Limitations for SPARC64 VII Processors

Caution – You must complete the upgrades to the XCP firmware and to the Solaris OS before inserting SPARC 64 VII processors into the chassis.

General Functionality Issues and Limitations

Caution – For dynamic reconfiguration (DR) and hot-plug issues, see "Solaris OS Issues and Workarounds" on page 31.

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.

- 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`, `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 BluePrints™ document, *Using NTP to Control and Synchronize System Clocks*: `http://www.sun.com/blueprints/0701/NTP.pdf`
- 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)
- 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.
- For this XCP release, the XSCF browser user interface (XSCF Web) does not support the External I/O Expansion Unit Manager feature.
- Disable pop-up blocking and remove any plug-ins such as the search tool installed with the browser when you use the XSCF Web.
- XSCF-LAN is compliant with auto-negotiation. Set the network device which 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.
- Due to DR and ZFS file system interoperability issues, M8000/M9000 servers are shipped pre-installed using the UFS file system. For more information, refer to the description and workaround for CR 6522017 in TABLE 3-2.
- 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/`
- 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.
- The use of the External I/O Expansion Unit to connect the host server to an external boot disk drive is not supported.
- DR operations might fail (with a misleading message regarding the board being unavailable for DR) after the `addfru`(8) or `replacefru`(8) command have 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.
- The `setsnmp`(8) and `showsnmp`(8) commands do not notify the user of authorization failure. When this happens confirm that the SNMP trap host is working and re-execute the command using the correct user name.
- When you use the sethttps(8) command to create a self-signed web server certificate, if the number of characters specified in a parameter exceeds 100, it might result in an internal error and might fail to create the certificate. Workaround: Specify up to 100 characters in the parameter and execute the sethttps(8) command again.

Additional Information and Procedures

This section describes additional known issues and limitations at the time of this release.

Logging In to the System

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 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 `showuser -l` command.

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 M8000/M9000 servers from a WAN boot server, you must have the appropriate `wanboot` executable installed and OpenBoot™ version 4.24 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 Solaris 10 OS that you are using. You can find 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
```

Sun Java Enterprise System

The Sun Java™ Enterprise System is a comprehensive set of software and life cycle 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 Web Console SMF service.

▼ 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 "Solaris Patch Requirements" on page 4 for information about checking for and installing required patches.

CHAPTER 2

Information About Hardware

This section describes the special instructions and the issues about the SPARC Enterprise M8000/M9000 server hardware.

Hardware Issues and Workarounds

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*

DVD Drives and `cfgadm`

The 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`.

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

U320 PCIe SCSI card, part numbers 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.

Hardware Documentation Updates

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

TABLE 2-1 Hardware Documentation Updates *(1 of 2)*

Title	Section Number	Update
SPARC Enterprise M8000/M90000 Servers Installation Guide, *819-4200-14*	Section 2.2.1	TABLE 2-1 “Ambient Environmental Requirements” Checking Environmental Requirements has been updated. See “Ambient Environmental Requirements” on page 19
	Section 2.2.2.1	TABLE 2-3 "Power Supply Connection Specifications" The following note will be added. Note - For the servers that have the B-type plug, confirm that a 30A overcurrent protection device is available outside the server. If one is not available, prepare an external 30A 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.
	Section 3.4.3	3.4.3 “Connecting Cables Between XB Units” The following caution has been added. **Caution -** If you are unable to obtain a torque screwdriver, finger-tighten the clock cable connectors. Do not secure them with a regular screwdriver.
	Section 3.6.3	“Initializing the XSCF Unit” Initializing the XSCF Unit has been updated. See “Initializing the XSCF” on page 20.
SPARC Enterprise M8000/M90000 Servers Service Manual	Section 6.5 Section 7.2	Antistatic wrist strap information will be added to the following Chapters; • Chapter 6: Replacement of CPU/Memory Board Unit (CMU), CPU, and DIMM • Chapter 7: I/O Unit (IOU) Replacement See “Antistatic Wrist Strap Information” on page 21.

TABLE 2-1 Hardware Documentation Updates *(2 of 2)*

Title	Section Number	Update
SPARC Enterprise M8000/M90000 Servers Service Manual, 819-4202-15	Section 1.4	"Maintenance Tools" TABLE 1-1 has been corrected in the manual.
	Section 1.4.4	"Powering the Server Off" The corrected description has been updated in the manual.
	Section 6.2	"CPU Upgrades" The procedures have been added in the manual.
	Section 6.4.2.1	"Confirmation of DIMM Information" The corrected description and FIGURE 6-20, "Explanation of DIMM Information," has been updated in the manual.
SPARC Enterprise M8000/M90000 Servers Site Planning Guide	Section 1.2.1.2	TABLE 1-3 "External Dimensions and Weights" The footnote regarding weight will be updated. See "External Dimensions and Weights" on page 24.
	Section 3.2.1	"Cooling (Air Conditioning) Requirements" The Specifications (Cooling and Air-Conditioning Requirements) table will be updated. See "Cooling (Air-Conditioning) Requirements" on page 24.
