Sun SPARC® Enterprise M8000/M9000 Servers Product Notes

For XCP Version 1071

Sun Microsystems, Inc.
www.sun.com

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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.

Software Resources

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

Sun Java Enterprise Server

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

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

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

▼ To Enable the WebConsole SMF Service

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

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

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

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

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

Latest Solaris Patches

Mandatory Solaris patches for the SPARC Enterprise M8000/M9000 servers should be preinstalled on your system. See "Solaris Patch Information" on page 3 for the list of patches required on your version of the Solaris OS.

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

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

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

Or visit:

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

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

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

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

Using the Update Manager GUI to Obtain Patches

1. As root, launch the Update Manager from either of the following:

- From JDS Launch menu:

  Click Launch->Applications->System Tools->Update Manager

- From a terminal window:

  Type `/usr/bin/updatemanager`

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

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

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

   Update Manager analyzes your system for any patches that are needed.

4. **If a kernel patch is recommended, select it by clicking the box to the left of the patch ID, then click the Install button.**

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

Note – Kernel patches (such as patch 118833-*xx*, for example) require special instructions for installation (see the patch README for specifics). They are often download-only (interactive) patches, requiring manual installation. You must install kernel patches before any others in order for any remaining patches in the patch set to be installed.

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5. **For a kernel patch, continue by typing:**

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

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

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

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

```
# shutdown -i6
```

8. **Launch the Update Manager again, and select the collection again, as in Step 3.**
9. **If the Update Manager does not automatically start a new analysis, click the Check for Updates button.**
10. **Select any patches that are listed by checking the boxes to the left of the patch IDs.**
11. **Click the Install button.**

    Update Manager downloads and installs the patches.
12. **If any of the patches requires a system restart, follow the instructions in Step 7.**

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

The patch installation is now complete.

Using the `smpatch` CLI to Obtain Patches

1. **Copy the file `/usr/lib/breg/data/RegistrationProfile.properties` to your `/tmp` directory.**
2. **Edit the file `/tmp/RegistrationProfile.properties` to add your user name, password, network proxy (if necessary), and port (if required).**

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

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

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

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

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

5. **Install any kernel patches.**

   Kernel patches, **such as 118833-*xx***, can be downloaded through the Sun Connection Update Manager.

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

```
# smpatch update -i patchid-xx
```

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

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

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

6. **After installing the kernel patch, restart the system using the** `shutdown` **command.**

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

```
# shutdown -i6
```

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

```
# smpatch analyse
```

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

```
# smpatch update
```

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

   If any patches are installed that require restart, Update Manager offers to restart the system. Alternatively, you can use the `shutdown` command, as described in Step 6. For patches that require restart, you must perform the restart in order for the installation to take effect.

The patch installation is now complete.

Additional Information

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

http://www.bigadmin.com

Accessing Documentation

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

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

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

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

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

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Sun™ SPARC® Enterprise M8000/M9000 Servers Product Notes, part number 820-5186-11

Sun SPARC Enterprise M8000/M9000 Servers Product Notes

This document includes these sections:

New in XCP 1071

- Beginning in XCP Version 1071, SPARC64™ VII and SPARC64 VI processors can be combined in a SPARC Enterprise M8000/M9000 server domain.

  For information about installing SPARC64 VII processors, see "Adding SPARC64 VII Processors to Your Server — Service Representatives Only" on page 26. Note that only authorized service representatives may perform installation.

Supported Firmware and Software Versions

TABLE 1 lists the minimum required versions of some supported software and firmware on Sun SPARC Enterprise M8000/M9000 servers. If you are upgrading from an earlier version of XCP firmware, also refer to "Upgrading to XCP 1071" on page 5.

TABLE 1 Minimum Software and Firmware Versions

Software or Firmware	Version
XSCF Control Package	
SPARC64 VII processors:	XCP 1070
Capacity on Demand (COD) support:	XCP 1050
Solaris Operating System	
SPARC64 VI processors:	Solaris 10 11/06, with required patches*
SPARC64 VII processors:	Solaris 10 5/08, or Solaris 10 8/07, with required patches*

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

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

TABLE 2 Minimum Web Browser Versions

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

Using a WAN Boot Server

If you plan to boot your Sun SPARC Enterprise M8000/M9000 server from a Solaris WAN boot server on the network, you must have the appropriate wanboot executable intalled to provide the needed hardware support. See "Booting From a WAN Boot Server" on page 22 for details.

