

Fujitsu SPARC M12

Product Notes for XCP 3021 - XCP 3060



Manual Code: C120-0064-10EN
March 2019

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Preface

This document describes the important and latest information regarding the firmware, software, hardware, and documents of SPARC M12 systems.

Note - See the latest version of this document on the following websites.

- Global site
<http://www.fujitsu.com/global/products/computing/servers/unix/sparc/downloads/manuals/>
 - Japanese site
<http://www.fujitsu.com/jp/products/computing/servers/unix/sparc/downloads/manual/>
-

Fujitsu SPARC M12 is sold as SPARC M12 by Fujitsu in Japan.
Fujitsu SPARC M12 and SPARC M12 are identical products.

Consolidation of Manuals

The latest version (this document) includes the contents of the following manuals published from April 2017 to August 2017.

Title	Manual Version	Date
Fujitsu SPARC M12 Product Notes for XCP 3030	C120-0063-02EN	August 2017
Fujitsu SPARC M12 Product Notes for XCP 3022	C120-0061-01EN	June 2017
Fujitsu SPARC M12 Product Notes for XCP 3021	C120-0018-02EN	April 2017

Audience

This document is designed for system administrators with advanced knowledge of a computer network and Oracle Solaris.

Information on Firmware

This is information for customers of Fujitsu.

Obtain the firmware for your server from the following sources.

- Global site
Please contact your local support provider to obtain the files required for a firmware update.
- Japanese site
Customers who subscribed to SupportDesk can obtain the firmware from the SupportDesk-Web.

The following files are provided.

- Firmware program file (XSCF Control Package (XCP) file)
- XSCF extended MIB (XSCF-SP-MIB) definition file

Note - XSCF Control Package (XCP): XCP is a packaged control program for the SPARC M12 hardware. An XCP file includes the XSCF firmware, OpenBoot PROM firmware, Power-On Self Test firmware, and Hypervisor firmware.

How to Use This Document

This document supports all SPARC M12 models. Depending on the server you use, read the related items listed in the following table.

Chapter Title in This Document	SPARC M12-1	SPARC M12-2	SPARC M12-2S
Chapter 1 Latest Information	x	x	x
Chapter 2 Software Requirements	x	x	x
Chapter 3 Information on XCP	x	x	x
Chapter 4 Information on Oracle Solaris	x	x	x
Chapter 5 Information on SPARC M12 System Hardware	x	x	x
Chapter 6 Information on the PCI Expansion Unit	x (when introduced)	x (when introduced)	x (when introduced)
Chapter 7 Information on SPARC M12 Manuals	x	x	x

Check [Chapter 1](#) for the latest information and revision history.

The chapters about firmware and software ([Chapter 2](#), [Chapter 3](#), and [Chapter 4](#)) and the chapter about hardware ([Chapter 5](#)) are common to all models. The information about a specific model is described with the model name.

See the information on the PCI expansion unit ([Chapter 6](#)) when the PCI expansion unit is installed.

Descriptions of document revisions are provided ([Chapter 7](#)) for each document. Check whether your document have been revised.

Related Documentation

All documents for your server are available online at the following locations.

- Sun Oracle software-related documents (Oracle Solaris, etc.)
<http://docs.oracle.com/en/>
- Fujitsu documents
Global site
<http://www.fujitsu.com/global/products/computing/servers/unix/sparc/downloads/manuals/>
Japanese site
<http://www.fujitsu.com/jp/products/computing/servers/unix/sparc/downloads/manual/>

The following table lists documents related to SPARC M12 systems.

Documentation Related to the SPARC M12
--

Manual Names (*1)

- | |
|--|
| <i>Fujitsu SPARC M12 Product Notes</i> |
| <i>Fujitsu SPARC M12 Quick Guide</i> |
| <i>Fujitsu SPARC M12 Getting Started Guide (*2)</i> |
| <i>Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Important Legal and Safety Information (*2)</i> |
| <i>Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Safety and Compliance Guide</i> |
| <i>Software License Conditions for Fujitsu SPARC M12 and Fujitsu M10/SPARC M10</i> |
| <i>Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Security Guide</i> |
| <i>Fujitsu SPARC Servers/SPARC Enterprise/PRIMEQUEST Common Installation Planning Manual</i> |
| <i>Fujitsu SPARC M12-1 Installation Guide</i> |
| <i>Fujitsu SPARC M12-2 Installation Guide</i> |
| <i>Fujitsu SPARC M12-2S Installation Guide</i> |
| <i>Fujitsu SPARC M12 PCI Card Installation Guide</i> |
| <i>Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide</i> |
| <i>Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Domain Configuration Guide</i> |

Manual Names (*1)

*Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 RCIL User Guide (*3)*

Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 XSCF Reference Manual

Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 XSCF MIB and Trap Lists

Fujitsu SPARC M12-1 Service Manual

Fujitsu SPARC M12-2/M12-2S Service Manual

Crossbar Box for Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Service Manual

PCI Expansion Unit for Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Service Manual

Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Glossary

External USB-DVD Drive user guide

*1 The listed manuals are subject to change without notice.

*2 Printed manuals are provided with the product.

*3 This document applies specifically to the SPARC M12/M10 and FUJITSU ETERNUS disk storage system.

Notes on Safety

Read the following documents thoroughly before using or handling the SPARC M12.

- *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Important Legal and Safety Information*
- *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Safety and Compliance Guide*

Text Conventions

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

Font/Symbol	Meaning	Example
AaBbCc123	What you type, when contrasted with on-screen computer output. This font is used to indicate an example of command input.	XSCF> adduser jsmith
AaBbCc123	The names of commands, files, and directories; on-screen computer output. This font is used to indicate an example of command output in the frame.	XSCF> showuser -P User Name: jsmith Privileges: useradm auditadm
<i>Italic</i>	Indicates the name of a reference manual.	See the <i>Fujitsu SPARC M12-2S Installation Guide</i> .
" "	Indicates the names of chapters, sections, items, buttons, or menus.	See "Chapter 2 Network Connection."

Command Syntax in the Text

While the XSCF commands have a section number of (8) or (1), it is omitted from the text.

For details on the commands, see the *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 XSCF Reference Manual*.

Syntax of the Command-Line Interface (CLI)

The command syntax is as follows:

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

Document Feedback

If you have any comments or requests regarding this document, please take a moment to share them with us. Along with the manual code, manual title, and page number, state your points specifically at one of the following websites:

- Global site
<http://www.fujitsu.com/global/contact/>
- Japanese site

<http://www.fujitsu.com/jp/products/computing/servers/unix/sparc/contact/>

Latest Information

Latest Information

This section describes major changes in this version.

- XCP 3060 is now supported. For details on the XCP information, see "[Chapter 3 Information on XCP](#)."
 - Support information has been added on Java being used on remote storage. For details, see "[Software Supporting Remote Storage](#)" and "[Notes on Remote Storage](#)."
-

Revision Information

The following shows the revision information on the manuals published so far.

Note - The latest version (this document) includes information on the following manuals published so far.

Table 1-1 Revision Information

Manual Version	Date	Revision Information
C120-0064-10EN	March 2019	<ul style="list-style-type: none">- XCP 3060 released- Improvement of XCP firmware defects- Addition of Java support information for remote storage
C120-0064-09EN	October 2018	<ul style="list-style-type: none">- XCP 3053 released- Improvement of XCP firmware defects
C120-0064-08EN	October 2018	Support of 1.2TB SAS disk drives

Table 1-1 Revision Information (*continued*)

Manual Version	Date	Revision Information
C120-0064-07EN	September 2018	<ul style="list-style-type: none"> - XCP 3052 released - Security fixes for XCP firmware - Support of the sethwproperty(8) and showhwproperty(8) commands
C120-0064-06EN	August 2018	Oracle Solaris 11.4 supported
C120-0064-05EN	April 2018	<ul style="list-style-type: none"> - XCP 3051 released - Security fixes for XCP firmware
C120-0064-04EN	March 2018	<ul style="list-style-type: none"> - XCP 3050 released - Addition of notes on 64 GB DIMMs - Support of function for checking time before starting physical partition
C120-0064-03EN	January 2018	800 GB SAS SSD supported
C120-0064-02EN	December 2017	<ul style="list-style-type: none"> - Security fixes for XCP firmware - Addition of cross-CPU live migration requirements for SPARC M12 with Oracle Solaris 10 control domain
C120-0064-01EN	October 2017	<ul style="list-style-type: none"> - XCP 3040 released - Power Aware Dispatcher (PAD) function supported - Increase of maximum number of connected PCI expansion units of SPARC M12-2/M12-2S
C120-0063-02EN	August 2017	Use conditions for SPARC64 XII function of Software on Chip added
C120-0063-01EN	July 2017	<ul style="list-style-type: none"> - XCP 3030 released - SPARC M12-1 supported
C120-0061-01EN	June 2017	<ul style="list-style-type: none"> - XCP 3022 released - Improvement of XCP firmware defects
C120-0018-02EN	April 2017	<ul style="list-style-type: none"> - XCP 3021 released - SPARC M12-2/M12-2S supported

Software Requirements

This chapter describes the software requirements for using SPARC M12 systems.

- [Supported Firmware and Oracle Solaris Versions](#)
- [Web Browser](#)
- [Software Supporting Remote Storage](#)
- [XCP and Oracle Solaris Version Supporting Power Aware Dispatcher Function](#)
- [How to Obtain XCP and Oracle Solaris SRU/Patch/Oracle VM Server for SPARC](#)
- [Notes on Memory](#)

Supported Firmware and Oracle Solaris Versions

The following tables list the versions of XCP firmware, PCI expansion unit firmware, Oracle Solaris, and required SRU/patches supported on SPARC M12 systems.

Table 2-1 XCP, PCI Expansion Unit, and Oracle Solaris Supported by SPARC M12 Systems

Server		PCI Expansion Unit	XCP	Oracle Solaris
SPARC M12-1				
	SPARC64 XII 3.2 GHz	1310 or later	3030 or later	See " Table 2-2 Oracle Solaris and Required SRU/Patches Supported by SPARC M12 Systems. "
SPARC M12-2				
	SPARC64 XII 3.9 GHz	1310 or later	3021 or later	See " Table 2-2 Oracle Solaris and Required SRU/Patches Supported by SPARC M12 Systems. "

Table 2-1 XCP, PCI Expansion Unit, and Oracle Solaris Supported by SPARC M12 Systems (*continued*)

Server		PCI Expansion Unit	XCP	Oracle Solaris
SPARC M12-2S				
	SPARC64 XII 4.25 GHz	1310 or later	3021 or later	See "Table 2-2 Oracle Solaris and Required SRU/Patches Supported by SPARC M12 Systems."

Table 2-2 Oracle Solaris and Required SRU/Patches Supported by SPARC M12 Systems

OS Version	Domain Type				
	Control Domain Nonvirtualized Environment	Root Domain Assigning I/O Devices	Root Domain Not Assigning I/O Devices (*1)	I/O Domain	Guest Domain
Oracle Solaris 11	Oracle Solaris 11.4 or later (*2)	Oracle Solaris 11.4 or later (*3)	Oracle Solaris 11.4 or later (*3)	Oracle Solaris 11.4 or later (*3)	Oracle Solaris 11.4 or later (*3)
	Oracle Solaris 11.3 (*2) SRU 11.3.17.5.0 or later	Oracle Solaris 11.3 or later (*3)	Oracle Solaris 11.3 or later (*3)	Oracle Solaris 11.3 or later (*3)	Oracle Solaris 11.3 or later (*3)
	Oracle Solaris 11.2 (*2) SRU 11.2.15.5.1	Oracle Solaris 11.2 or later (*3)	Oracle Solaris 11.2 or later (*3)	Oracle Solaris 11.2 or later (*3)	Oracle Solaris 11.2 or later (*3)
	Oracle Solaris 11.1 (*2) SRU 11.1.21.4.1			Oracle Solaris 11.1 (*3) SRU 1.4 or later	Oracle Solaris 11.1 or later (*3)
Oracle Solaris 10	Oracle Solaris 10 1/13 (*4) 150310-03 or later Oracle VM Server for SPARC 3.2 (*5) 151934-03 or later	-	Oracle Solaris 10 1/13 150310-03 or later (*7)	-	Oracle Solaris 10 1/13 (*6) 150310-03 or later Oracle Solaris 10 8/11 (*6)(*7)(*8) Oracle Solaris 10 1/13 SPARC Bundle 150310-03 or later

Table 2-2 Oracle Solaris and Required SRU/Patches Supported by SPARC M12 Systems (continued)

OS Version	Domain Type				
	Control Domain Nonvirtualized Environment	Root Domain Assigning I/O Devices	Root Domain Not Assigning I/O Devices (*1)	I/O Domain	Guest Domain
					Oracle Solaris 10 9/10 (*6)(*7)(*8) Oracle Solaris 10 1/13 SPARC Bundle 150310-03 or later

*1 Root domains can provide virtual devices.