	Section 3.3.6	"CPU Types and Server Maximum Power Consumption" The CPU Types and Server Maximum Power Consumption information will be updated. See "CPU Types and Server Maximum Power Consumption" on page 27.
	Section 3.3	The values of power consumption and apparent power will be corrected in the following tables: • TABLE 3-5 "Specifications (Single-Phase Power Requirements)," • TABLE 3-7 "Specifications (Three-Phase Delta Power Requirements)," • TABLE 3-8 "Specifications (Three-Phase Star Power Requirements)" See "Electrical Specifications" on page 26
SPARC Enterprise M8000/M90000 Servers Overview Guide	Section 1.2.2	TABLE 1-3 "Power Consumption Examples" The Power Consumption Examples table will be updated. See "Electrical Specifications" on page 28.
SPARC Enterprise M8000/M90000 Servers Overview Guide	Section	"CPU Types and Server Maximum Power Consumption" The CPU Types and Server Maximum Power Consumption information will be updated. See "CPU Types and Server Maximum Power Consumption" on page 27.

Ambient Environmental Requirements

The table found in Section 2.2.1 of the *Sun SPARC Enterprise M8000/M9000 Servers Overview Guide* will be updated with the information in TABLE 2-2, below.

TABLE 2-2 Ambient Environmental Requirements

	Operating Range	Non-Operating Range	Optimum
Ambient temperature	5˚C to 32˚C (41˚F to 89.6˚F)	Unpacked: 0˚C to 50˚C (32˚F to 122˚F) Packed: -20˚C to 60˚C (-4˚F to 140˚F)	21˚C to 23˚C (70˚F to 74˚F)
Relative humidity*	20% RH to 80% RH	to 93% RH	45% RH to 50% RH
Altitude restriction†	3,000 m (10,000 ft)	12,000 m (40, 000 ft)	
Temperature conditions	5˚C to 32˚C (41˚F to 89.6˚F) at an installation altitude ranging from 0 to less than 1500 m (4921 feet) above sea level		
	5˚C to 30˚C (41˚F to 86˚F) at an installation altitude ranging from 1500 m (4921 feet) to less than 2000 m (6562 feet) above sea level		
	5˚C to 28˚C (41˚F to 82.4˚F) at an installation altitude ranging from 2000 m (6562 feet) to less than 2500 m (8202 feet) above sea level		
	5˚C to 26˚C (41˚F to 78.8˚F) at an installation altitude ranging from 2500 m (8202 feet) to 3000 m (9843 feet) above sea level		

* There is no condensation regardless of the temperature and humidity.

† All altitudes are above sea level.

Initializing the XSCF

Initializing the XSCF in Section 3.6.3 of the *Sun SPARC Enterprise M8000/M9000 Servers Installation Guide* will be updated with the information below.

Before each XSCF function is used, configurations and checks must be performed. This section explains the settings and checks concerning the items listed below. For detailed procedures for these settings and checks, see "Setup For Using XSCF" section in the*SPARC Enterprise M3000/M4000/M5000/M8000/M9000 Servers XSCF User's Guide* and the *SPARC Enterprise M3000/M4000/M5000/M8000/M9000 Servers XSCF Reference Manual*.

- Registration of user accounts, passwords, and user privileges (`adduser`, `password`, and `setprivileges`) (Note 1)
- Time setting (`setdate`, `settimezone`)
- SSH/telnet setting (`setssh`, `settelnet`)
- Confirmation of the XSCF host public key (`showssh`)
- Network interface, routing, and DNS-related settings (`setnetwork`, `setroute`, `setnameserver`, and so on) (Note 2, Note 3)
- Domain to Service Processor Communications Protocol (DSCP) configuration (`setdscp`) (Note 3)
- Altitude setting (`setaltitude`) (Note 4)
- CD-RW/DVD-RW drive unit/Tape drive unit setting (`cfgdevice`)

Note – (1) In preparation for maintenance work, also prepare a user account for a field engineer (FE).

Note – (2) To apply the settings, the XSCF unit must be reset with the `applynetwork` and `rebootxscf` commands.

Note – (3) The same procedures are used to make network interface (XSCF-LAN, Domain to Service Processor Communications Protocol (DSCP), and so on), routing, and DNS-related settings after logging into the XSCFU#1 through a serial connection.

Note – (4) To apply the specified configuration, execute the `rebootxscf` command and reset XSCF.