Solaris Patch Information

Solaris patches are required for:

- SPARC Enterprise M8000/M9000 servers containing SPARC64 VII CPUs and running Solaris 10 8/07
- All SPARC Enterprise M8000/M9000 servers running Solaris 10 11/06 OS

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, and refer to "Latest Solaris Patches" on page viii for information on how to find the latest patches and for general installation instructions.

Required Patches for Solaris 10 8/07 with SPARC64 VII CPUs

The following patches are required for Solaris 10 8/07 OS only on servers containing SPARC64 VII CPUs. Install them in the order in which they are 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

In addition, if you are using any of the PCI-E or PCI-X cards listed in the next two sections, you must also install additional patches.

Patches for Emulex PCI-E and PCI-X Cards

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

- Sun StorageTek Enterprise Class 4Gb Dual-Port Fibre Channel PCI-E HBA (part SG-XPCIE2FC-EM4)
- Sun StorageTek Enterprise Class 4Gb Single-Port Fibre Channel PCI-E HBA (part SG-XPCIE1FC-EM4)
- Sun StorageTek Enterprise Class 4Gb Dual-Port Fibre Channel PCI-X HBA (part SG-XPCI2FC-EM4-Z)
- Sun StorageTek Enterprise Class 4Gb Single-Port Fibre Channel PCI-X HBA (part SG-XPCI1FC-EM4-Z)

Patches for QLogic PCI-E and PCI-X Cards

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

- Sun StorageTek Enterprise Class 4Gb Dual-Port Fibre Channel PCI-E HBA (part SG-XPCIE2FC-QF4)
- Sun StorageTek Enterprise Class 4Gb Single-Port Fibre Channel PCI-E HBA (part SG-XPCIE1FC-QF4)
- Sun StorageTek Enterprise Class 4Gb Dual-Port Fibre Channel PCI-X HBA (part SG-XPCI2FC-QF4)
- Sun StorageTek Enterprise Class 4Gb Single-Port Fibre Channel PCI-X HBA (part SG-XPCI1FC-QF4)

Required Patches for Solaris 10 11/06 OS

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

Upgrading to XCP 1071

You can upgrade to XCP 1071 from XCP version 1050 or higher. Refer to the *Sun SPARC Enterprise M4000/M5000/M8000/M9000 Servers XSCF User's Guide* for instructions.

Resetting the XSCF Firmware

After upgrading the XCP firmware to 1070 or 1071, you must reset the XSCF by using the `rebootxscf`(8) command.

Updating the OpenBoot PROM Firmware

To complete updating the OpenBoot™ PROM (OBP) firmware in the target domain, be sure to restart the domain. You should restart the domain as soon as possible after completing the update.

Upgrading From XCP 104*n*

If you are currently running a version earlier than XCP 1050, you must first upgrade to an interim version of XCP between 1050 and 1070 (inclusive) before upgrading to XCP 1071. Refer to the product notes document for the target interim version for instructions.

General Functionality Issues and Limitations

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

Limitations for SPARC64 VII Processors

- Do not exceed a domain size of 256 virtual processors in a single Solaris domain. For more details about this restriction, refer to CR ID 6619224 in TABLE 5.
- On a SPARC Enterprise M9000 server, if a single domain includes 16 boards containing SPARC64 VII processors, then SunVTS 7.0ps2 software will not start.

  To avoid this problem, change your configuration to use two domains, each containing 8 boards.

General Functionality Issues and Limitations

Caution – For dynamic reconfiguration (DR) and hot-plug issues, see "Solaris OS Issues and Workarounds" on page 10.

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

- DR is not compatible with XSCF failover or XSCF reset. Do not start an XSCF failover or reset while a DR operation is running. Wait for a DR operation to finish before starting the failover or reset. If you start the failover or reset first, wait for the failover or reset to finish before starting the DR operation.
- If your domain is running one of the following versions of Solaris OS:
  - Solaris 10 5/08 OS
  - An earlier version of Solaris 10 OS with patch ID 127127-11

  Then you must set the following parameter in the system specification file (`/etc/system`):

  ```
  set heaplp_use_stlb=0
  ```

  Then reboot the domain.

For more information, refer to CR 6718173 in TABLE 5.