*2 The system/ldoms and system/ldoms/ldomsmanager packages are required. These packages are included in group/system/solaris-large-server and group/system/solaris-small-server.

*3 The system/ldoms package is required. This package is included in group/system/solaris-large-server and group/system/solaris-small-server.

*4 If Oracle Solaris 10 1/13 is to run on the control domain, the CPUs that can be assigned to the control domain are those CPUs that are mounted on logical system boards with LSB numbers 0 to 7.

*5 This is not included in Oracle Solaris 10 1/13. Install it separately.

*6 There are no LSB number restrictions on the CPUs that can be assigned to a guest domain. The maximum number of CPUs (vcpus) in an Oracle Solaris 10 guest domain must not be greater than 1024.

*7 Additionally apply the required patches for a guest domain as described in the latest version of the *Oracle VM Server for SPARC Installation Guide*. A root domain that owns a PCIe bus cannot have its PCIe endpoint devices and SR-IOV virtual functions assigned to another logical domain.

*8 An additional procedure must be executed before installation of Oracle Solaris 10 9/10 or Oracle Solaris 10 8/11 on a guest domain. For details, see the procedure in "[Notes on Installing Oracle Solaris 10 on a Guest Domain](#)."

Notes on Installing Oracle Solaris 10 on a Guest Domain

You may encounter Bug 7167998 ("inter-cpu-latency" MD property causes a Solaris guest domain panic) when installing Oracle Solaris 10 9/10 or Oracle Solaris 10 8/11 on a SPARC M12 guest domain. To avoid the bug, use network installation and the following procedure to install Oracle Solaris 10 9/10 or Oracle Solaris 10 8/11.

Note - Before applying the Oracle Solaris 10 1/13 SPARC Patch Bundle, do not change the configuration or OpenBoot PROM environment variables of the guest domain.

1. Mount boot_archive of Oracle Solaris 10 9/10 or Oracle Solaris 10 8/11.

```
# chmod -t
install-server-path/install-dir-path/Solaris_10/Tools/Boot/platform/sun4v/boot_
archive

# lofiadm -a
install-server-path/install-dir-path/Solaris_10/Tools/Boot/platform/sun4v/boot_archive
```

```
Device name will be output. For example:  
/dev/lofi/1
```

```
# mount /dev/lofi/1 /mnt
```

2. **Edit and add the following line to the `/mnt/etc/system` file.**

```
set xc_tick_limit = 0x1
```

3. **Unmount `boot_archive`.**

```
# umount /mnt  
  
# lofiadm -d /dev/lofi/1  
  
# chmod +t  
install-server-path/install-dir-path/Solaris_10/Tools/Boot/platform/sun4v/boot_archive
```

4. **Install Oracle Solaris 10 9/10 or Oracle Solaris 10 8/11 through network installation.**
5. **Apply the Oracle Solaris 10 1/13 SPARC Patch Bundle, and then install patch 150310-03 or later.**

Versions of XCP and Oracle Solaris Needed for Physical Partition Dynamic Reconfiguration

The following table lists the versions of XCP, Oracle Solaris, and required SRU/patches needed to enable dynamic reconfiguration of physical partitions.

Table 2-3 Oracle Solaris and Required SRU/Patches Needed for Physical Partition Dynamic Reconfiguration

OS Version	Domain Type			
	Control Domain Nonvirtualized Environment	Root Domain	I/O Domain	Guest Domain
Oracle Solaris 11	Oracle Solaris 11.4 or later (*1)	Oracle Solaris 11.4 or later (*2)	Oracle Solaris 11.4 or later (*2)	Oracle Solaris 11.4 or later (*2)
	Oracle Solaris 11.3 (*1) SRU 11.3.17.5.0 or later	Oracle Solaris 11.3 or later (*2)	Oracle Solaris 11.3 or later (*2)	Oracle Solaris 11.3 or later (*2)
		Oracle Solaris 11.2 or later (*2)	Oracle Solaris 11.2 or later (*2)	Oracle Solaris 11.2 or later (*2)
			Oracle Solaris 11.1 (*2) SRU 1.4 or later	Oracle Solaris 11.1 or later (*2)

Table 2-3 Oracle Solaris and Required SRU/Patches Needed for Physical Partition Dynamic Reconfiguration
(continued)

OS Version	Domain Type			
	Control Domain Nonvirtualized Environment	Root Domain	I/O Domain	Guest Domain
Oracle Solaris 10	-	-	-	Oracle Solaris 10 1/13 (*3) 150310-03 or later Oracle Solaris 10 8/11 (*3)(*4) Oracle Solaris 10 1/13 SPARC Bundle 150310-03 or later Oracle Solaris 10 9/10 (*3)(*4) Oracle Solaris 10 1/13 SPARC Bundle 150310-03 or later

*1 The system/ldoms and system/ldoms/ldomsmanager packages are required. These packages are included in group/system/solaris-large-server and group/system/solaris-small-server.

*2 The system/ldoms package is required. This package is included in group/system/solaris-large-server and group/system/solaris-small-server.

*3 There are no LSB number restrictions on the CPUs that can be assigned to a guest domain. The maximum number of CPUs (vcpus) in an Oracle Solaris 10 guest domain must not be greater than 1024.

*4 An additional procedure must be executed before installation of Oracle Solaris 10 9/10 or Oracle Solaris 10 8/11 on a guest domain. For details, see the procedure in "[Notes on Installing Oracle Solaris 10 on a Guest Domain](#)."

Oracle Solaris and Required SRU/Patches Needed for Dynamic Reconfiguration of PCIe Endpoint Devices

The following table lists the versions of Oracle Solaris and required SRU/patches needed to enable dynamic reconfiguration of PCIe endpoint devices.

Table 2-4 Versions of Oracle Solaris Needed for Dynamic Reconfiguration of PCIe Endpoint Devices

OS Version	Domain Type		
	Control Domain Nonvirtualized Environment	Root Domain Assigning I/O Devices	I/O Domain
Oracle Solaris 11	Oracle Solaris 11.4 (*1)	Oracle Solaris 11.4 or later (*2)	Oracle Solaris 11.4 or later (*2)
	Oracle Solaris 11.3 (*1) SRU 11.3.17.5.0 or later	Oracle Solaris 11.3 or later (*2)	Oracle Solaris 11.3 or later (*2)

Table 2-4 Versions of Oracle Solaris Needed for Dynamic Reconfiguration of PCIe Endpoint Devices (continued)

OS Version	Domain Type		
	Control Domain Nonvirtualized Environment	Root Domain Assigning I/O Devices	I/O Domain
	Oracle Solaris 11.2 (*1) SRU 11.2.15.5.1	Oracle Solaris 11.2 or later (*2)	Oracle Solaris 11.2 or later (*2)
	Oracle Solaris 11.1 (*1) SRU 11.1.21.4.1		Oracle Solaris 11.1 SRU 11.1.17.5.0 or later
Oracle Solaris 10	Oracle Solaris 10 1/13 (*3) 150310-03 or later Oracle VM Server for SPARC 3.2 (*4) 151934-03 or later	-	-

*1 The system/ldoms and system/ldoms/ldomsmanager packages are required. These packages are included in group/system/solaris-large-server and group/system/solaris-small-server.
*2 The system/ldoms package is required. This package is included in group/system/solaris-large-server and group/system/solaris-small-server.
*3 If Oracle Solaris 10 1/13 is to run on the control domain, the CPUs that can be assigned to the control domain are those CPUs that are mounted on logical system boards with LSB numbers 0 to 7.
*4 This is not included in Oracle Solaris 10 1/13. Install it separately.

Software Supporting Software on Chip

The Software on Chip on the SPARC64 XII processor can be used with the following software.

When Used With Oracle Database

Table 2-5 Software Supporting Software on Chip (When Used With Oracle Database)	
Function	Operating Environment
Decimal floating-point arithmetic processing (Oracle Number)	Oracle Database 12cR1 or later Oracle Solaris 11.1 or later
SIMD (In-memory processing)	Oracle Database 12c Enterprise Edition (12cR1 or later) Oracle Database In Memory Oracle Solaris 11.1 or later
Cryptographic processing	Oracle Database 12c Enterprise Edition (12cR1 or later) Oracle Advanced Security Oracle Solaris 11.1 or later

When Used With a User Application

Table 2-6 Software Supporting Software on Chip (When Used With a User Application)

Function	Operating Environment	
Decimal floating-point arithmetic processing (IEEE 754)	SPARC64 X+/SPARC64 X function	Oracle Solaris Studio 12.4 or later
		Oracle Solaris 11.2 SRU 11.2.4.6.0 or later
	SPARC64 XII function	Oracle Developer Studio 12.6 or later
SIMD	SPARC64 X+/SPARC64 X function	Oracle Solaris 11.3 SRU 11.3.15.4.0 or later
		Oracle Solaris Studio 12.4 or later
	SPARC64 XII function	Oracle Solaris 11.2 SRU 11.2.4.6.0 or later
		Oracle Developer Studio 12.6 or later
		Oracle Solaris 11.3 SRU 11.3.15.4.0 or later

Web Browser

Table 2-7 lists web browsers for which compatibility with XSCF Web operation has been confirmed. For other information about XSCF Web, see "[Notes and Restrictions on XSCF Web](#)."

Table 2-7 Versions of Web Browser of Which Operation Has Been Confirmed

Web Browser	Version
Microsoft Internet Explorer	9.0, 10.0, and 11.0
Mozilla Firefox, 32-bit version	10.0 to ESR 60

Software Supporting Remote Storage

Table 2-8 lists the versions of Oracle Solaris and required SRU/patches needed for using remote storage.

Table 2-8 Oracle Solaris and Required SRU/Patches That Enable Remote Storage

Oracle Solaris	Required SRU (*1) Required Patch (*2)
Oracle Solaris 11.2 or later	None
Oracle Solaris 11.1	SRU 2.5 or later (*3)
Oracle Solaris 10 1/13	None

*1 For Oracle Solaris 11.

*2 For Oracle Solaris 10.

*3 To assign remote storage as a virtual disk to a guest domain, this SRU must be applied to the service domain.

[Table 2-9](#) lists the Windows OS operating environments on terminals that support remote storage.

Table 2-9 Operating Environments on Terminals

Type	Operating Environment
Windows OS	Windows 7, Windows 8.1, Windows 10 (When Windows support ends, support for the remote storage function also ends.)

The two ways of starting XSCF Remote Storage Server are as follows:

- [Starting XSCF Remote Storage Server From XSCF Web](#)
- [Starting XSCF Remote Storage Server With the Java Command From a Terminal](#)

Starting XSCF Remote Storage Server From XSCF Web

A Java Runtime Environment appropriate to the browser used with XSCF Web must be installed on the terminal. [Table 2-10](#) lists combinations of browsers and Java Runtime Environments.

Table 2-10 Combinations of Browsers Used With XSCF Web and Java Runtime Environments

Browser	Java Runtime Environment (*1)
Microsoft Internet Explorer 9, 32-bit version	Java Runtime Environment 8, 32-bit version
Microsoft Internet Explorer 9, 64-bit version	Java Runtime Environment 8, 64-bit version
Microsoft Internet Explorer 10 and 11	Java Runtime Environment 8, 32-bit version
Mozilla Firefox 10.0 to ESR 52, 32-bit version (*2)	Java Runtime Environment 8, 32-bit version

*1 Java applets can no longer be used when the April 2019 update or a later update provided for Oracle Java SE 8 is applied. As a consequence, XSCF Remote Storage Server cannot be started from XSCF Web. Start XSCF Remote Storage Server with the Java command from a terminal.

*2 Java plug-in support ended with ESR 60. This means you cannot use remote storage from ESR 60 or later. Use Internet Explorer.

Starting XSCF Remote Storage Server With the Java Command From a Terminal

Operation of XSCF Remote Storage Server has been confirmed on the Java Runtime Environments shown in [Table 2-11](#).