Antistatic Wrist Strap Information

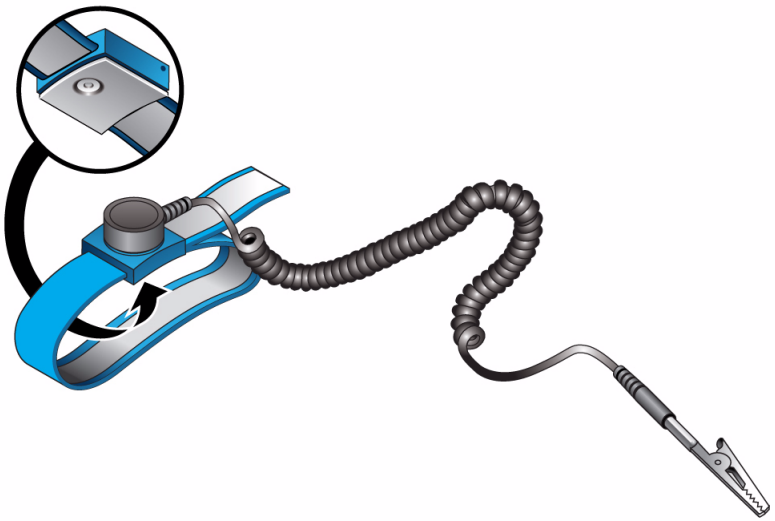
Antistatic wrist strap information will be added to the following chapters in the *Sun SPARC Enterprise M8000/M9000 Servers Service Manual*:

- Chapter 6: Replacement of CPU/Memory Board Unit (CMU), CPU, and DIMM
- Chapter 7: I/O Unit (IOU) Replacement.

Prior to replacing a CMU or IOU, you must connect an antistatic wrist strap clip to a cabinet grounding port, and attach the band of the wrist strap to one of your wrists.

Note – Ensure that the metallic underside of the wrist strap is in direct contact with your skin. The wrist strap should be snug around the wrist so that it does not rotate.

FIGURE 2-1 Antistatic Wrist Strap Showing Metallic Underside



Caution – Do not touch the dummy (filler) unit, the CMU, or IOU without wearing an antistatic wrist strap. Failure to do so might result in serious damage to operating domains.

Caution – Before attempting to mount the new CMU or IOU in the system, you must remove static electricity from the new CMU or IOU by touching the new CMU or IOU by hand for more than 10 seconds while wearing a wrist strap.

FIGURE 2-2 M8000 Grounding Port Connection Locations for the Wrist Strap Clip

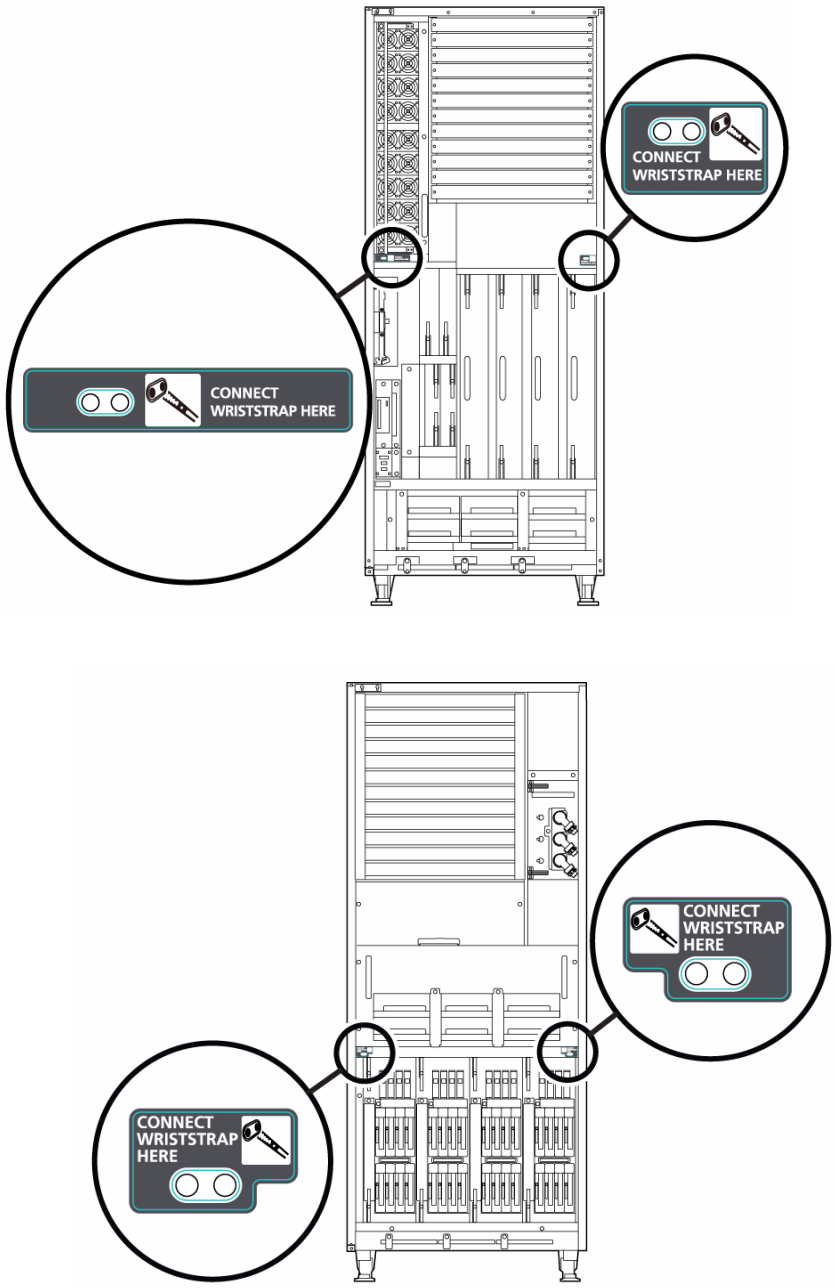
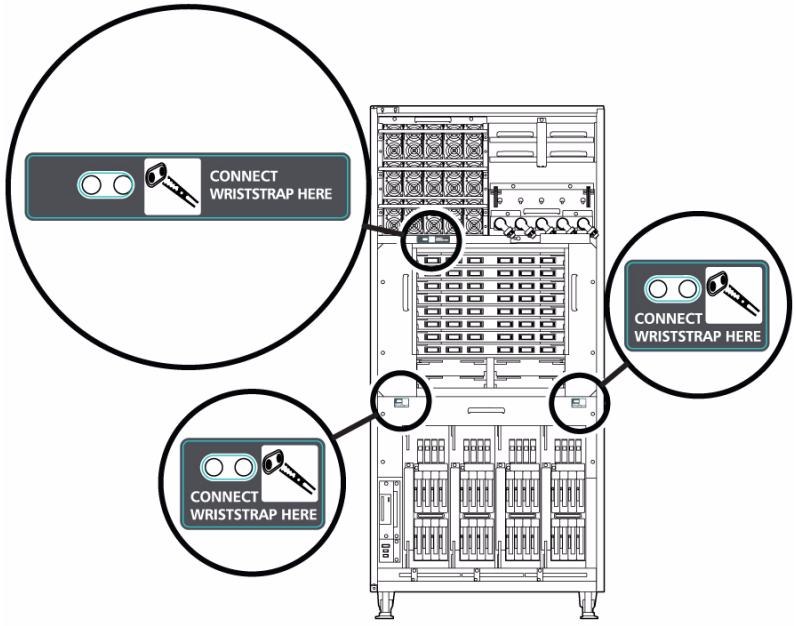


FIGURE 2-3 M9000 Grounding Port Connection Locations for the Wrist Strap Clip



External Dimensions and Weights

The table found in Section 1.2.1.2 of the *Sun SPARC Enterprise M8000/M9000 Servers Site Planning Guide* will be updated with the information in TABLE 2-3, below. The table lists the external dimensions and weights of the Product Name cabinet.

TABLE 2-3 Installation Specifications (External Dimensions and Weights)