- For 1027A-Z/X1027A-Z, PCIe Dual 10 Gigabit Ethernet Fiber XFP cards, these limits apply:
  - Do not use more than two cards per domain.
  - Do not use these cards in an External I/O Expansion Unit.
- For 4447A-Z/X4447A-Z, PCIe Quad-port Gigabit Ethernet Adapter UTP cards, these maximum limits apply:
  - No more than four cards in an External I/O Expansion Unit (two per PCIe I/O boat).
  - No more than eight cards in a domain.
- Do not install more than six IOUA cards per domain in a SPARC Enterprise M8000/M9000 server if you are using a version of Solaris earlier than Solaris 10 5/08.
- To complete updating the OpenBoot™ PROM firmware in the target domain, be sure to power off/on the domain.
- When the Solaris OS is in single user mode, do not switch from the domain console to the XSCF Shell as the Solaris OS might switch to multi-user mode.
- Do not use the CD-RW/DVD-RW drive unit and the TAPE drive unit at the same time.
- The XSCF browser interface (XSCF Web), does not support the External I/O Expansion Unit Manager feature.
- The use of the External I/O Expansion Unit to connect the host server to an external boot disk drive is not supported.
- You cannot use the following user account names, as they are reserved by the XSCF firmware for system use: `adm`, `admin`, `apache`, `bin`, `daemon`, `default`, `ldap`, `nobody`, `ntp`, `operator`, `root`, `rpc`, `rpcuser`, and `sshd`.
- Do not use the Service Processor (SP) as the Network Time Protocol (NTP) server. Using an independent NTP server provides optimal reliability in maintaining consistent time on the SP and the domains. For more information about NTP, see the Sun Blueprint document, *Using NTP to Control and Synchronize System Clocks*: `http://www.sun.com/blueprints/0701/NTP.pdf`

Hardware Installation and Service Issues

In this section, TABLE 3 describes a known issue for which a defect change request ID has been assigned, along with a workaround. To check for availability of new patches that fix these issues, go to:

`http://sunsolve.sun.com`

This section also describes an issue with Sun Crypto Accelerator 6000 cards.

For information about installing SPARC64 VII processors to your server, refer to the separate section, "Adding SPARC64 VII Processors to Your Server — Service Representatives Only" on page 26.

TABLE 3 Hardware Issues and Workarounds

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

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 Sun 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.

Software and Firmware Issues

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

http://sunsolve.sun.com

XCP Issues and Workarounds

TABLE 4 lists XCP issues and possible workarounds.

TABLE 4 XCP Issues and Workarounds *(1 of 2)*

ID	Description	Workaround
6565422	The `Latest communication` field in `showarchiving` is not updated regularly.	Disabling and re-enabling archiving refreshes the `Latest communication` field in `showarchiving` output.
6575425	Most XSCF commands should display "Permission denied" when they are executed on the Standby XSCF. Instead, some commands report various errors.	Only the following commands can be executed on the Standby XSCF: `snapshot`, `switchscf` Do not attempt to run any other command on the Standby XSCF.
6588650	On occasion, the system is unable to DR after an XSCF failover to or from backup XSCF.	There is no workaround.
6624646	Sun Connection Update Manager GUI might fail to register correctly.	Use the command-line interface (CLI) if you run into any GUI registration issues.
6665174	Following a dynamic reconfiguration operation using the XSCF commands `deleteboard`(8) and `addboard`(8), you might see I/O channel degradation, resulting in error messages and entries in the corresponding ereport. If you run into this problem, the `fmdump`(8) command will show a report: `ereport.chassis.SPARCEnterprise.asic.ioc.ch.leaf.fe`	An authorized service represenative can perform further diagnosis or clear the errors.
6674742	When the system is stressed with many faults, the `fmd` process on the service processor might hang. Once this happens, `fma` commands on the service processor can fail or hang.	Reboot the service processor using the XSCF command `rebootxscf`.

TABLE 4 XCP Issues and Workarounds *(2 of 2)*

ID	Description	Workaround
6675409	If COD licensed capacity is changed while a COD board is undergoing DR, some of the COD CPUs might be marked as `Faulted`. This will require a service action to correct.	Do not attempt to modify the COD licensed capacity while a DR operation is in progress on a COD board. COD licensed capacity is modified by adding or removing licenses (with the `addcodlicense` or `deletecodlicense` commands) or by changing headroom (with the `setcod` command). Do not use these commands (or equivalent browser operations) while a DR operation is in progress. You can change the COD licensed capacity after the DR operation is completed.
6679286	When you use the command `setsnmpusm passwd` to set a password, if you set a password of fewer than eight characters, a segmentation fault occurs.	Always set a password of at least eight characters.

Solaris OS Issues and Workarounds

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

Solaris Issues for All Supported Releases

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

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

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

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

6511374	Memory translation warning messages might appear during boot if memory banks were disabled due to excessive errors.	After the system is rebooted, the `fmadm repair` command can be used to prevent a recurrence of the problem on the next boot.
6522017	Domains using the ZFS file system cannot use DR.	Set the maximum size of the ZFS ARC lower. For detailed assistance, contact your authorized service representative.
6531036	The error message `network initialization failed` appears repeatedly after a boot net installation.	There is no workaround.