Table 2-11 Java Runtime Environment Versions Where Operation is Already Confirmed	
Type	Version
Oracle Java SE	8u201, 8u202
Open Java Development Kit	11.0.2

XCP and Oracle Solaris Version Supporting Power Aware Dispatcher Function

[Table 2-12](#) shows the XCP version, Oracle Solaris version, and required SRU/patch necessary to operate Solaris Power Aware Dispatcher with the Power Aware Dispatcher function (PAD function) setting.

Table 2-12 XCP Version, Oracle Solaris, and Required SRU/Patch Where the Solaris Power Aware Dispatcher (PAD) Operates	
XCP Version	OS Version
3040 or later	Oracle Solaris 11.4 or later Oracle Solaris 11.3 SRU 11.3.23.5.0 or later

When you set the power-saving operation to "performance" with the `setpparmode` command, install an OS that supports the PAD function on all of the logical domains in the physical partition.

How to Obtain XCP and Oracle Solaris SRU/Patch/Oracle VM Server for SPARC

Obtain the latest XCP firmware and Oracle Solaris SRU/patch/Oracle VM Server for SPARC from the following sources.

- Global site
Please contact your local support provider to obtain the files required for the update.
- Japanese site
Customers who subscribed to SupportDesk can obtain the files from the SupportDesk-Web.

Notes on Memory

Notes on 64 GB DIMMs

Before performing any of the following work, update the current XCP firmware on the system to XCP 3050 or later:

- Adding 64 GB DIMMs (including changes to 64 GB DIMMs to expand capacity)
- Adding a CPU module (CPU memory unit upper (CMUU)) with 64 GB DIMMs mounted
- Adding a SPARC M12-2S with 64 GB DIMMs mounted, into a building block configuration

Note - The above notes also apply to moving 64 GB DIMMs to the current system from another system.

Information on XCP

This chapter provides XCP-related information.

- [Latest Information on XCP 3060](#)
- [XCP Firmware Versions and Support Information](#)
- [Notes and Restrictions](#)
- [Problems With XCP and Workarounds](#)

Latest Information on XCP 3060

This section describes major changes in XCP 3060.

This XCP version modifies XSCF firmware and CMU firmware.

Also, to use remote storage, an archive file is now provided for starting XSCF Remote Storage Server with the Java command from a terminal. You can obtain this archive file from the XCP firmware download site.

Note - After the firmware update completes, power-off/power-on of the physical partition may be required.

For details on the firmware update, see "Chapter 16 Updating the XCP Firmware" in the *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide*.

- Improvements were made for XCP firmware defects. (RTIF2-181211-001, RTIF2-181211-002, RTIF2-181211-003)

XCP Firmware Versions and Support Information

The following table lists information on the XCP firmware versions and CMU

firmware versions released for SPARC M12 systems.

Table 3-1 XCP Firmware Versions and Support Information

XCP Version	Main Support Information	CMU Version (*1)(*2)
XCP 3060	Correction of XCP firmware problems (RTIF2-181211-001, RTIF2-181211-002, RTIF2-181211-003)	03.06.0000
XCP 3053	Correction of XCP firmware problems (RTIF2-180914-001, RTIF2-180926-001)	03.05.0002
XCP 3052	- Security fixes (RTIF2-180704-002) - Support of the sethwproperty(8) and showhwproperty(8) commands	03.05.0002
XCP 3051	Security fixes (RTIF2-180403-002)	03.05.0001
XCP 3050	- Support of the showdateinfo(8) command for checking the time before starting a physical partition - Correction of a problem related to 64 GB DIMMs (RTIF2-180214-001) - Security fixes (RTIF2-180525-002)	03.05.0000
XCP 3040	- The Power Aware Dispatcher (PAD) function support - The maximum number of connected PCI expansion units has increased to eight (SPARC M12-2/M12-2S).	03.04.0000
XCP 3030	- SPARC M12-1 supported - Security fixes (RTIF2-171013-002)	03.03.0000
XCP 3022	Correction of XCP firmware problems (RTIF2-170517-001)	03.02.0002
XCP 3021	SPARC M12 support	03.02.0001

*1 The version -c xcp -v command can check the XSCF firmware and CMU firmware versions currently applied to the system.

*2 After the firmware update completes, power-off/power-on of the physical partition may be required.

When the CMU firmware version is updated, turn off the power to the physical partition and then turn it on again to complete the CMU firmware update. For details on the firmware update, see "Chapter 16 Updating the XCP Firmware" in the *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide*.

Notes and Restrictions

This section describes notes and restrictions that are known as of this release.

Notes on Remote Maintenance Service

Note - Enhanced Support Facility (ESF) and Remote Customer Support System (REMCS) are supported only for the SPARC M12 sold within Japan by Fujitsu.

This section describes notes when using the remote maintenance service. See the *Enhanced Support Facility User's Guide for REMCS* for how to set and use REMCS.

Before Setting the Remote Maintenance Service

To use the remote maintenance service with SPARC M12 systems, you need to make settings for the REMCS agent function by using XSCF Web. In addition, the REMCS agent uses time zone information on the XSCF. Perform the following settings in advance with the XSCF shell:

- Setting necessary for using XSCF Web, such as enabling the HTTPS setting
- Setting the time zone of the XSCF

After completing the above settings, make settings for the REMCS agent function by using XSCF Web.

For details on the XSCF Web settings and time zone settings, see the *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide*.

Time Zone for the REMCS Agent Function

The REMCS agent uses the time zone currently set for the system. For this reason, when you change the system time zone with XSCF, set the periodical connection schedule again to update the information of REMCS center.

Notes on SNMP

- When using the SNMPv3 agent, after setting up the authentication protocol and the encryption protocol using the `setsnmp(8)` command, be sure to set up User-based Security Model (USM) management information using the `setsnmpusm(8)` command and View-based Access Control Model (VACM) management information using the `setsnmpvacm(8)` command. Specification of the authentication protocol and the encryption protocol is required in the SNMPv3 agent setup process. Moreover, the password, set up when executing the `setsnmp(8)` and `setsnmpusm(8)` commands, will also be necessary.
- If a server, on which the SNMP manager is not running, is registered as the inform trap host of SNMPv3, execution of `setsnmp(8)`, `setsnmpusm(8)` or `setsnmpvacm(8)` commands may output the "Agent restart failed" message. This message is output when there is an abnormality in the restarting of the SNMP agent, but as the SNMP agent works properly even if this messages is output, it has no effect on the system. Register the trap host after the SNMP manager had been started.
- If the `setsnmp(8)` command is executed with the `addtraphost` or `addv3traphost`

operand and a trap host is registered with the host name consisting of 16 or more characters, the UDP address of the trap that is reported to the trap host, becomes the IP address that is assigned to the XSCF-LAN (physical IP address), instead of the takeover IP address (virtual IP address). This symptom occurs when a takeover IP address is set up.

If the host name of the trap host consists more than 16 characters, register the trap host with its IP address, not its host name.

[Workaround]

If a host name with more than 16 characters has already been registered, execute the `setsnmp(8)` command with either the `remtraphost` or `remv3traphost` operand to remove the trap host and register the trap host again with the IP address.

- When the trap host is registered with the `setsnmp(8)` command, the following message may be output.

```
iptables v1.4.7: host/network 'example.com' not found
Try 'iptables -h' or 'iptables --help' for more information.
```

This message indicates that the name resolution has not been executed for the host name of the registered host.

Although the trap host has been properly registered, traps are not reported to the trap host as name of the trap host could not be resolved.

Set up the name server by executing the `setnameserver(8)` command and conduct name resolution for the target host.

Notes on Secure Socket Layer (SSL) 3.0

For security reasons, you cannot use SSL 3.0.

Use Transport Layer Security (TLS) 1.2, 1.1, or 1.0.

Restrictions and Notes on Power-Saving Operation

- **Earlier than XCP 3040**

The "performance" value is not supported for the `-m powermgmt_policy` option of the power-saving operation that is set with the `setpparmode` command. Specify either "disabled" (disable), which is the default value, or "elastic" (enable).

- **XCP 3040 or later**

- When updating firmware from XCP 3040 or before to XCP 3040 or later

If the "performance" value is specified for the `-m powermgmt_policy` option of the power-saving operation that is set with the `setpparmode` command, perform the following: execute the `setpparmode` command to change the `-m pad` option for the Power Aware Dispatcher function (PAD function), which is to use Solaris Power Aware Dispatcher, from "off" (disabled) to "on" (enabled).

Note - If the setting of the PAD function is changed, the logical domain configuration becomes factory-default. Then, logical domain reconfiguration is necessary. Save the configuration information in an XML file in advance.

- If the firmware applied at the factory shipment is XCP 3040 or later
The default setting of the -m pad option is "on" (enabled).
It is not necessary to change the value of the -m pad option.

Notes on Time Zones

- The time zones (regions/place names) supported by the XSCF can be changed to support the latest time zone information.
For any previously set time zone that the system cannot use anymore, the XSCF switches from this unusable time zone to Coordinated Universal Time (UTC) and operates in UTC.

When the set time zone operates in UTC, execute the `settimezone -c settz -a` command, and check the settable time zones. If the time zone list does not have a set time zone, set a time zone again.

- In a system that implements daylight saving time, suppose that the current time in the daylight saving time period is changed by the `setdate -s` command to a time that is within one hour of the ending of daylight saving time. Then, the set time will be outside of daylight saving time (that is, in winter time).
In the following example, an attempt is made to set the local time to 1:40 AM October 31 (JDT) during daylight saving time, and daylight saving time ends 2:00 AM October 31. The result is that the time is set to the winter time of 1:47 AM October 31 (JST).

```
XSCF> showdate
Fri Oct 31 01:20:00 JDT 2014
XSCF> setdate -y -s 103101402014.00
Fri Oct 31 01:40:00 JST 2014
The XSCF will be reset. Continue? [y|n] :y
Thu Oct 30 16:40:00 UTC 2014
:
Omitted (XSCF automatically rebooted)

XSCF> showdate
Fri Oct 31 01:47:16 JST 2014
```

To set a time within the period immediately before or after daylight saving time switches, execute the `setdate -u` command, and set the time in UTC.

Notes on Remote Storage

- Java applets can no longer be used when the April 2019 update or a later update

provided for Oracle Java SE 8 is applied. As a consequence, XSCF Remote Storage Server cannot be started from XSCF Web.

Even in an environment where you cannot use Java applets, you can start XSCF Remote Storage Server with the Java command from a terminal in the following procedure.

1. Obtain the archive file for XSCF Remote Storage Server. You can obtain this archive file from the XCP firmware download site.

This archive file is compatible between the SPARC M12 and SPARC M10. In both model series, you can use the file with all XCP firmware versions supporting the remote storage function.

2. Extract the archive file for XSCF Remote Storage Server on the terminal.

3. Execute the following command in the directory that has the extracted archive file.

Specify the execution path of java.exe according to the environment used.

The following example shows that the XSCF Remote Storage Server is started by using Oracle Java SE at "C:\rdvd" where the archive file is extracted.

Example:

```
C:\rdvd>"C:\Program Files (x86)\Java\jre1.8.0_201\bin\java.exe" -esa -cp rdvd_client.jar;lib*
com.fujitsu.m10.rdvd.gui.GUIMain
```

XSCF Remote Storage Server starts, and the [XSCF Remote Storage Server] screen appears. You can select media on the [XSCF Remote Storage Server] screen.

The steps after the [XSCF Remote Storage Server] screen appears are the same as the steps when starting XSCF Remote Storage Server from XSCF Web. For details, see "4.6 Using Remote Storage" in the *Fujitsu SPARC M12 and Fujitsu M10/ SPARC M10 System Operation and Administration Guide*.

- These notes apply when Java Runtime Environment 8 Update 45 is used and, as described below, an automatic proxy configuration script (PAC file) is used in the Java network settings or by the browser being used. In this case, "The application cannot be run.", "Failed to validate certificate. The application will not be executed.", or another message appears, and the XSCF Remote Storage Server may fail to start.
 - When [Use browser settings] is selected in the Java network settings
 - For Internet Explorer
 - The [Use automatic configuration script] check box is selected in [Tools] - [Internet Options] - [Connections] - [LAN settings].
 - For Firefox
 - [Automatic proxy configuration URL] is selected in [Tools] - [Options] - [Advanced] - [Network] - [Settings].
 - [Use automatic proxy configuration script] is selected in the Java network settings.
- To work around this problem, go to the [Java Control Panel] screen, select [General] - [Network Settings] - [Use proxy server], and change the Java network settings.