	External dimensions [mm (inch)]			
Name	**Width**	**Depth**	**Height**	**Weight [kg]**
SPARC Enterprise M8000 server	750 (29.5)	1260 (49.6)	1800 (70.9)	700*
M8000 + Power Cabinet	1054 (41.5)	1260 (49.6)	1800 (70.9)	1020
SPARC Enterprise M9000 server (base cabinet)	850 (33.5)	1260 (49.6)	1800 (70.9)	940

TABLE 2-3 Installation Specifications (External Dimensions and Weights) *(Continued)*

	External dimensions [mm (inch)]			
Name	**Width**	**Depth**	**Height**	**Weight [kg]**
M9000 (base cabinet) + Power Cabinet	1154 (45.4)	1260 (49.6)	1800 (70.9)	1290
M9000 (base cabinet + expansion cabinet)	1674 (65.9)	1260 (49.6)	1800 (70.9)	1880†
M9000 (base cabinet + expansion cabinet) + Power Cabinet	2282 (89.8)	1260 (49.6)	1800 (70.9)	2580
Rack-mountable Dual Power Feed	489 (19.3)	1003 (39.5)	278 (10.9) [6U]	75‡
Power Cabinet	317 (12.5)	1244 (49.0)	1800 (70.9)	350**

* The weights listed in this table show a fully populated server: all CMU, IOU, PCI and DIMM slots are mounted. The weights do not include the weight of any optional hardware, such as the External I/O Expansion Unit

† When combining a base cabinet and an expansion cabinet, the width of each cabinet is 837 mm (including the exterior side panels).

‡ The Rack-mountable Dual Power Feed can only be mounted on the equipment rack.

** The width of a Power Cabinet includes the exterior side panel.

Cooling (Air-Conditioning) Requirements

The Specifications (Cooling and Air-Conditioning Requirements) table found in Section 3.2.1 of the *Sun SPARC Enterprise M8000/M9000 Servers Site Planning Guide* will be updated with the information in TABLE 2-4, below. The table lists the cooling and air-conditioning requirements for each system component.