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

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

CR ID	Description	Workaround
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.
6572827	On Sun SPARC Enterprise M8000/M9000 platforms, one of the columns in the IO Devices section of the output from `prtdiag -v` is "Type". This reports "PCIe", "PCIx", "PCI" or "UNKN" for each device. The algorithm used to compute this value is incorrect. It reports "PCI" for PCI-X leaf devices and "UNKN" for legacy PCI devices.	There is no workaround.
6589644	When XSCF switchover happens after the SB has been added using the `addboard` command, the console is no longer available.	There is no workaround.
6589833	The DR `addboard` command might cause a system hang if you are adding a Sun StorageTek Enterprise Class 4Gb Dual-Port Fibre Channel PCI-E HBA card (SG-XPCIE2FC-QF4) at the same time that an SAP process is attempting to access storage devices attached to this card. The chance of a system hang is increased if the following cards are used for heavy network traffic: • X4447A-Z, PCI-e Quad-port Gigabit Ethernet Adapter UTP • X1027A-Z1, PCI-e Dual 10 Gigabit Ethernet Fiber XFP Low profile Adapter	There is no workaround.
6592302	Unsuccessful DR operation leaves memory partially configured.	It might be possible to recover by adding the board back to the domain with an `addboard -d` command.

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

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`. For sample output see "Identifying Degraded Memory in a System" on page 23. • *Differing memory sizes* – To determine whether the domain contains system boards with different memory sizes, display the list of memory sizes using the XSCF command `showdevices` or the `prtdiag` command on the domain. For sample output, see "Identifying Different Memory Sizes in a System Board" on page 23. If a DR command hangs, reboot the domain to recover.
6619224	For Solaris domains that include SPARC 64 VII processors, a single domain of 256 threads or more might hang for an extended period of time under certain unusual situations. Upon recovery, the `uptime` command will show extremely high load averages.	For Solaris domains that include SPARC 64 VII processors, do not exceed a domain size of 256 virtual processors in a single Solaris domain. This means a maximum of 32 CPUs in a single domain configuration (maximum configuration for an M8000 server).
6623226	The Solaris command `lockstat`(1M) or the dtrace lockstat provider might cause a system panic.	Do not use the Solaris `lockstat`(1M) command or the dtrace lockstat provider.
6625734	Systems with large number of processors in a single domain environment might have suboptimal performance with certain workloads.	Use processor sets to bind application processes or LWPs to groups of processors. Refer to the `psrset`(1M) man page for more information.
6632549	`fmd` service on domain might fail to maintenance mode after DR operations.	If `fmd` service fails, issue the following commands on the domain to recover: `# svcadm clear fmd`

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

6660197	DR might cause the domain to hang if either of the following conditions exist: • A domain contains 256 or more CPUs. • More than 256 memory errors are detected.	Follow these steps: **1. Set the following parameter in the system specification file (`/etc/system`):** `set drmach:drmach_disable_mcopy=1` **2. Reboot the domain.**
6663570	DR operations involving the lowest number CPU might cause the domain to panic.	Do not use DR to remove the system board that hosts the CPU with the lowest CPU ID. Use the Solaris `prtdiag` command to identify the CPU with the lowest CPU ID.
6664134	Certain service processor-detected faults are not reported by the XSCF command `fmadm faulty`, nor will such faults be passed along as an ereport to the domain.	Use the XSCF command `showstatus` or `fmdump` instead.
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.
6718173	If your domain is running one of the following versions of Solaris OS, the system might panic/trap during normal operation: • Solaris 10 5/08 OS • An earlier version of Solaris 10 OS with patch ID 127127-11	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 6 lists issues that have been fixed in Solaris 10 5/08 OS. You might encounter them in supported releases earlier than Solaris 10 5/08.

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

CR ID	Description	Workaround

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

6348554	Using the `cfgadm -c disconnect` command on the following cards might hang the command: • SG-XPCIE2FC-QF4 Sun StorageTek Enterprise Class 4Gb Dual-Port Fibre Channel PCI-E HBA • SG-XPCIE1FC-QF4 Sun StorageTek Enterprise Class 4Gb Single-Port Fibre Channel PCI-E HBA • SG-XPCI2FC-QF4 Sun StorageTek Enterprise Class 4Gb Dual-Port Fibre Channel PCI-X HBA • SG-XPCI1FC-QF4 Sun StorageTek Enterprise Class 4Gb Single-Port Fibre Channel PCI-X HBA	Do not perform `cfgadm -c disconnect` operation on the affected cards.