- If remote storage is connected through a VPN or other network that performs address translation, the error message "iscsiadm: no records found!" is output and the connection is disabled.
Do not connect remote storage through a VPN or other network that performs address translation.
- Remote storage cannot be connected even when a terminal has more than one network connection.
In this case, a terminal can be connected to the remote storage if you disable network devices on the terminal that are not used for the XSCF-LAN connection.

Restrictions on Audit

- The log file transfer function of the audit log set with the setaudit archive command and the setaudit disable command is not supported at present.
- In the setaudit command, use overwriting "count" with the default value for the write policy for the audit trail. Specifying either "count" or "suspend" invokes the same behavior as when "count" is specified.

Notes on Dynamic Reconfiguration of Physical Partitions

- Suppose that you are going to add or delete a building block (PSB), using dynamic reconfiguration of physical partitions. Before executing the addboard(8) or deleteboard(8) command, execute the showhardconf(8) command to confirm that [Status] is "Normal" for every XBBOX#xx and BB#xx.
- Suppose that you use the dynamic reconfiguration function and execute the addboard(8) or deleteboard(8) command with a system board (PSB) specified to add or delete a building block. Then, during the processing, do not execute the rebootxscf command or switchscf command, reboot the XSCF from XSCF Web, or switch the master/standby XSCF. If such an operation is performed, not only will the DR processing terminate abnormally, but also Oracle Solaris on a running physical partition may hang, a hardware failure may occur, physical partitions may stop abnormally, and replacement of parts may become necessary.
- If even one logical domain in the OpenBoot PROM state is situated in the physical partition, dynamically reconfiguring the physical partition causes it to end with an error. Execute dynamic reconfiguration of the physical partition after changing the logical domain to any of the following states: state where Oracle Solaris is running, bound state, or inactive state.

Notes on OpenBoot PROM

- If you execute the sendbreak(8) command after the OpenBoot PROM banner

appears but before OpenBoot PROM startup is completed, the following error message is output. In this case, the boot command becomes unable to be executed. FATAL: OpenBoot initialization sequence prematurely terminated.

In this case, set the OpenBoot PROM environment variable `auto-boot?` to `false` at the `ok` prompt, and then execute the `reset-all` command. When OpenBoot PROM is restarted, set `auto-boot?` to `true`, and execute the boot command.

- When you use the XSCF firmware `setpparparam(8)` command to set an OpenBoot PROM environment variable, such as `nvramrc`, the maximum number of characters that can be set is 254.
If you want to set a string of 255 or more characters in an OpenBoot PROM environment variable, such as `nvramrc`, do so in the OpenBoot PROM or Oracle Solaris environment. Note that, however, the maximum number of characters is 1024.
- The OpenBoot PROM device aliases `disk` and `net` are not created for Oracle VM Server for SPARC disks and logical domains to which no network is assigned. To execute disk boot or network boot by specifying the device alias `disk` or `net`, set the device aliases `disk` and `net` by using the OpenBoot PROM `nvalias` command.
- Suppose that the environment variable `multipath-boot?` of OpenBoot PROM is `true` and the `boot -L` command is executed to display the bootable boot environments (BEs) in the root pool. Then, after the number of a boot environment is selected from the displayed interactive menu, the system does not return to the `ok` prompt but instead OpenBoot PROM restarts.
The number of restarts depends on the environment variable `boot-device` of OpenBoot PROM. OpenBoot PROM restarts as many times as the number of configured devices, after which the message "ERROR: All device paths in boot-device have failed." is displayed and the `ok` prompt reappears.
To avoid this problem, set the environment variable `multipath-boot?` of OpenBoot PROM to `false` before executing the `boot -L` command or execute the `boot device_path -L` command.

Notes on Maintenance of a CPU Memory Unit, Motherboard Unit, XSCF Unit, PSU Backplane, or Crossbar Backplane Unit

- Note on correcting the time (1)
After replacement of the XSCF unit and SD card, and after the system has been running for a long time, an XSCF reboot followed by PPAR startup may cause the Oracle Solaris time to deviate.
This problem occurs when all of the following conditions are true:
 - Replacement of both the XSCF unit and SD card
 - System: SPARC M12-2 (single-chassis configuration) or SPARC M12-2S (single-chassis configuration).

To avoid this problem, be sure to perform the following procedure after replacing

the XSCF unit and SD card.

[Workaround]

- If the setting specifying the XSCF as an NTP client is disabled (default)
Execute the `setdate` command to set the XSCF time to the current time.
In the following example, the XSCF time is set to 2017/3/25 12:00:00.

```
XSCF> setdate -s 032512002017.00
```

The XSCF automatically reboots when the time is set.

- If the setting specifying the XSCF as an NTP client is enabled
 1. **Execute the `showlogs event` command to check whether the XSCF time and NTP server time are successfully synchronized.**
If multiple event logs are registered, see the latest event log.

```
XSCF> showlogs event -rM
Date                               Message
Mar 25 11:45:31 JST 2017    NTP service found NTP server to synchronize.
```

When "NTP service found NTP server to synchronize." appears, the time is correctly synchronized. Then, the following steps are not necessary.

2. **Execute the `setntp` command to temporarily disable the XSCF NTP client function.**

```
XSCF> setntp -s client -c disable
```

3. **Reboot the XSCF.**

```
XSCF> rebootxscf -a
```

4. **Execute the `setdate` command to set the XSCF time to the current time.**
In the following example, the XSCF time is set to 2017/3/25 12:00:00.

```
XSCF> setdate -s 032512002017.00
```

The XSCF automatically reboots when the time is set.

5. **Execute the `setntp` command to re-enable the XSCF NTP client function.**

```
XSCF> setntp -s client -c enable
```

6. **Reboot the XSCF.**

```
XSCF> rebootxscf -a
```

Note - Even if the XSCF time and NTP server time fail to synchronize and the following message appears, this workaround has been completed.

XSCF> **showlogs event -rM**

Date	Message
Mar 25 12:15:31 JST 2017	NTP service failed to reach appropriate NTP server.

■ Note on correcting the time (2)

Due to the problem reported in RTIF2-170224-036, the Oracle Solaris time may deviate at PPAR startup.

To avoid this problem, be sure to perform the following procedure after maintenance.

Note - Before performing the procedure in "Note on correcting the time (2)," check whether the conditions in "Note on correcting the time (1)" are met. If they are met, first perform the procedure in "Note on correcting the time (1)."

[Workaround]

1. **Execute the showdateinfo(8) command to check the times of the control domain and guest domain.**

- For XCP 3050 or later

Check the times of the control domain and guest domain.

If the times are correct, the subsequent steps are unnecessary.

If the times are not correct, go to step 2.

- For XCP 3040 or earlier

Go to step 2 because it is not possible to check the times with the showdateinfo (8) command.

Example: Physical partition is PPAR#0

```
XSCF> showdateinfo -p 0
PPAR-ID      : 0
config_name  : 10guest_config
XSCF information:
-----
XSCF
Date        : Aug 03 19:56:16 JST 2017
Logical domains information:
-----
primary
Date        : Aug 03 19:56:16 JST 2017
guest 0
Date        : Aug 03 19:56:16 JST 2017
guest 1
Date        : Aug 03 19:56:16 JST 2017
guest 2
Date        : Aug 03 19:56:16 JST 2017
XSCF>
```

Note - The times of the control domain and the guest domain are displayed by using the XSCF time zone.

2. **Specify false for the OpenBoot PROM environment variable auto-boot?, and execute the setpparparam(8) command to disable the autoboot function of the control domain. Also execute the setpparmode(8) command to disable startup of guest domains.**

Example: Physical partition is PPAR#0

```
XSCF> setpparparam -p 0 -s bootscript "setenv auto-boot? false" -y
XSCF> setpparmode -p 0 -m guestboot=off
```

3. **Execute the poweron(8) command to power on the target physical partition.**

```
XSCF> poweron -p 0 -y
```

4. **Execute showdomainstatus -p 0 -g primary, and confirm that "OpenBoot Running" appears under Status.**
5. **Execute the console(8) command to switch to the control domain console.**

```
XSCF> console -p 0 -y
:
Omitted
{0} ok
```

6. **Execute the boot -s command to start Oracle Solaris in single user mode.**

```
{0} ok boot -s
```

7. **Execute the date command of Oracle Solaris to set the control domain time.**
Example: Setting for 12:20:00 on March 25, 2017

```
primary# date 0325122017.00
```

Note - Execute the showdate(8) command to display the XSCF time, and confirm that the control domain time of the target physical partition is the same as the XSCF time.

8. **Switch to multi-user mode.**

```
primary# exit
```

9. **For a logical domain configuration, set the correct time for guest domains.**
For details on how to check for a logical domain configuration, see [How to check whether logical domain configuration/factory-default configuration].

Perform the following procedure on every guest domain to set the time.

a. Check the CONS value of the guest domain.

```
primary# ldm list-domain
NAME          STATE      FLAGS    CONS  VCPU  MEMORY  UTIL  NORM  UPTIME
primary       active    -n-cv-   SP    8     3968M  0.2%  0.1%  18h 37m
guest         bound     -----  5000  8     2G
```

b. Disable the autoboot function of the guest domain.

```
primary# ldm set-variable auto-boot?=false guest
```

c. Start the guest domain.

```
primary# ldm start-domain guest
```

d. Open the guest domain console.

```
primary# telnet localhost 5000
:
{0} ok
```

e. Execute the boot -s command to start Oracle Solaris in single user mode.

```
{0} ok boot -s
```

f. Execute the date command of Oracle Solaris to set the guest domain time.

Example: Setting for 12:30:00 on March 25, 2017

```
guest# date 0325123017.00
```

g. Switch to multi-user mode.

```
guest# exit
```

h. If the guest domain is an NTP client, execute the ntpq -np command, and confirm synchronization with the NTP server.

The asterisk (*) at the beginning of a line indicates that the NTP server in the "remote" column is synchronized with the guest domain.

```
guest# while [ 1 ]; do ntpq -np; sleep 60; done
  remote          refid          st t when poll reach  delay  offset  jitter
=====
*203.0.113.156    203.0.113.70      4 u  46  64    3   0.458   0.754   7.243
  remote          refid          st t when poll reach  delay  offset  jitter
=====
*203.0.113.156    203.0.113.70      4 u  39  64    7   0.478   1.487   5.664
  remote          refid          st t when poll reach  delay  offset  jitter
```

```
=====
*203.0.113.156    203.0.113.70      4 u    35    64    17    0.450    2.164    5.077
^C
guest#
```

i. If necessary, re-enable the autoboot function of the guest domain.

```
primary# ldm set-variable auto-boot?=true guest
```

10. If necessary, re-enable the functions that were disabled in step 1.

For the autoboot function of the control domain, specify true for the OpenBoot PROM environment variable auto-boot?, and execute the setpparparam(8) command to re-enable the function. For startup of guest domains, execute the setpparmode(8) command to re-enable it.

Example: Physical partition is PPAR#0

```
XSCF> setpparparam -p 0 -s bootscript "setenv auto-boot? true" -y
XSCF> setpparmode -p 0 -m guestboot=on
```

11. For a logical domain configuration, save logical domain configuration information.

For details on how to check for a logical domain configuration, see [How to check whether logical domain configuration/factory-default configuration].

Example: Saving logical domain configuration information under the name "config_A"

```
primary# ldm list-domain -l
Omitted
primary# ldm list-spconfig
Omitted
primary# ldm remove-spconfig config_A
primary# ldm add-spconfig config_A
```

[How to check whether logical domain configuration/factory-default configuration]

You can check whether the configuration is a logical domain configuration by using the showdomainconfig command.

(1) Logical domain configuration

If a value other than factory-default is set below, as indicated by "^", it is a logical domain configuration.

```
XSCF> showdomainconfig -p 0
PPAR-ID      :0
Booting config
(Current)    :config_A
             ^^^^^^^^
(Next)       :config_A
             ^^^^^^^^
-----
```

```

Index      :1
config_name :factory-default
domains    :1
date_created:-
-----
Index      :2
config_name :config_A
domains    :1
date_created:'2014-03-05 17:33:17'

```

(2) factory-default configuration

If factory-default is set below, as indicated by "^", it is not a logical domain configuration but in the factory-default configuration.

```

XSCF> showdomainconfig -p 0
PPAR-ID      :0
Booting config
  (Current)   :factory-default
              ^^^^^^^^^^^^^^^
  (Next)      :factory-default
              ^^^^^^^^^^^^^^^
-----
Index      :1
config_name :factory-default
domains    :1
date_created:-

```

■ [SPARC M12-2S]

Suppose that the CPU memory unit lower (CMUL) or XSCF unit is replaced, or the SPARC M12-2S or crossbar box is added, with the input power turned off, without using the maintenance menu. Then, automatic synchronization of firmware versions between chassis is enabled.