TABLE 2-4 Specifications (Cooling and Air-Conditioning Requirements)

Name	**Heat dissipation [kJ/h]**	**Exhaust airflow [cmh(m3/h)]**	**Cooling method**	**Air-conditioning type**	**Noise level [dBA]**
SPARC Enterprise M8000 server	13968-37764 *	94	Overfloor/underfloor	Forced air cooling	67
SPARC Enterprise M9000 server (base cabinet)	22320-71532 *	102	Overfloor/underfloor	Forced air cooling	68
SPARC Enterprise M9000 server (base cabinet + expansion cabinet)	42912-142956 *	205	Underfloor ‡	Forced air cooling	69
Rack-mountable Dual Power Feed	- †	- †	Overfloor/underfloor	Forced air cooling	- †

TABLE 2-4 Specifications (Cooling and Air-Conditioning Requirements) *(Continued)*

Name	Heat dissipation [kJ/h]	Exhaust airflow [cmh(m3/h)]	Cooling method	Air-conditioning type	Noise level [dBA]
Power Cabinet (SPARC Enterprise M8000 server)	- †	- †	Overfloor/underfloor	Forced air cooling	- †
Power Cabinet (for SPARC Enterprise M9000 server base cabinet)	- †	- †	Overfloor/underfloor	Forced air cooling	- †
Power Cabinet (for SPARC Enterprise M9000 server base cabinet + expansion cabinet)	- †	- †	Underfloor ‡	Forced air cooling	- †

* Heat dissipation varies by power consumption. Determine the power consumption based on the actual system configuration and then confirm the right value.

† The heat dissipation, exhaust airflow and acoustic noise value of the Power Cabinet is included in the value for the SPARC Enterprise M8000 server or SPARC Enterprise M9000 server.

‡ At an installation altitude ranging from 0 to less than 400 m (1312 feet) above sea level, you can select overfloor cooling as the cooling method of the server.

Electrical Specifications

Section 3.3 of the *Sun SPARC Enterprise M8000/M9000 Servers Site Planning Guide* will be updated with the following tables.

TABLE 2-5 Specifications * (Single-Phase Power Requirements)

NAME	Power consumption [kW]	Apparent power [kVA]
SPARC Enterprise M8000 server	3.88-10.49	4.11-11.12
SPARC Enterprise M9000 server (base cabinet)	6.20-19.87	6.58-21.07
SPARC Enterprise M9000 server (base cabinet + expansion cabinet)	11.92-39.72	12.64-42.13

* The values for maximum power consumption and apparent power vary by the type of CPU mounted. To plan the installation of a server equipped with different types of CPU, use the CPU of larger power consumption as a basis. For the types of CPU, see Section 3.3.6, "CPU Types and Server Maximum Power Consumption"of the *Sun SPARC Enterprise M8000/M9000 Servers Site Planning Guide*.

TABLE 2-6 Specifications * (Three-Phase Delta Power Requirements)

NAME	Power consumption [kW]	Apparent power [kVA]
SPARC Enterprise M8000 server + Power Cabinet	3.88-10.49	4.11-11.12
SPARC Enterprise M9000 server (base cabinet) + Power Cabinet	6.20-19.87	6.58-21.07
SPARC Enterprise 9000 server (base cabinet + expansion cabinet) + Power Cabinet	11.92-39.72	12.64-42.13

* The values for maximum power consumption and apparent power vary by the type of CPU mounted. To plan the installation of a server equipped with different types of CPU, use the CPU of larger power consumption as a basis. For the types of CPU, see Section 3.3.6, "CPU Types and Server Maximum Power Consumption" of the *Sun SPARC Enterprise M8000/M9000 Servers Site Planning Guide*..

TABLE 2-7 Specifications * (Three-Phase Star Power Requirements)

NAME	Power consumption [kW]	Apparent power [kVA]
SPARC Enterprise M8000 server + Power Cabinet	3.88-10.49	4.11-11.12
SPARC Enterprise M9000 server (base cabinet) + Power Cabinet	6.20-19.87	6.58-21.07
SPARC Enterprise 9000 server (base cabinet + expansion cabinet) + Power Cabinet	11.92-39.72	12.64-42.13

* The values for maximum power consumption and apparent power vary by the type of CPU mounted. To plan the installation of a server equipped with different types of CPU, use the CPU of larger power consumption as a basis. For the types of CPU, see Section 3.3.6, "CPU Types and Server Maximum Power Consumption" of the *Sun SPARC Enterprise M8000/M9000 Servers Site Planning Guide*..

CPU Types and Server Maximum Power Consumption

The CPU Types and Power Specifications information found in Section 3.3.6 of the *Sun SPARC Enterprise M8000/M9000 Servers Site Planning Guide* will be updated with the information that appears below, including the following tables.

This section describes the CPU types and the maximum power consumption of the server. There are four types of CPU. The power specifications of the SPARC Enterprise M8000/M9000 servers vary depending on the CPU type and the system configurations.

The tables list the specifications of maximum power consumption, apparent power, and heat dissipation by the type of CPU. The figures represent the system configuration described below the table, in which every CPU/Memory Board Unit (CMU) is mounted with the same CPU.