6472153	If you create a Solaris Flash archive on a non-Sun SPARC Enterprise M8000/M9000 sun4u server and install it on a Sun SPARC Enterprise M8000/M9000 sun4u server, the console's TTY flags will not be set correctly. This can cause the console to lose characters during stress.	Just after installing Solaris OS from a Solaris Flash archive, telnet into the Sun SPARC Enterprise M8000/M9000 server to reset the console's TTY flags as follows:
		`# sttydefs -r console`
		`# sttydefs -a console -i "9600 hupcl opost onlcr crtscts" -f "9600"`
		This procedure is required only once.

6522433	The incorrect motherboard might be identified by `fmdump` for cpu faults after reboot.	None at this time.
6527811	The `showhardconf`(8) command on the XSCF cannot display PCI card information that is installed in the External I/O Expansion Unit, if the External I/O Expansion Unit is configured using PCI hot-plug.	There is no workaround. When each PCI card in the External I/O Expansion Unit is configured using PCI hot-plug, the PCI card information is displayed correctly.

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

CR ID	Description	Workaround
6545143	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`
6546188	The system panics when running hot-plug (`cfgadm`) and DR operations (`addboard` and `deleteboard`) on the following cards: • X4447A-Z, PCI-e Quad-port Gigabit Ethernet Adapter UTP • X1027A-Z1, PCI-e Dual 10 Gigabit Ethernet Fiber XFP Low profile Adapter	There is no workaround.
6551356	The system panics when running hot-plug (`cfgadm`) to configure a previously unconfigured card. The message "WARNING: PCI Expansion ROM is not accessible" will be seen on the console shortly before the system panic. The following cards are affected by this defect: • X4447A-Z, PCI-e Quad-port Gigabit Ethernet Adapter UTP • X1027A-Z1, PCI-e Dual 10 Gigabit Ethernet Fiber XFP Low profile Adapter	**Note - Do not** use `cfgadm -c unconfigure` to disconnect the I/O card. Use `cfgadm -c disconnect` to completely remove the card. After waiting at least 10 seconds, the card might be configured back into the domain using the `cfgadm -c configure` command.
6556742	The system panics when DiskSuite cannot read the `metadb` during DR. This bug affects the following cards: • SG-XPCIE2FC-QF4, 4Gb PCI-e Dual-Port Fibre Channel HBA • SG-XPCIE1FC-QF4, 4Gb PCI-e Single-Port Fibre Channel HBA • SG-XPCI2FC-QF4, 4Gb PCI-X Dual-Port Fibre Channel HBA • SG-XPCI1FC-QF4, 4Gb PCI-X Single-Port Fibre Channel HBA	Panic can be avoided when a duplicated copy of the `metadb` is accessible via another Host Bus Adaptor.

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

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

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

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

Solaris Issues Fixed in Solaris 10 8/07

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

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

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

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

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

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

Sun Management Center Software Issues and Workarounds

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

TABLE 8 Sun Management Center Issues and Workarounds

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

Software Documentation Updates

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

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

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

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

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

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

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

Additional Software Procedures

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

Booting From a WAN Boot Server

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

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

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

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

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

Identifying Degraded Memory in a System

▼ To Identify Degraded Memory in a System

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

```
XSCF> showstatus
```

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

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

Identifying Different Memory Sizes in a System Board

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

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

▼ To Use the `showdevices` Command

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

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

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

```
XSCF> showdevices -d 0

...

Memory:
-------
           board   perm    base                domain  target deleted remaining
DID XSB    mem MB  mem MB  address             mem MB  XSB    mem MB  mem MB
01  00-0    65536       0  0x0000004000000000  260288
01  03-0    16384    7384  0x0000034000000000  260288
01  03-1    16384       0  0x0000030000000000  260288
01  03-2    16384       0  0x000002c000000000  260288
01  03-3    16384       0  0x0000028000000000  260288

...
```

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

▼ To Use the `prtdiag` Command to Identify Memory Size

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

```
# prtdiag
```

The following example shows a display of the `prtdiag` command.

```
# prtdiag

...

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

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

...
```

This example displays varying memory sizes.

Identifying Permanent Memory in a Target Board

▼ To Identify Permanent Memory in a Target Board

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

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

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

```
XSCF> showdevices -d 0

...

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

...
```

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

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

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

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

Adding SPARC64 VII Processors to Your Server — Service Representatives Only

Note – You must be an authorized service representative to install SPARC64 VII processors in your server.