After replacement or addition of components, if the "XSCF firmware update now in progress. BB#xx, please wait for XSCF firmware update complete." message is output after login to the master XSCF, the XCP firmware is in the process of being updated automatically.

Automatic synchronization of the XCP firmware versions can be confirmed by referring to the "XCP firmware version synchronization completed" message, which is output by the showlogs monitor, showlogs event, or showmonitorlog command.

Do not execute the following until the firmware update is complete. The same also applies to the XSCF Web operations corresponding to XSCF commands.

- Turning off the input power
- Executing the poweron, testsb, diagxbu, or reset command, or operating the POWER switch on the operation panel
- Executing the setdate, switchscf, rebootxscf, initbb, restoreconfig, or restoredefaults command, or operating the RESET switch on the rear panel
- Executing the getflashimage -d command

- Executing the `flashupdate -c update` command
- When a component has been replaced in the following procedure, the physical partition (PPAR) cannot start.
 1. Execute the `restoredefaults -c factory` command.
 2. After the XSCF stops, turn off (AC OFF) the input power of the system.
 3. Replace the XSCF unit (XSCFU) without replacing the SD card.
 4. Turn on the input power (AC ON).

[Workaround]

Replace the component in the following procedure.

 1. Execute the `restoredefaults -c factory` command.
 2. After the XSCF stops, turn off/on (AC OFF/AC ON) the input power, and confirm that the XSCF has started.
 3. Replace the XSCF unit (XSCFU).

[How to restore]

Restore with the following procedure:

 1. Turn off the input power (AC OFF).
 2. Remount the original SD card that was mounted in the XSCF unit (XSCFU) when the `restoredefaults -c factory` command was executed.
 3. Turn on the input power (AC ON), and confirm that the XSCF has started.
 4. Turn off the input power (AC OFF).
 5. Replace the SD card.
 6. Turn on the input power (AC ON).

Notes on CPU Activation

- If you execute the `restoredefaults -c xscf` command, the CPU Activation key information is deleted not only from the XSCF unit but also from the backup information in the XSCF. On the other hand, even if you execute the `restoredefaults -c factory` command, the CPU Activation key information is not deleted. To initialize all settings to factory defaults including the CPU Activation key information, use the `-c factory -r activation` option.
- XSCF setting information saved by the `dumpconfig(8)` command contains CPU Activation information and CPU Activation keys. You can use the `restoreconfig(8)` command to restore the CPU Activation information and CPU Activation keys that were saved with the `dumpconfig(8)` command.

Therefore, if you have configured CPU Activation or registered a CPU Activation key when configuring settings for the XSCF, such as when configuring an XSCF network or physical partition (PPAR), we recommend that you first save the CPU Activation information and CPU Activation keys by using the `dumpconfig(8)` command. To save and restore only CPU Activation keys, execute the `dumpcodactivation(8)` and `restorecodactivation(8)` commands, respectively. Note,

however, that CPU Activation information cannot be saved and restored. Use the `showcod(8)` and `setcod(8)` commands to reconfigure CPU Activation.

Notes and Restrictions on XSCF Web

Notes

(1) Common to browsers

- Suppose that you select [XSCF] - [Setting] - [CoD Reservation] menu on XSCF Web and change the setting value by clicking the [Reserve CoD Resources] button on the [PPAR Usage and Reservation] table. If you specify a value smaller than the current setting value, the following warning message dialog box appears for confirmation that you have entered the correct value.

PROC Permits assigned is less than current setting. Continue?

Click the [OK] button to continue the setting, and click the [Cancel] button to cancel the setting.

(2) Firefox

If you use XSCF Web in a Firefox environment, the browser may prompt you to save the login ID and password when you log in to the XSCF. In this case, do not save the login ID and password. If you save the login ID and password, the saved data may be displayed on LDAP, SMTP, and REMCS webpages.

Note - Remote Customer Support System (REMCS) is supported only for the SPARC M12/M10 sold within Japan by Fujitsu.

Configure either of the following settings to disable the login ID/password save function of the browser:

- Disable the login ID/password save function throughout the browser. Select [Tools] - [Options] - [Security] tab, and uncheck [Remember passwords for sites] in [Passwords].
- Specify the site as an exception to login ID and password saving. Select [Tools] - [Options] - [Security] tab, and check [Remember passwords for sites] in [Passwords]. Then, click the [Never Remember Password for This Site] button in the dialog box that appears for ID and password saving when you log in to the XSCF. This registers the address of the XSCF in the [Exceptions] list for ID and password saving, and the dialog box for ID and password saving does not appear at subsequent logins to the XSCF.

Restrictions

(1) Common to browsers

There are currently no known restrictions.

(2) Firefox

There are currently no known restrictions.

Notes on Firmware Update

- [SPARC M12-2S]
If you update the firmware by executing the flashupdate(8) command or using XSCF Web, the time for the processing depends on the number of SPARC M12-2S units or crossbar boxes that configure the system.
- An error described in "[Problems With XCP and Workarounds](#)" may occur during firmware update. In such a case, take the actions described in workarounds, then update again.

Notes When a PCI Expansion Unit is Connected

- [SPARC M12-1]
If a PCI expansion unit is added or removed, the logical domain configuration of the physical partition will return to the factory-default state at the next control domain start time.

Before the operation, save the logical domain configuration information from Oracle Solaris to an XML file.

[Table 3-2](#) shows what information may need to be saved/restored when adding/removing a PCI expansion unit in a system.

Table 3-2 Required operations when adding/removing a PCI expansion unit in a system to which the firmware XCP 2044 or later is applied

PCI Expansion Unit Connected	Current Domain Configuration	Rebuilding Oracle VM Server for SPARC Configuration
No (adding)	factory-default (Control domain only)	Not required
No (adding)	With logical domains other than control domain	Required (XML file)
Yes (adding/removing)	factory-default (Control domain only)	Not required
Yes (adding/removing)	With logical domains other than control domain	Required (XML file)

Note - Execute the `ldm list-constraints -x` command to save to an XML file, and execute the `ldm init-system -i` command to restore from an XML file. For the detailed procedure, see "1.7.3 How to Save/Restore the Logical Domain Configuration Information and the OpenBoot PROM Environment Variable" in the *PCI Expansion Unit for Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Service Manual*.

- [SPARC M12-2/M12-2S]

Performing one of the following operations with the `setpciboxdio(8)` command will return the logical domain configuration of the physical partition to the factory-default state at the next control domain start time:

 - Changing the enable/disable setting of the direct I/O function for the PCI expansion unit
 - Adding/Removing/Replacing the PCI expansion unit in a PCI slot of the SPARC M12 server where the direct I/O function for the PCI expansion unit is enabled

You can execute the `setpciboxdio(8)` command regardless of whether there is a PCI expansion unit. Before doing so, save the logical domain configuration information from Oracle Solaris to an XML file.

The information may need to be saved/restored when changing the enable/disable setting of the direct I/O function for the PCI expansion unit by executing the `setpciboxdio(8)` command. See [Table 3-3](#) to check required operations.

Table 3-3 Required Operations When Toggling the Enable/Disable Setting of the Direct I/O Function

PCI Expansion Unit Configured	Current Domain Configuration	Rebuilding Oracle VM Server for SPARC Configuration
No	factory-default (Control domain only)	Not required
No	With logical domains other than control domain	Required (XML file)
Yes	factory-default (Control domain only)	Not required
Yes	With logical domains other than control domain	Required (XML file)

[Table 3-4](#) indicates the information that may need to be saved/restored when adding/removing/replacing the PCI expansion unit in a PCI slot of the SPARC M12 server where the direct I/O function for the PCI expansion unit is enabled. Here, the `setpciboxdio(8)` command was executed to enable the function.

Note - For PCI expansion unit maintenance using the PCI hot plug (PHP) function, the direct I/O function is disabled, so the above information does not need to be saved/restored.

Table 3-4 Required Operations for the Addition/Removal/Replacement of the PCI Expansion Unit in a PCI Slot of the SPARC M12 Server Where the Direct I/O Function is Enabled

Maintenance Environment	Current Domain Configuration	Rebuilding Oracle VM Server for SPARC Configuration
Addition/Removal with PPAR stopped	factory-default (Control domain only)	Not required
	With logical domains other than control domain	Required (XML file)
Replacement of faulty PCI expansion unit (*1) with PPAR stopped	factory-default (Control domain only)	Not required
	With logical domains other than control domain	Required (XML file)
Replacement of normal PCI expansion unit (*1) with PPAR stopped	factory-default (Control domain only)	Not required
	With logical domains other than control domain	Not required

*1 This also includes the replacement of a link card, link cable, management cable, and link board.

Note - Execute the `ldm list-constraints -x` command to save to an XML file, and execute the `ldm init-system -i` command to restore from an XML file. For a detailed procedure, see "1.7.3 How to Save/Restore the Logical Domain Configuration Information and the OpenBoot PROM Environment Variable" in the *PCI Expansion Unit for Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Service Manual*.

Notes on Active Directory

- If Active Directory is enabled and you try login via telnet, inquiry to the second and subsequent alternative servers may time out, causing the login to fail.
- If the value set by the timeout operand of the `setad(8)` command is small, and you log in to the XSCF, the user privilege may not be assigned to you. In this case, increase the timeout setting value and try again.

Notes on LDAP over SSL

If the value set by the timeout operand of the `setldapssl(8)` command is small, and you log in to the XSCF, the user privilege may not be assigned to you. In this case, increase the timeout setting value and try again.

Notes on the Logical Domain Time

In a logical domain configuration, if the PPAR is restarted after being kept active for a long time, the Oracle Solaris time may deviate. (RTIF2-170224-036)

For details on how to check for a logical domain configuration, see [How to check whether logical domain configuration/factory-default configuration].

To avoid this problem, be sure to perform one of the following procedures.

[Workaround 1] (Recommended)

Save the logical domain configuration information before stopping or restarting the PPAR.

Example: Saving logical domain configuration information under the name of "config_A"

```
primary# ldm list-domain -l
Omitted
primary# ldm list-spconfig
Omitted
primary# ldm remove-spconfig config_A
primary# ldm add-spconfig config_A
```

[Workaround 2]

If the logical domain configuration information was not saved before the PPAR was stopped, perform the following procedure.

1. **Execute the showdateinfo(8) command to check the times of the control domain and guest domain.**
 - For XCP 3050 or later
Check the times of the control domain and guest domain.
If the times are correct, the subsequent steps are unnecessary.
If the times are not correct, go to step 2.
 - For XCP 3040 or earlier
Go to step 2 because it is not possible to check the times with the showdateinfo (8) command.

Example: Physical partition is PPAR#0

```
XSCF> showdateinfo -p 0
PPAR-ID      : 0
config_name  : 10guest_config
XSCF information:
-----
      XSCF
      Date    : Aug 03 19:56:16 JST 2017
Logical domains information:
-----
      primary
      Date    : Aug 03 19:56:16 JST 2017
      guest 0
```

```

        Date       : Aug 03 19:56:16 JST 2017
    guest 1
        Date       : Aug 03 19:56:16 JST 2017
    guest 2
        Date       : Aug 03 19:56:16 JST 2017
XSCF>

```

Note - The times of the control domain and the guest domain are displayed by using the XSCF time zone.