TABLE 2-8 CPU Types and Power Specifications on the M8000 Server*

CPU	Frequency (GHz)	Number	Power Consumption (KW)	Apparent Power (KVA)	Heat dissipation (KJ/h)
SPARC64 VI processor	2.28	16	9.42	9.99	33912
	2.4	16	9.52	10.09	34272
SPARC64 VII processor	2.52	16	10.07	10.68	36252
	2.88	16	10.49	11.12	37764

* The M8000 system configuration: CMU x 4, 4GB DIMM x 128, IOU x 4, HDD x 16, PCI-E x 32, DAT x1.

TABLE 2-9 CPU Types and Power Specifications on the M9000 Server (Base Cabinet)*

CPU	Frequency (GHz)	Number	Power Consumption (KW)	Apparent Power (KVA)	Heat dissipation (KJ/h)
SPARC64 VI processor	2.28	32	18.06	19.16	65016
	2.4	32	18.26	19.37	65736
SPARC64 VII processor	2.52	32	19.36	20.54	69696
	2.88	32	19.87	21.07	71532

* The M9000 (base cabinet) system configuration: CMU x 4, 4GB DIMM x 128, IOU x 4, HDD x 16, PCI-E x 32, DAT x1.

TABLE 2-10 CPU Types and Power Specifications on the M9000 Server (Base Cabinet + Expansion Cabinet)*

CPU	Frequency (GHz)	Number	Power Consumption (KW)	Apparent Power (KVA)	Heat dissipation (KJ/h)
SPARC64 VI processor	2.28	64	36.11	38.30	129996
	2.4	64	36.51	38.73	131436
SPARC64 VII processor	2.52	64	38.71	41.06	139356
	2.88	64	39.72	42.13	142992

* The M9000 (base cabinet + expansion cabinet) system configuration: CMU x 16, 4GB DIMM x 512, IOU x 16, HDD x 64, PCI-E x 128, DAT x2.

Electrical Specifications

Section 1.2.2 of the *Sun SPARC Enterprise M8000/M9000 Servers Overview Guide* will be updated with the information that appears below, including the following tables. The table shows samples of power consumption of specific configurations and program load. The power consumption of the system varies depending on configuration of the system, characteristics of your running programs and ambient temperature.

TABLE 2-11 Power consumption Examples

Item		M8000	M9000	
			Base cabinet only	Base cabinet + expansion cabinet
Ambient temperature		25 ˚C	25 ˚C	25 ˚C
Configuration*	CMU: 2.52GHz CPU x 4, 4GB DIMM x 32	4	8	16
	IOU: 73GB HDD x 4, PCIe card x 8	4	8	16
Power consumption†		7.48 kW	14.64 kW	29.96 kW

* 10Watt PCIe cards are installed.

† These power consumptions are just samples. You can see higher power consumption values depending on characteristics of your workload.

CHAPTER 3

Information About Software

This section includes the following sections:

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 3-1 lists XCP issues and possible workarounds.

TABLE 3-1 XCP Issues and Workarounds *(1 of 2)*

ID	Description	Workaround

6741770	SNMP trap host configuration changes are not valid until `setsnmp disable` and `setsnmp enable`.	When you have modified the SNMP setting:
		`XSCF> **setsnmp disable**`
		`XSCF> **setsnmp enable**`

TABLE 3-1 XCP Issues and Workarounds *(2 of 2)*

ID	Description	Workaround
6760740	You might see console error messages and a core dump (`ereport.chassis.software.core`) when one of these conditions occurs: • A local account has been created with a user ID explicitly assigned to a value larger than 65536 (`adduser -u` *uid*). • An LDAP account has been used that has a UID value larger than 65536.	Use only user accounts with a user ID (UID) value between 100 and 60000. This is the range of auto-assigned UIDs for the XSCF command `adduser`.
6765468	When the timezone other than three characters has been set, the error logs cannot be displayed on XSCF Web "Error Log" page. In addition, XSCF Web "Panic Log" and "IPL Message Log" pages displays the date on the table with "---".	Use the `showlogs`(8) command on the XSCF Shell.
6789066	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.	Specify the abbreviation of time zone and the name of Daylight Saving Time in seven letters or less.
6808531	If the XSCF unit is reset, or if switchover occurs, users can no longer log in to XSCF using the LDAP server.	**1. Log in to the active XSCF session with the initial account.** **2. Re-import the certificate chain:** `XSCF>` **`setldap -c`** *filename*
6851009	If certain changes occur on a standalone NTP server, the XSCF connection to the NTP server is lost, and XSCF uses instead its local clock. This problem occurs with a standalone NTP server, that is, with an NTP server that syncs the time with its own local clock (LCL), not with a higher-stratum NTP server. Changes that can trigger this change include: • Rebooting the NTP server • Modifying the date by even one second • Changing the NTP server stratum	**Note -** Before making any changes, ensure that your change has no impact on other NTP clients. The XSCF LCL is set to 127.127.1.0. On the NTP server, change the NTP host configuration file (`/etc/inet/ntp.conf`) so that the value of the local clock is a different value. Other available IDs include: - 127.127.1.1 - 127.127.1.2 - 127.127.1.3

Solaris OS Issues and Workarounds

This section contains information about Solaris OS issues. TABLE 3-2, TABLE 3-3, TABLE 3-4, TABLE 3-5, TABLE 3-6, and TABLE 3-7 list issues you might encounter, depending upon which Solaris OS release you are using.