This section describes procedures for installing SPARC64 VII processors in SPARC Enterprise M8000/M9000 servers. The procedures vary depending on your situation:

- "To Add a New SPARC64 VII-Equipped CMU to a Domain Configured With SPARC64 VI" on page 33
- "To Upgrade an Existing CMU to SPARC64 VII on an Existing Domain" on page 35

For more information about configuring SPARC64 VII processors in CPU# locations, refer to the *SPARC64 VII CPU Upgrade Requirements for High-End Servers* (part 820-4493) that is included with your SPARC64 VII processor for upgrade. (The information in the upgrade requirements document supersedes the information included in Appendix A of the *SPARC Enterprise M8000/M9000 Servers Service Manual*.)

For more information about configuring combinations of processors in domains, refer Section 2.2.13, "Domain Mode Configuration," in the *Sun SPARC Enterprise M4000/M5000/M8000/M9000 Servers XSCF User's Guide*. In particular, see the section "SPARC64 VI and SPARC64 VII Processors and CPU Operational Modes."

Installation Notes

Note – Before upgrading firmware to XCP 1071, refer to "Upgrading to XCP 1071" on page 5.

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

Updating the OBP Firmware With Processor Upgrade

If you have added SPARC64 VII processors to a domain and upgraded from an XCP version earlier than 1070, you must restart the domain to complete the update to the OBP firmware in the target domain.

Adding SPARC64 VII CPUs to a Domain Using DR

Before adding SPARC64 VII CPUs to a domain using dynamic configuration (DR) for the first time, you must already have performed the following steps:

1. **Upgrade to XCP 1071 and a compatible version of Solaris.**
2. **Reboot the domain.**

▼ To Add a New SPARC64 VII-Equipped CMU as a New Domain

Note – If you want to install Solaris 10 8/07 on the new domain, you must install from a patched image on the installation server. (See Step 18.)

---

1. **Log in to the XSCF using an account with `platadm` privileges.**

2. **Use the `showstatus`(8) command to confirm that no FRU is currently listed in `Faulted` or `Deconfigured` status.**

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

3. **Change the key position on the operator panel from Locked to Service.**

4. **Collect an XSCF snapshot to archive system status prior to upgrade.**

   If a problem should occur during the upgrade procedure, a snapshot of the system status might be helpful.

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

5. **Update the XCP version to 1071.**

   Before updating firmware to XCP 1071, refer to "Upgrading to XCP 1071" on page 5. For instructions for updating the firmware, refer to the *SPARC Enterprise M4000/M5000/M8000/M9000 Servers XSCF User's Guide*.

6. **Reset the XSCF firmware.**

```
XSCF> rebootxscf
```

7. **Log in to the XSCF again, using an account with `fieldeng` privileges.**

8. **Install the CPU module (CPUM) on the CMU to be added.**

   For instructions, refer to Section6.4.1, "Replacing a CPU module," in the *SPARC Enterprise M8000/M9000 Servers Service Manual*.

9. **Install the CMU from Step 8 on the server.**

   a. **Execute the `addfru`(8) command and select `CMU/IOU` from the Maintenance menu.**

```
XSCF> addfru
```

b. Install the CMU according to the instructions displayed in the maintenance menu.

Refer to Section 6.2, "Active Replacement and Hot Replacement," in the *SPARC Enterprise M8000/M9000 Servers Service Manual*.

Note – Be sure to perform diagnosis of the newly mounted CMU in the Maintenance menu of the `addfru`(8) command.

---

10. Use the `showhardconf`(8) command to confirm that the installed CPU module is recognized by the server and that the error indicator asterisk (*) is not displayed.

```
XSCF> showhardconf -M
```

11. Use the `showlogs`(8) and `showstatus`(8) commands to confirm that no abnormality has occurred.

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

12. Change the key position on the operator panel from Service to Locked.

13. Set the following for the CMU:

- Set up XSB.
- Set up the domain.
- Set up the CPU operational mode on the domain.

Refer to Chapter 2, "Setting Up XSCF," in the the *SPARC Enterprise M4000/M5000/M8000/M9000 Servers XSCF User's Guide* for information about these settings.

14. Use the `setdomainmode`(8) command to disable the autoboot function of the domain.

Refer to the *SPARC Enterprise M4000/M5000/M8000/M9000 Servers XSCF User's Guide* and the `setdomainmode`(8) man page for more information.

15. Power on the domains.

```
XSCF> poweron -d domain_id
```

16. **Confirm that the target domain has been correctly started.**

```
XSCF> showlogs power
```

17. **Use the `showlogs`(8)and `showstatus`(8) commands to confirm that no abnormality has occurred.**

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

18. **Install a version of Solaris OS that supports SPARC64 VII processors.**

    Refer to "Supported Firmware and Software Versions" on page 2 for information about supported software versions.