2. **Execute the `setpparmode(8)` command to disable startup of guest domains.**
Example: Physical partition is PPAR#0

```
XSCF> setpparmode -p 0 -m guestboot=off
```

3. **Execute the `poweron(8)` command to power on the target physical partitions.**

```
XSCF> poweron -p 0 -y
```

4. **Set the correct time for guest domains.**
Perform the following procedure on every guest domain to set the time.
 - a. Check the CONS value of the guest domain.

```

primary# ldm list-domain
NAME          STATE      FLAGS    CONS  VCPU  MEMORY  UTIL  NORM  UPTIME
primary       active    -n-cv-   SP    8     3968M   0.2%  0.1%  18h 37m
guest         bound    ------ 5000   8     2G

```

- b. Disable the autoboot function of the guest domain.

```
primary# ldm set-variable auto-boot?=false guest
```

- c. Start the guest domain.

```
primary# ldm start-domain guest
```

- d. Open the guest domain console.

```

primary# telnet localhost 5000
:
{0} ok

```

- e. Execute the `boot -s` command to start Oracle Solaris in single user mode.

```
{0} ok boot -s
```

- f. Execute the date command of Oracle Solaris to set the guest domain time.
Example: Setting for 12:30:00 on March 25, 2017

```
guest# date 0325123017.00
```

- g. Switch to multi-user mode.

```
guest# exit
```

- h. If the guest domain is an NTP client, execute the ntpq -np command, and confirm synchronization with the NTP server.
The asterisk ("*") at the beginning of a line below indicates that the NTP server in the "remote" column is synchronized with the guest domain.

```
guest# while [ 1 ]; do ntpq -np; sleep 60; done
  remote                refid                st t when poll reach    delay    offset    jitter
=====
*203.0.113.156  203.0.113.70      4 u   46   64    3    0.458    0.754    7.243
  remote                refid                st t when poll reach    delay    offset    jitter
=====
*203.0.113.156  203.0.113.70      4 u   39   64    7    0.478    1.487    5.664
  remote                refid                st t when poll reach    delay    offset    jitter
=====
*203.0.113.156  203.0.113.70      4 u   35   64   17    0.450    2.164    5.077
^C
guest#
```

- i. If necessary, re-enable the autoboot function of the guest domain.

```
primary# ldm set-variable auto-boot?=true guest
```

5. **If necessary, execute the setpparmode(8) command to re-enable startup of guest domains.**

Example: Physical partition is PPAR#0

```
XSCF> setpparmode -p 0 -m guestboot=on
```

6. **For a logical domain configuration, save logical domain configuration information.**

For details on how to check for a logical domain configuration, see [How to check whether logical domain configuration/factory-default configuration].
Example: Saving logical domain configuration information under the name "config_A"

```

primary# ldm list-domain -l
Omitted
primary# ldm list-spconfig
Omitted
primary# ldm remove-spconfig config_A
primary# ldm add-spconfig config_A

```

[How to check whether logical domain configuration/factory-default configuration]

You can check whether the configuration is a logical domain configuration by using the showdomainconfig command.

(1) Logical domain configuration

If a value other than factory-default is set below, as indicated by "^", it is a logical domain configuration.

```

XSCF> showdomainconfig -p 0
PPAR-ID      :0
Booting config
(Current)    :config_A
             ^^^^^^^^
(Next)       :config_A
             ^^^^^^^^

-----
Index        :1
config_name  :factory-default
domains      :1
date_created:-
-----
Index        :2
config_name  :config_A
domains      :1
date_created:'2014-03-05 17:33:17'

```

(2) factory-default configuration

If factory-default is set below, as indicated by "^", it is not a logical domain configuration but in the factory-default configuration.

```

XSCF> showdomainconfig -p 0
PPAR-ID      :0
Booting config
(Current)    :factory-default
             ^^^^^^^^^^^^^^^
(Next)       :factory-default
             ^^^^^^^^^^^^^^^

-----
Index        :1
config_name  :factory-default
domains      :1
date_created:-

```

Notes on Remote Power Management Function (RCIL)

- To use the remote power management function, execute the `setpacketfilters -c ipmi_port` command to set the IPMI service.
The SPARC M12 IPMI service is used only with the remote power management function.

The IPMI service is disabled by default. To use the remote power management function, enable the IPMI service.

The IPMI service can be set by executing the `setpacketfilters -c ipmi_port` command. For details on the `setpacketfilters(8)` command, see the *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 XSCF Reference Manual*.
- Do not register the same node with multiple remote power management groups. If remote power management is performed by registering a single node with multiple remote power management groups, the operation may not be as intended. With the `setremotepwrmgmt(8)` command, you cannot confirm whether a single node is registered with multiple remote power management groups. When creating or modifying management information files of remote power management groups, take care not to cause overlaps.
- Do not register an I/O node with multiple power control groups. If the same I/O node is set with multiple remote power management groups, and both of the conditions below are satisfied, the I/O node is turned on and off alternately.
 - `setremotepwrmgmt -c enable` is executed, and the remote power management function is enabled.
 - There is a power control group in which one or more host nodes are on, and there is a power control group in which all the host nodes are off.

If you accidentally register an I/O node with multiple power control groups, use `setremotepwrmgmt -c disable` to disable remote power management first and then use `clearremotepwrmgmt` to delete the power control group setting. After deletion, create a management information file of a remote power management group so that the I/O node is not registered with multiple groups, and then use `setremotepwrmgmt -c config` to register it again.
- For a management file to set the remote power management function, use CR and LF, or LF as linefeed code.
- For a management file to set the remote power management function, you need to specify the MAC address regardless of the node type. Otherwise, the following error occurs when you execute the `setremotepwrmgmt(8)` command.
[Example]

```
XSCF> setremotepwrmgmt -c config -u guest ftp://xx.xx.xx.xx/rpmgroup.csv
Password:
Download successful: 213Byte at 2103.000KB/s
Checking file...
The definition of [MACAddress] in [ftp://xx.xx.xx.xx/rpmgroup.csv] is invalid.
```


You need to set the MAC address regardless of the node type of the I/O node, master host node, host node, or remote power supply control unit. This is required even though the MAC addresses of some nodes are not set and left "blank" as described in "Chapter 3 Examples of Remote Power Management Configuration" in the *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 RCIL User Guide*.

Notes on Rebooting the XSCF

- The following warning message may be output to the control domain console when executing `rebootxscf(8)`.

```
PICL snmppugin: cannot fetch object value (err=5, OID=<1.3.6.1.2.1.47.1.4.1>,
row=0)
```

- If the cluster software is in use when executing `rebootxscf(8)`, the following warning message may be output to the logical domain console.

```
SA SA_xscf***.so to test host *** failed
7240 Connection to the XSCF is refused. (node:*** ipaddress:*** detail:***)
```

- If the `rebootxscf(8)` command is executed while remote storage is connected, access to the media encounters an error.

```
FRU: /BB#0/REMOTE_STORAGE
Msg: I/O device error detected

FRU: /BB#0/REMOTE_STORAGE
Msg: Boot process failed

FRU: /REMOTE_STORAGE
Msg: FCode informed error

FRU: /BB#1/REMOTE_STORAGE
Msg: A:sd1:sd:SCSI transport failed (DRIVE vendor=Fujitsu, product=Remote
Storage)
(compdev=c8t0d0)

FRU: /REMOTE_STORAGE
Msg: A:sd0:sd:Device Error(Media Error) (DRIVE vendor=Fujitsu, product=Remote
Storage)
(compdev=c5t0d0)

FRU: /BB#0/REMOTE_STORAGE
Msg: The Machine Administration detected a other hard disk failure.
```

Notes and Restrictions on iSCSI Booting of FUJITSU Storage ETERNUS Disk Storage Systems as the iSCSI Targets

Notes

These notes apply to firmware version V10L50 on FUJITSU Storage ETERNUS Disk Storage Systems. This setting is unnecessary for V10L60 and later.

To perform iSCSI boot on FUJITSU Storage ETERNUS Disk Storage Systems as the iSCSI targets, perform the following procedure in advance.

1. **Perform the following steps to change the OpenBoot PROM environment variable `nvrnrc`.**

- a. Execute `nvedit`, and write `nvrnrc` as shown below.

```
{0} ok nvedit
0: set-random-tcp#
```

- b. Press the [Ctrl] + [C] keys to exit `nvedit` and return to the `ok` prompt.

- c. Execute `nvstore` to save the edited contents.

```
{0} ok nvstore
```

- d. Check whether `nvrnrc` was written correctly.

```
{0} ok printenv nvrnrc
nvrnrc = set-random-tcp#
{0} ok
```

2. **Set the OpenBoot PROM environment variable `use-nvrnrc?` to `true`.**

```
{0} ok setenv use-nvrnrc? true
use-nvrnrc? = true
```

3. **Execute the `reset-all` command to restart OpenBoot PROM.**

```
{0} ok reset-all
```

To return the above setting to its original state, perform the following steps.

4. **Delete the set contents from the OpenBoot PROM environment variable `nvrnrc`.**

- a. Execute `nvedit`, and delete "set-random-tcp#" from `nvrnrc`.

```
{0} ok nvedit
0:
```

- b. Press the [Ctrl] + [C] keys to exit nvedit and return to the ok prompt.
- c. Execute nvstore to save the edited contents.

```
{0} ok nvstore
```

- d. Check whether the nvramrc setting was deleted correctly.

```
{0} ok printenv nvramrc
nvramrc =
{0} ok
```

5. **Set the OpenBoot PROM environment variable use-nvramrc? to false.**
If it has been set to true before the above step 2 was performed, this step is unnecessary.

```
{0} ok setenv use-nvramrc? false
use-nvramrc? = false
{0} ok
```

6. **Execute the reset-all command to restart the OpenBoot PROM.**

```
{0} ok reset-all
```

Restrictions on Deferred Dump

If the memory fails, the following warning message is output, and the panic may persist, preventing deferred dump from being performed.

```
WARNING: Retained memory segment overlapped with degraded
memory.
```

[How to restore]

If this phenomenon persists, perform the following procedure.

- For the control domain
 1. **Execute the sendbreak command to stop the panic.**

```
XSCF> sendbreak -y -p [ppar_id]
```

2. **After stopping at the ok prompt, execute the clear-retained-memory command.**

```
{0} ok clear-retained-memory
```

3. Execute the reset-all command to restart OpenBoot PROM.

```
{0} ok reset-all
```

- For the guest domain

After stopping the guest domain with the `ldm stop-domain` command for Oracle VM Server for SPARC, execute the `ldm start-domain` command to start the guest domain.

Other Notes and Restrictions

Notes

- It may take a while for the service domain to start the virtual disk server (vds) or virtual switch (vsw). For this reason, a maximum of 15 minutes is set as the wait time of a guest domain until vds or vsw starts.
If this wait time is exceeded, boot from the virtual disk/virtual network may fail.
For example, when multiple disks are set for the OpenBoot PROM environment variable `boot-device`, it may take up to 15 minutes to switch the boot path from the virtual disk to the next disk. Or, if it takes more than 15 minutes, boot may fail.
- When the mode switch on the operation panel is set to Service mode, the power cannot be turned on by using the power switch on the operation panel. To turn the power on in Service mode, execute the XSCF `poweron` command. To turn on the power using the power switch on the operation panel, set the mode switch on the operation panel to the Locked mode position.
- The maximum number of users who can concurrently connect to the XSCF via Telnet and SSH is as follows:
 - SPARC M12-2: 40 users
 - SPARC M12-2S (without crossbar box): 40 users
 - SPARC M12-2S (with crossbar box): 70 usersIf the maximum allowable number of users is exceeded, access is denied.
- XSCF-LAN is compliant with auto-negotiation. If you connect XSCF-LAN to a network device that is fixed to full-duplex mode, the XSCF-LAN communicates in half-duplex mode according to the IEEE 802.3 protocol. This may slow down the speed of network communication or cause a communication error. Be sure to set auto-negotiation for network devices to which you connect XSCF-LAN.
- When configuring a physical partition (PPAR), do not set a BB-ID that does not exist in the system as the PPAR-ID.
For example, if BB-IDs 00 and 01 exist in the system, you can set 00 or 01 as the PPAR-ID. If you set 02 as the PPAR-ID, the PPAR with PPAR-ID 02 will not be able to start.
- Among the information displayed by executing the `showhardconf(8)` command,

the PCI Express (PCIe) card information of the guest domain will be reflected after Oracle Solaris of the corresponding guest domain has started.

- When you execute the `testsb(8)` or `diagxbu(8)` command, a PPAR-ID of the "PPAR#30" that does not exist may appear in an error log suspected area. This indicates that an error was detected on the system board (PSB) while diagnosing. Ignore the output PPAR-ID.
- We recommend to connect the control domain console via the XSCF-LAN port. When a large amount of data is output by connecting to the control domain console via a serial port, the data may not be displayed properly.
- [SPARC M12-2S]
The time taken for processing a command that displays the system configuration or status depends on the number of SPARC M12-2S units or crossbar boxes that configure the system. Such commands include the `showhardconf(8)` command, `showboards(8)` command, and `showpparstatus(8)` command.
- [SPARC M12-2S]
It may take more time to restart the physical partition when hardware fails, depending on the system configuration.
- When you execute the `setsnmpvacm(8)` command specifying `createview` as the operand, you cannot set an access restriction using the OID mask of MIB. When you execute the `setsnmpvacm(8)` command specifying `createview` as the operand, do not use the OID mask of MIB.
- If a takeover IP address has been set, the UDP packet sender IP address and Agent Address for the SNMP Trap of SNMPv1 are different. The IP address assigned to each XSCF-LAN (physical IP address) is stored as the UDP packet sender IP address, while the takeover IP address (virtual IP address) is stored as the Agent Address.
- The device path of the I/O device that has been used changes if the CPU memory unit upper (CMUU) is expanded to add one CPU when I/O bus reconfiguration is enabled in the SPARC M12-2 or SPARC M12-2S with one CPUs installed. As for `ioreconfigure` that can be set by the `-m` function option of the `setpparmode(8)` command, leave it as the default, `false`, and disable the I/O bus reconfiguration function.