Solaris Issues for All Supported Releases

TABLE 3-2 lists Solaris OS issues that you might encounter in any supported release of Solaris OS.

TABLE 3-2 Solaris OS Issues and Workarounds for All Supported Releases *(1 of 4)*

CR ID	Description	Workaround

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`.

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.
6531036	The error message `network initialization failed` appears repeatedly after a boot net installation.	There is no workaround.
6531668	System hangs when executing parallel hot-plug operation with SP DR in suspend phase.	There is no workaround.

TABLE 3-2 Solaris OS Issues and Workarounds for All Supported Releases *(2 of 4)*

CR ID	Description	Workaround
6532215	`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`**

6674266	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.

6588650	On occasion, the system is unable to DR after an XSCF failover to or from backup XSCF.	There is no workaround.
6589644	When XSCF switchover happens 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 (the "Ctrl" key and the "q" key).
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. Otherwise try `deleteboard`(8) again.
6625734	Systems with large number of processors in a single domain environment may 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.

TABLE 3-2 Solaris OS Issues and Workarounds for All Supported Releases *(3 of 4)*

CR ID	Description	Workaround

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:
	`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.`
		If fmd service fails, issue the following command on the domain to recover:
		`# svcadm clear fmd`
		Then restart cpumem-diagnosis:
		`# fmadm restart cpumem-diagnosis`

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.

TABLE 3-2 Solaris OS Issues and Workarounds for All Supported Releases *(4 of 4)*

CR ID	Description	Workaround

6679370	The following message may be output on the console during the system booting, the External I/O Expansion Unit adding by hotplug, or the FMEMA operating by DR.
	`SUNW-MSG-ID: SUN4-8000-75, TYPE: Fault, VER: 1, SEVERITY: Critical`
	`...`
	`DESC:`
	`A problem was detected in the PCIExpress subsystem.`
	`Refer to http://sun.com/msg/SUN4-8000-75 for more information.`
	`...`
		Add the following to `/etc/system`, then reboot the domain.
		`set pcie_expected_ce_mask = 0x2001`

6745410	Boot program ignores the `Kadb` option which causes the system not to boot.	Use `kmdb` instead of `kadb`.
6794630	An attempt to use the GUI to install Solaris in a domain larger than 2TB might fail.	Use the command-line interface to install Solaris.
6872501	Cores are not offlined when requested by the XSCF.	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.

Solaris Issues Fixed in Solaris 10 10/09

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

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

CR ID	Description	Workaround
6572827	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.
6724307	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.
6800734	deleteboard hang in a domain	There is no workaround.
6821108	DR and "showdevices" don’t work after XSCF reboot.	Reboot the XSCF service processor twice. Half the SAs are deleted the first time and half are deleted the second time, so the second addition succeeds and IPsec communication is reestablished.
6827340	DR and Memory patrol may fail due to SCF command error.	There is no workaround.

Solaris Issues Fixed in Solaris 10 5/09

TABLE 3-4 lists issues that have been fixed in the Solaris 10 5/09 OS. You might encounter them in earlier releases

TABLE 3-4 Solaris OS Issues and Workarounds Fixed in Solaris 10 5/09

CR ID	Description	Workaround
6588555	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.
6623226	The Solaris command `lockstat`(1M) or the dtrace lockstat provider might cause a system panic.	Do not use the Solaris `lockstat`(1M) command or the dtrace lockstat provider.
6680733	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.	
6689757	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.

Solaris Issues Fixed in Solaris 10 10/08

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

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

CR ID	Description	Workaround
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.

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

CR ID	Description	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.
6556742	The system panics when DiskSuite cannot read the `metadb` during DR. This bug affects the following cards: • SG-XPCIE2FC-QF4, 4-Gigabit PCI-e Dual-Port Fiber Channel HBA • SG-XPCIE1FC-QF4, 4-Gigabit PCI-e Single-Port Fiber Channel HBA • SG-XPCI2FC-QF4, 4-Gigabit PCI-X Dual-Port Fiber Channel HBA • SG-XPCI1FC-QF4, 4-Gigabit 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.
6589833	The DR `addboard` command might cause a system hang if you are adding a Sun StorageTek Enterprise Class 4-Gigabit 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.

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

CR ID	Description	Workaround
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`. • *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.
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).
6632549	`fmd service` on domain might fail to go into maintenance mode after DR operations.	Issue the following command on the domain: **`# svcadm clear fmd`**
6660197	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.	Set the following parameter in the system specification file (`/etc/system`): `set drmach:drmach_disable_mcopy = 1` 3. Reboot the domain.
6720261	If your domain is running 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.

Solaris Issues Fixed in Solaris 10 5/08

TABLE 3-6 lists issues that have been fixed in the Solaris 10 5/08 OS. You might encounter them in earlier releases.