    If you are installing Solaris 10 8/07 on the new domain, you must install from a patched image on the installation server. For information about patches required to run Solaris 10 8/07 with SPARC64 VII processors, refer to "Required Patches for Solaris 10 8/07 with SPARC64 VII CPUs" on page 3. For information about network-based installations, refer to *Solaris 10 8/07 Installation Guide: Network-Based Installations* (part 820-0177).

19. **Use the `setdomainmode`(8) command to enable the autoboot function of the domain.**

    The autoboot function is applied by a domain reboot. For more information, refer to the *SPARC Enterprise M4000/M5000/M8000/M9000 Servers XSCF User's Guide* and the `setdomainmode`(8) man page.

Adding SPARC64 VII Processors to an Existing Domain

You can add SPARC64 VII processors to an existing domain using one of the following approaches:

- Adding the processors using dynamic reconfiguration (DR)

  If you are already running versions of XCP firmware and Solaris OS that support SPARC64 VII processors, then you can add the processors to an existing domain using DR. For information about minimum supported versions of firmware and software, refer to "Supported Firmware and Software Versions" on page 2. For information about DR, refer to the *SPARC Enterprise M4000/M5000/M8000/M9000 Servers Dynamic Reconfiguration (DR) User's Guide*.

Note – The domain's CPU operational mode cannot be changed while the domain is running. If the mode is set to `auto`, then any appropriate mode changes will occur automatically at the next reboot of the domain.

- Upgrading the firmware and Solaris OS before adding the processors

  If you are not running appropriate versions of both XCP firmware and Solaris OS, you must first follow the following steps:

1. "To Prepare to Add SPARC64 VII Processors to an Existing Domain" on page 31
2. Choose one of the following procedures, depending on your installation goal:
   - "To Add a New SPARC64 VII-Equipped CMU to a Domain Configured With SPARC64 VI" on page 33, or
   - "To Upgrade an Existing CMU to SPARC64 VII on an Existing Domain" on page 35

▼ To Prepare to Add SPARC64 VII Processors to an Existing Domain

1. **If necessary, upgrade to a version of Solaris OS that supports SPARC64 VII processors.**

   Refer to "Supported Firmware and Software Versions" on page 2 for information about supported software versions. Apply any required patches.

2. **Log in to the XSCF using an account with `platadm` privileges.**

3. **Use the `showstatus`(8) command to confirm that no FRU is currently listed in `Faulted` or `Deconfigured` status.**

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

4. **Turn off the power for the domain assigned to the target CMU.**

```
XSCF> poweroff -d domain_id
```

5. **Confirm that the power is off for the target domain.**

```
XSCF> showlogs power
```

6. **Change the key position on the operator panel from Locked to Service.**

7. **Collect an XSCF snapshot to archive system status prior to upgrade.**

   If a problem should occur during the upgrade procedure, a snapshot of the system status might be helpful.

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

8. **Update the XCP version to 1071.**

   Before updating firmware to XCP 1071, refer to "Upgrading to XCP 1071" on page 5. For instructions for updating the firmware, refer to the *SPARC Enterprise M4000/M5000/M8000/M9000 Servers XSCF User's Guide*.

9. **Reset the XSCF firmware.**

```
XSCF> rebootxscf
```

10. **Log in to the XSCF again, using an account with `fieldeng` privileges.**

11. **Power on the target domain, and apply OpenBoot PROM firmware.**

```
XSCF> poweron -d domain_id
```

   The `ok` prompt is displayed. You do not need to start the Solaris OS.

12. **Using the `version` command, check the updated OpenBoot PROM version.**

   For XCP 1071, the version of OpenBoot PROM is 02.03.0000. Your output should look similar to the following:

```
XSCF> version -c cmu -v

DomainID 00 : 02.02.0000
DomainID 01 : 02.02.0000
DomainID 02 : 02.03.0000
DomainID 03 : 02.03.0000
...
DomainID 15 : 02.02.0000

XSB#00-0 : 02.02.0000 (Current), 01.01.0000 (Reserve)
XSB#00-1 : 02.02.0000 (Current), 01.01.0000 (Reserve)
XSB#00-2 : 02.02.0000 (Current), 01.01.0000 (Reserve)
XSB#00-3 : 02.02.0000 (Current), 02.01.0000 (Reserve)
XSB#01-0 : 02.02.0000 (Reserve), 02.03.0000 (Current)
XSB#01-1 : 02.02.0000 (Reserve), 02.03.0000 (Current)
```

```
XSB#01-2 : 02.02.0000 (Reserve), 02.03.0000 (Current)
XSB#01-3 : 02.02.0000 (Reserve), 02.03.0000 (Current)
...
```