If you enable the I/O bus reconfiguration function by specifying `true` to `ioreconfigure`, it may be necessary to reinstall Oracle Solaris.
- An XSCF user account name cannot be the same as an LDAP user name. In addition, an XSCF user account UID cannot be the same as an LDAP UID.
- [SPARC M12-2S]
When maintenance is performed by either the `replacefru(8)` or the `addfru(8)` command, terminate the command using the `"c"` option. If the `flashupdate(8)` command is executed before the above command is terminated in a system consisting of multiple SPARC M12-2S units, automatic switchover to the master XSCF may not be executed after the firmware update completes.

[How to restore]

After maintenance is completed using either the `replacefru(8)` or the `addfru(8)`

command, use the "c" option to terminate the command. If switchover to the master XSCF is not performed after the completion of firmware update, execute the switchscf(8) command on the master XSCF to switch over to the master XSCF.

- If XSCF reboot or switchover is performed while you are performing an operation on the setting by using the XSCF shell or XSCF Web, the setting may not be saved on the XSCF. Use the XSCF shell or XSCF Web to confirm that the setting is saved after the XSCF reboot or switchover has completed. If the setting is not saved, perform the setting again. If the setting is not saved, perform the setting again.

- [SPARC M12-2S]

If active replacement of the XSCF unit (XSCFU) fails due to a FRU failure or the like, do not leave the XSCFU disconnected.

That would disable hardware monitoring of the SPARC M12 (PSB) where the XSCFU is mounted, possibly affecting system operation.

Prepare another FRU, and replace the XSCFU again.

If you cannot immediately replace it again, perform the following procedure.

1. Shut down Oracle Solaris on the PPAR of the target PSB.
2. Forcibly power off the PPAR of the target PSB.
3. Turn off (AC OFF) the input power to the target PSB.
4. Disconnect the target PSB from the PPAR.

Restrictions

- The -c wait option of the setpowerupdelay(8) command is not supported.
- At present, no-mem, which is set with the -s option of the setpcl(8) command, is not supported.
- Alive check function between the XSCF and a Hypervisor is not supported. Alive check function between the XSCF and a Hypervisor cannot be enabled/disabled even by using the setpparmode(8) command.

- [SPARC M12-2S]

Suppose that the XSCF was switched while connecting to the control domain console in the SPARC M12-2S in a configuration with two or more chassis. Then, the connection to the control domain console may not be established until all the SPARC M12-2S chassis have been restarted if an attempt has been made to reconnect the control domain console to the switched master XSCF.

If all XSCFs have not been rebooted due to an error in the XSCF, establish a connection to the control domain console again. Replace a failed XSCF or CPU memory unit lower (CMUL) if a connection cannot be established to the control domain console.

- [SPARC M12-2S]

If all the XSCFs have not been rebooted due to an error in an XSCF in the SPARC M12-2S in a configuration with two or more chassis, the poweroff(8) and reset(8) commands may not be executed normally.

To power off a physical partition (PPAR), log in to the control domain of the PPAR and execute the shutdown command on Oracle Solaris. Then, power off the PPAR by using the poweroff -f command on the XSCF firmware. The reset(8)

command cannot be used in this state.

- Replacement of a crossbar box using the `replacefru(8)` command is not supported at present. For details on how to replace a crossbar box, see "[Restrictions on Replacing a Crossbar Box \(Only for SPARC M12-2S\)](#)" in "[Chapter 5 Information on SPARC M12 System Hardware](#)."
- Addition of a crossbar box using the `addfru(8)` command is not supported at present.
- [SPARC M12-2S]
If you power on all physical partitions (PPARs) in a system that has more than one PPARs with the `poweron(8)` command, the startup time taken when specifying power-on of the PPAR is longer than the time taken for batch power-on by specifying `-a`.
- [SPARC M12-2S]
When `showhardconf -M` is executed, it may not be possible to display one screen at a time if both of the conditions below are met. Under these conditions, do not execute `showhardconf -M`.
 - System configured with 2 BBs or more
 - One or more SPARC M12-2S units are subject to an XSCF reboot by the `rebootxscf(8)` command, so they cannot communicate.
- Neither the `deleteuser(8)` command nor the [Settings] - [User Manager] - [Account] menu on XSCF Web can delete the user account of a user who is logged into the XSCF via SSH, Telnet, or XSCF Web. Any attempt to do so will result in an error. To delete the target user account, use the `who(1)` command or the [Settings] - [User Manager] - [Account] menu on XSCF Web to confirm that the user account is not logged in to the XSCF, and then delete it.
Likewise, neither the `deleteuser(8)` command nor the [Settings] - [User Manager] - [Account] menu on XSCF Web can delete a user account for which the SNMP setting has been made with the `setsnmp(8)`, `setsnmpusm(8)`, or `setsnmpvacm(8)` command or the [SNMP] or [SNMP Security] menu of XSCF Web. Any attempt to do so will result in an error. Before deleting the user account, execute the `rebootxscf -a` command to reboot all the XSCFs.

Problems With XCP and Workarounds

This section describes problems with XCP and workarounds for each version.

Problems That Might Occur With XCP 3060 and Workarounds

The following table lists the problems that might occur with XCP 3060 and workarounds for them.

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds

RTI No.	RTIF2-170508-001
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	If you reboot the XSCF by using the flashupdate(8) or rebootxscf(8) command while a physical partition (PPAR) is being powered on, the POST may stop in a state where the diagnosis is completed (Initialization Complete).
Workaround	There is no effective workaround. [How to restore] Execute the reset por command, or power off the PPAR by using the poweroff -f command and then power it on again.
RTI No.	RTIF2-170508-002
Model	SPARC M12-2S
Description	Suppose that in the system connected to a crossbar box (XBBOX), you are powering on or off a physical partition (PPAR) not assigned to the maintenance-target FRU, and you execute the diagxbu(8) or testsb(8) command. In this case, diagnosis of the system board (PSB) may fail during the PSB power-off, and the following message may be output. [Warning:010] An internal error has occurred.
Workaround	There is no effective workaround. Execute the showboards(8) command to check that the [Pwr] field of the relevant PSB is set to "n". If the field is set to "y", execute the showboards(8) command every few minutes to check that the field changes to "n".
RTI No.	RTIF2-170508-003
Model	SPARC M12-2S
Description	Suppose that the setpparparam command sets the OpenBoot PROM environment variables and then the poweron -a command starts multiple physical partitions (PPARs) simultaneously. Then, the following error message is output to the OS console: "Error storing configuration variable. LDC is not up Configuration variable setting will not persist after a reset or power cycle." The OpenBoot PROM environment variables set by the setpparparam command may not be applied. Also, as a result of the OpenBoot PROM environment variables not being applied, Oracle Solaris may not be able to start.
Workaround	There is no effective workaround. [How to restore] Temporarily power off the physical partition (PPAR) indicated by the output error message. Then, execute the setpparparam(8) command to set the OpenBoot PROM environment variables, and power on the PPAR again.

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170508-004
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>After a firmware update, when the XCP version is checked with the version(8) command or the XSCF Web interface, the displayed XCP version may not be the same as the updated XCP version. In the following example, firmware was updated from XCP 3021 to XCP 3030. The XCP version of "XCP0 (Reserve):" for BB#00 has not been updated.</p> <pre>XSCF> version -c xcp -v XBBOX#80-XSCF#0 (Master) XCP0 (Reserve): 3030 XSCF : 03.03.0000 XCP1 (Current): 3030 XSCF : 03.03.0000 XBBOX#81-XSCF#0 (Standby) XCP0 (Current): 3030 XSCF : 03.03.0000 XCP1 (Reserve): 3030 XSCF : 03.03.0000 BB#00-XSCF#0 XCP0 (Reserve): 3021 ~~~~~ CMU : 03.03.0000 POST : 1.43.0 OpenBoot PROM : 4.34.0+1.22.0 Hypervisor : 0.27.8 XSCF : 03.02.0001 ~~~~~ XCP1 (Current): 3030 CMU : 03.03.0000 POST : 1.43.0 OpenBoot PROM : 4.34.0+1.22.0 Hypervisor : 0.27.8 XSCF : 03.03.0000</pre>
Workaround	<p>There is no effective workaround. [How to restore] For the SPARC M12-1, the SPARC M12-2, or the 1BB configuration with the SPARC M12-2S, execute the rebootxscf command to reboot the XSCF. In the rebootxscf -b BB-ID command, specify the BB-ID of the target crossbar box (XBBOX) or SPARC M12-2S (BB), which has a non-updated XCP version. Then, execute the command to reboot the XSCF of the specified chassis.</p>

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170508-005
Model	SPARC M12-2S
Description	<p>If process-down, a panic, or a watchdog timeout occurs on the master XSCF during maintenance using the addfru(8) or replacefru(8) command, XSCF master/standby switching may occur. In this case, the addfru(8) or replacefru(8) command is interrupted.</p>
Workaround	<p>There is no effective workaround.</p> <p>[How to restore]</p> <p>The master XSCF cannot be restored to its original state because the switchscf(8) command was suppressed during maintenance work.</p> <p>If the maintenance work was being done for a power supply unit (PSU), a fan, a slave chassis, or the XSCF of a slave chassis, start the maintenance work over, from the new master XSCF.</p> <p>If the maintenance work was being done for the standby chassis or the XSCF of the standby chassis, power off the physical partition (PPAR), and perform cold maintenance.</p>
RTI No.	RTIF2-170508-007
Model	SPARC M12-2S
Description	<p>In a SPARC M12-2S connected to a crossbar box (XBBOX), the following symptoms may occur if an XSCF failure occurs on some part of the chassis when the physical partition (PPAR) is in the powered-on state:</p> <ul style="list-style-type: none"> - Symptom 1 <p>When the poweroff(8) command is executed, the PPAR is powered off, but the command does not respond for about 20 minutes.</p> - Symptom 2 <p>When the PPAR is powered on, the following error occurs during power-on processing: "XB-XB interface fatal error." The power-on process is repeated and does not end normally.</p>
Workaround	<p>If an XSCF failure has occurred, replace the XSCF unit (XSCFU) before performing a PPAR power operation.</p> <p>[How to restore]</p> <ul style="list-style-type: none"> - Case of symptom 1 <p>After about 20 minutes, the poweroff(8) command ends normally, and the PPAR is powered off.</p> - Case of symptom 2 <p>Execute the poweroff -f command to forcibly power off the PPAR.</p>
RTI No.	RTIF2-170224-001
Model	SPARC M12-2S
Description	<p>Suppose that you use the setpcl(8) command to change the LSB number of the SPARC M12 connected to a PCI expansion unit and start Oracle Solaris in the logical domain configuration. Then, you will be unable to display the configuration information for the PCI expansion unit, even by executing the showhardconf(8) command.</p>
Workaround	<p>Use the setdomainconfig(8) command to set the logical domain configuration to the factory-default, and power on the physical partition (PPAR).</p> <p>Then, configure the logical domain again.</p>