TABLE 3-6 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 4-Gigabit Dual-Port Fiber Channel PCI-E HBA • SG-XPCIE1FC-QF4, Sun StorageTek Enterprise Class 4-Gigabit Single-Port Fiber Channel PCI-E HBA • SG-XPCI2FC-QF4, Sun StorageTek Enterprise Class 4-Gigabit Dual-Port Fiber Channel PCI-X HBA • SG-XPCI1FC-QF4, Sun StorageTek Enterprise Class 4-Gigabit Single-Port Fiber Channel PCI-X HBA	Do not perform `cfgadm -c disconnect` operation on the affected cards.
6402328	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.
6472153	If you create a Solaris Flash archive on a non-Sun SPARC Enterprise M4000/M5000 sun4u server and install it on a Sun SPARC Enterprise M4000/M5000 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 M4000/M5000 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.

6505921	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 3-6 Solaris OS Issues and Workarounds Fixed in Solaris 10 5/08 *(2 of 4)*

CR ID	Description	Workaround
6522433	The incorrect motherboard might be identified by `fmdump` for cpu faults after reboot.	Check system status on XSCF.
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.
6536564	`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`
6545143	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.
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`

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

CR ID	Description	Workaround
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	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.
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.

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

CR ID	Description	Workaround
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`
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 4-Gigabit Dual-Port Fiber Channel PCI-E HBA • SG-XPCIE1FC-EM4 Sun StorageTek Enterprise Class 4-Gigabit Single-Port Fiber Channel PCI-E HBA	Use `prtdiag -v` for full output.
6663570	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 Solaris `prtdiag` command to identify the CPU with the lowest CPU ID.

Solaris Issues Fixed in Solaris 10 8/07

TABLE 3-7 lists issues that have been fixed in the Solaris 10 8/07 OS. You might encounter them in Solaris 10 11/06.

Caution – CR ID #6534471: Improper handling of large page in kernel memory may cause random panics. Implement the workaround for CR ID #6534471 or check for the availability of a patch and install it immediately. This bug has been fixed by 125100-06 and Solaris 10 8/07.

TABLE 3-7 Solaris OS Issues and Workarounds Fixed in Solaris 10 8/07 *(1 of 3)*

CR ID	Description	Workaround
6303418	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 Solaris `psradm` command to disable the excess CPU threads. For example, disable all odd-numbered CPU threads.
6416224	System performance can degrade using a single NIC card with more than 5,000 connections.	Use multiple NIC cards to split network connections.
6441349	I/O error can hang the system.	There is no workaround.
6485555	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.

6496337	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, use this workaround:
		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 "`rm -f /var/fm/fmd/ckpt/cpumemdiagnosis/cpumem-diagnosis`" in the `/lib/svc/method/svc-dumpadm` file as below.
		`#`
		`savedev=none`
		`rm -f /var/fm/fmd/ckpt/cpumemdiagnosis/cpumem-diagnosis`
		`#`

6495303	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.

TABLE 3-7 Solaris OS Issues and Workarounds Fixed in Solaris 10 8/07 *(2 of 3)*

CR ID	Description	Workaround
6498283	Using the DR `deleteboard` command while `psradm` operations are running on a domain might cause a system panic.	There is no workaround.
6499304	Unexpected message is displayed on console and CPU isn't offlined when numerous correctable error(CE) 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.
6502204	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.
6502750	Inserted or removed hotplugged PCI card may not output notification message.	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`
6508434	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.
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.

TABLE 3-7 Solaris OS Issues and Workarounds Fixed in Solaris 10 8/07 *(3 of 3)*

CR ID	Description	Workaround
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.
6530288	`cfgadm`(1M) command may not correctly show Ap_Id format.	There is no workaround.
6534471	Systems might panic/trap during normal operation.	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`
6535564	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.
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.	
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.
6542632	Memory leak in PCIe module if driver attach fails.	There is no workaround.

Documentation Updates

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

TABLE 3-8 lists known documentation updates.

TABLE 3-8 Documentation Updates

Document	Issue	Change
SPARC Enterprise M3000/M4000/M5000/ M8000/M9000 Servers XSCF Reference Manual and XSCF man pages	`setdualpowerfeed`(8) command	The following description will be added in DESCRIPTION: The dual power feed mode cannot be used with 100V power on M4000/M5000 servers.
	`setupfru`(8) command	The following description will be added in EXTENDED DESCRIPTION: Although a CMU with two CPUMs can be configured into Quad-XSB mode on an M8000/M9000 server, the server generates a “configuration error” message for those XCBs that do not have a CPUM and memory.
	`showdevices`(8) command	The following information will be added: After a DR operation and subsequent domain power cycle, you must run the command `devfsadm -v` command before running `showdevices`. Otherwise, the resulting display from `showdevices` will be erroneous.
	`showenvironment`(8) command	The following information will be added: The power operand is supported only on M3000 servers, and the air operand is supported only on M3000/M8000/M9000 servers.