13. **Turn off the power to the target domain.**

```
XSCF> poweroff -d domain_id
```

14. **Continue with the appropriate installation procedure:**

    a. **If you are adding an entire new SPARC64 VII–equipped CMU to a domain configured with SPARC64 VI processors, continue with** "To Add a New SPARC64 VII-Equipped CMU to a Domain Configured With SPARC64 VI" on page 33**.**

    b. **If you are upgrading an existing CMU in an existing domain to SPARC64 VII processors, continue with** "To Upgrade an Existing CMU to SPARC64 VII on an Existing Domain" on page 35**.**

▼ To Add a New SPARC64 VII-Equipped CMU to a Domain Configured With SPARC64 VI

Use this procedure if you are adding a new CMU containing SPARC64 VII processors to an existing domain that is already configured with SPARC64 processors.

1. **Install the CPU module (CPUM) on the CMU to be added.**

   For instructions, refer to Section6.4.1, "Replacing a CPU module," in the *SPARC Enterprise M8000/M9000 Servers Service Manual*.

2. **Install the CMU from** Step 8 **on the server.**

    a. **Execute the** `addfru`**(8) command and select** `CMU/IOU` **from the Maintenance menu.**

```
XSCF> addfru
```

    b. **Install the CMU according to the instructions displayed in the maintenance menu.**

       Refer to Section 6.2, "Active Replacement and Hot Replacement," in the *SPARC Enterprise M8000/M9000 Servers Service Manual*.

Note – Be sure to perform diagnosis of the newly mounted CMU in the Maintenance menu of the `addfru`(8) command.

3. **Use the `showhardconf`(8) command to confirm that the installed CPU module is recognized by the server and that the error indicator asterisk (*) is not displayed.**

```
XSCF> showhardconf -M
```

4. **Use the `showlogs`(8) and `showstatus`(8) commands to confirm that no abnormality has occurred.**

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

5. **Change the key position on the operator panel from Service to Locked.**
6. **Set the following for the CMU:**
   - Set up XSB.
   - Set up the domain.
   - Set up the CPU operational mode on the domain.

   Refer to Chapter 2, "Setting Up XSCF," in the the *SPARC Enterprise M4000/M5000/M8000/M9000 Servers XSCF User's Guide* for information about these settings.
7. **Power on the domains.**

```
XSCF> poweron -d domain_id
```

8. **Confirm that the target domain has been correctly started.**

```
XSCF> showlogs power
```

9. **Use the `showlogs`(8)and `showstatus`(8) commands to confirm that no abnormality has occurred.**

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

▼ To Upgrade an Existing CMU to SPARC64 VII on an Existing Domain

Use this procedure if you are making changes to an existing CMU on an existing domain. Your goal is one of the following:

- Adding a SPARC64 VII processor (using the `addfru` command)
- Replacing a SPARC64 VI processor with a SPARC64 VII processor (using the `replacefru` command)

1. **Add the SPARC64 VII CPU to the CMU.**

   Use the hot replacement procedure described in Section 6.2, "Active Replacement and Hot Replacement," in the *SPARC Enterprise M8000/M9000 Servers Service Manual*. You can use this procedure either to add a new SPARC64 VII CPU or to replace an existing SPARC64 VI CPU with a SPARC64 VII CPU.

Note – Be sure to perform diagnosis of the newly mounted CMU in the Maintenance menu of the `addfru`(8) or `replacefru`(8) command.

---

2. **Use the `showhardconf`(8) command to confirm that the installed CPU module is recognized by the server and that the error indicator asterisk (*) is not displayed.**

```
XSCF> showhardconf -M
```

3. **Use the `showlogs`(8)and `showstatus`(8) commands to confirm that no abnormality has occurred.**

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

4. **Change the key position on the operator panel from Service to Locked.**
5. **If you have added a new CPU, set the following for the CMU:**
   - Set up XSB.
   - Set up the domain.
   - Set up the CPU operational mode on the domain.

   Refer to Chapter 2, "Setting Up XSCF," in the the *SPARC Enterprise M4000/M5000/M8000/M9000 Servers XSCF User's Guide* for information about these settings.
6. **Power on the domains.**

```
XSCF> poweron -d domain_id
```

7. **Confirm that the target domain has been correctly started.**

```
XSCF> showlogs power
```

8. **Use the** `showlogs`**(8)and** `showstatus`**(8) commands to confirm that no abnormality has occurred.**

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