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-002
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	Suppose that the <code>setpowercapping(8)</code> command is executed to set "Enable" for the power capping function and "powerlimit_p(percentage)" for the power consumption maximum allowable value. If the extended time when the maximum allowable power consumption is exceeded is set to "none" and the input power is turned on or the physical partition (PPAR) is powered off, then "The limit of power has been exceeded" is registered in the event log.
Workaround	There is no effective workaround. Ignore this event log.
RTI No.	RTIF2-170224-003
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	FRU registered in the error log is displayed as "PPAR#30" if the configuration error of the system board (PSB) is detected when executing the <code>tests(8)</code> command or <code>diagxbu(8)</code> command.
Workaround	There is no effective workaround. Maintain the applicable PSB of the SPARC M12.
RTI No.	RTIF2-170224-004
Model	SPARC M12-2S
Description	The switching of an XSCF may fail if the XSCF is switched by executing the <code>switchscf(8)</code> command while a physical partition (PPAR) is being powered on.
Workaround	Do not switch an XSCF by using the <code>switchscf(8)</code> command while a PPAR is being powered on.
RTI No.	RTIF2-170224-005
Model	SPARC M12-2S
Description	Powering on a physical partition (PPAR) in a system that satisfies all the following conditions may power on other PPARs too. <ul style="list-style-type: none"> - Remote power management is enabled with the <code>setremotepwrmgmt(8)</code> command. - A node is created whose SubNodeID is not set in a management item of remote power management. - Multiple PPARs are configured.
Workaround	If the system has multiple PPARs, create a management file for remote power management by specifying a PPAR-ID as a SubNodeID, and then register the remote power management settings with <code>setremotepwrmgmt -c config</code> .
RTI No.	RTIF2-170224-006
Model	SPARC M12-2S
Description	If XSCF switching or an XSCF reboot occurred while the physical partition (PPAR) was being powered off, it may be impossible to turn off the power.
Workaround	There is no effective workaround. While powering off the PPAR, do not use the <code>switchscf(8)</code> command for the switching or the <code>rebootxscf(8)</code> command for the XSCF reboot. [How to restore] Turn off the input power, and then turn it on again. (AC-OFF/ON)

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-007
Model	SPARC M12-2S
Description	<p>If a hardware failure occurs in a 4BB or greater configuration, automatic cluster switching may fail.</p> <p>If 16 or more guest nodes are incorporated into a single cluster, the following warning message may be output to the console of the control domain.</p> <p>SA SA_xscf????so to test host ??? failed</p>
Workaround	If automatic cluster switching fails, follow the procedure in the manual of the cluster software to perform switching manually.
RTI No.	RTIF2-170224-008
Model	SPARC M12-2S
Description	If XSCF switching occurs while multiple physical partitions (PPARs) are being powered on at the same time, it may take more than usual to power them on.
Workaround	<p>There is no effective workaround.</p> <p>Do not switch an XSCF by using the switchscf(8) command while PPARs are being powered on.</p>
RTI No.	RTIF2-170224-009
Model	SPARC M12-2S
Description	If the "SCF process down detected" error occurs on the standby XSCF while the XCP firmware is being updated, the "SCF panic detected" error may occur on the master XSCF.
Workaround	<p>There is no effective workaround.</p> <p>After the reboot of every XSCF has completed, execute the flashupdate command with the -f option specified to update the XCP firmware again.</p>
RTI No.	RTIF2-170224-010
Model	SPARC M12-2S
Description	If a low-voltage problem in the XSCF unit occurs on the master XSCF, automatic master/standby switching may not occur.
Workaround	<p>There is no effective workaround.</p> <p>If the master XSCF does not respond, execute the switchscf command with the -f option specified from the standby XSCF to forcibly switch the master/standby XSCF.</p> <p>[Example]</p> <p>XSCF> switchscf -t Master -f</p> <p>The XSCF unit switch between the Master and Standby states. Continue? [y n]:y</p> <p>After the master/standby switching, replace the non-responsive XSCF unit.</p>

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-011
Model	SPARC M12-2S
Description	<p>After the master XSCF switchover has completed, any of the following events may occur.</p> <p>[Event 1] When executed with the replacefru command, active replacement of the XSCF unit (XSCFU) in the SPARC M12-2S fails with [Warning:051] displayed. This problem does not occur in active replacement of the XSCFU in a crossbar box.</p> <p>[Event 2] After you execute the rebootxscf -a command to reboot all XSCFs, hardware errors may not be detectable.</p>
Workaround	<p>[Event 1] After the master XSCF switchover has completed, wait about 20 minutes and then execute the replacefru command. Or, power off the PPAR requiring maintenance, and then execute the replacefru command.</p> <p>[Event 2] After the master XSCF switchover has completed, wait about 20 minutes and then execute the rebootxscf command.</p> <p>[How to restore] Reboot all the XSCFs by executing the rebootxscf -a command.</p>
RTI No.	RTIF2-170224-012
Model	SPARC M12-2S
Description	<p>Suppose that you turn off/on (AC OFF/ON) the input power to the system when the execution results of the showstatus command show a component marked as a failure. After the power is turned on again, the failure mark of a chassis other than the master chassis may be cleared in the execution results of the showstatus command.</p> <p>This problem occurs when an error occurs in a chassis other than the master chassis in a system with building block configuration and also the four bytes from the beginning of the first field in [Code:] of the error log have the value of "*0" as shown below.</p> <p>[Example] Date: Xxx XX HH:MM:SS XXX YYYY Code: *****0-*****_*****</p>
Workaround	There is no effective workaround.

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-013																																																						
Model	SPARC M12-2S																																																						
Description	<p>Suppose that you make a reservation for the operating physical partition (PPAR), consisting of one system board (PSB), to be disconnected at the next PPAR restart time. After that, if this reservation is canceled, the following command message is output: "An internal error has occurred."</p> <p>This problem also occurs in the operating physical partition (PPAR), consisting of one system board (PSB), when the same PSB is specified to be configured.</p> <p>[Example]</p> <p>A reservation for disconnecting PSB#01-0, which is assigned to PPAR#01, is canceled.</p> <p>XSCF> deleteboard -y -c reserve 01-0</p> <p>PSB#01-0 will be unassigned from PPAR after the PPAR restarts.</p> <p>Continue?[y n] :y</p> <p>XSCF> showboards -av</p> <table><tr><th>PSB</th><th>R</th><th>PPAR-ID(LSB)</th><th>Assignment</th><th>Pwr</th><th>Conn</th><th>Conf</th><th>Test</th><th>Fault</th></tr><tr><td>00-0</td><td>-</td><td>00(00)</td><td>Assigned</td><td>y</td><td>y</td><td>y</td><td>Passed</td><td>Normal</td></tr><tr><td>01-0</td><td>*</td><td>01(00)</td><td>Assigned</td><td>y</td><td>y</td><td>y</td><td>Passed</td><td>Normal</td></tr></table> <p>XSCF> addboard -y -c configure -p 1 01-0</p> <p>PSB#01-0 will be configured into PPAR-ID 1. Continue?[y n] :y</p> <p>An internal error has occurred. Please contact your system administrator.</p> <p>XSCF> showboards -av</p> <table><tr><th>PSB</th><th>R</th><th>PPAR-ID(LSB)</th><th>Assignment</th><th>Pwr</th><th>Conn</th><th>Conf</th><th>Test</th><th>Fault</th></tr><tr><td>00-0</td><td>-</td><td>00(00)</td><td>Assigned</td><td>y</td><td>y</td><td>y</td><td>Passed</td><td>Normal</td></tr><tr><td>01-0</td><td>-</td><td>01(00)</td><td>Assigned</td><td>y</td><td>y</td><td>y</td><td>Passed</td><td>Normal</td></tr></table>	PSB	R	PPAR-ID(LSB)	Assignment	Pwr	Conn	Conf	Test	Fault	00-0	-	00(00)	Assigned	y	y	y	Passed	Normal	01-0	*	01(00)	Assigned	y	y	y	Passed	Normal	PSB	R	PPAR-ID(LSB)	Assignment	Pwr	Conn	Conf	Test	Fault	00-0	-	00(00)	Assigned	y	y	y	Passed	Normal	01-0	-	01(00)	Assigned	y	y	y	Passed	Normal
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01-0	-	01(00)	Assigned	y	y	y	Passed	Normal																																															
Workaround	Confirm the PSB to be specified when executing the addboard -c configure command. Also, ignore this error message since it has no effect on system operation.																																																						

RTI No.	RTIF2-170224-014
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	When executed while a POST diagnosis is in progress on a PPAR consisting of one system board (PSB), the console command may not display the console screen.
Workaround	<p>For a building block configuration, restart PPAR power-on, switch the master/standby XSCF, or reboot the master XSCF.</p> <p>For the SPARC M12-1, the SPARC M12-2, or the 1BB configuration with the SPARC M12-2S, power off the PPAR and then power it on again.</p>

RTI No.	RTIF2-170224-015
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	If data is transmitted via SSH by the snapshot(8) -t command, this transmission may be delayed by about 10 to 30 minutes in comparison with transfer using USB devices and XSCF Web.
Workaround	<p>There is no effective workaround.</p> <p>Even if transfer is delayed, there is no problem with the collected data.</p>

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-016
Model	SPARC M12-2S
Description	While in the process of adding or removing a system board (PSB) using the addboard(8) or deleteboard(8) command of the DR feature, if another physical partition is restarted due to hardware failure or the poweroff(8)/poweron(8)/reset(8) command is executed on it, the executed addboard(8) or deleteboard(8) command may detect timeout and terminate abnormally.
Workaround	<p>Do not execute the poweroff(8)/poweron(8)/reset(8) command while the addboard(8) or deleteboard(8) command is being executed. There is no effective workaround if any hardware failure occurs while executing DR.</p> <p>[How to restore]</p> <p>Check the status of the system board (PSB) using the showboards(8) command. Execute the addboard(8) or deleteboard(8) command after that.</p>
RTI No.	RTIF2-170224-017
Model	SPARC M12-2S
Description	While executing the poweroff(8)/poweron(8)/reset(8) command on a physical partition, if the addboard(8) or the deleteboard(8) command of the DR feature is executed on another physical partition to add or remove a system board (PSB), the addboard(8) or deleteboard(8) command may detect timeout and terminate abnormally.
Workaround	<p>Do not execute the addboard(8) or deleteboard(8) command while the poweroff(8)/poweron(8)/reset(8) command is being executed elsewhere. There is no effective workaround if DR is executed while also executing power supply operations on another physical partition.</p> <p>[How to restore]</p> <p>Perform the following procedure.</p> <ol style="list-style-type: none"> 1. Execute the showboards(8) command. 2. Check the Pwr/Conn/Conf/Test status of the system board (PSB) to confirm the end of power operations as follows: <ul style="list-style-type: none"> - Power-on/Reset completed The Pwr/Conn/Conf/Test status is "y y y passed" respectively. - Power-off completed: The Pwr/Conn/Conf status is "n n n" respectively. 3. Re-execute the addboard(8) or the deleteboard(8) command.

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-018
Model	SPARC M12-2S
Description	<p>When the replacefru(8) or addfru(8) command is executed for the addition of a SPARC M12-2S or crossbar box, the following message is output and the addition may fail.</p> <p>For replacefru(8): [Warning:036] Failed to find BB#x. The BB-ID setting and/or the cable connections of the BB#1 will be wrong. Please confirm the BB-ID setting and the cable connections. Do you want to try to replace BB#x again? [r:replace c:cancel] :</p> <p>For addfru(8): [Warning:036] Failed to find BB#x. The BB-ID setting and/or the cable connections of the BB#x will be wrong. Please confirm the BB-ID setting and the cable connections. Do you want to try to add BB#x again? [a:add c:cancel] :</p>
Workaround	<p>After executing the replacefru(8) or addfru(8) command and the following maintenance menu message appears, turn on the input power to the SPARC M12-2S or crossbar box being added. Then, wait 20 minutes before performing the next operation (step 4 for replacefru(8), or step 2 for addfru(8)).</p> <p>For replacefru(8): Please execute the following steps: 1) Remove (Delete) the BB#x from a system. 2) Turn off the breaker of the BB#x. 3) After the exchanged device is connected with the system, turn on the breaker of the BB#x. 4) Please select[f:finish] :</p> <p>For addfru(8): Please execute the following steps: 1) After the added device is connected with the system, please turn on the breaker of the BB#x. 2) Please select[f:finish] :</p> <p>[How to restore] For replacefru(8): Enter "r" in response to the "[r:replace c:cancel]:" message, and re-execute the replacefru(8) command. For addfru(8): Enter "a" in response to the "[a:add c:cancel]:" message, and re-execute the addfru(8) command.</p>

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-019
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>While XSCF is starting after being powered on, watchdog timeout may occur and XSCF is rebooted. After this reboot is completed, the configuration information of the components mounted on the system cannot be checked by the showhardconf(8) command.</p> <p>Moreover, error logs regarding the following configurations may be registered.</p> <p>Msg:Indispensable parts are not installed (PSU).</p> <p>Msg:Indispensable parts are not installed (FAN).</p> <p>Msg:Indispensable parts are not installed (OPNL).</p> <p>Msg:PSU shortage</p> <p>Msg:FAN shortage</p>
Workaround	<p>There is no effective workaround.</p> <p>[How to restore]</p> <p>Re-execute power off and on.</p>
RTI No.	RTIF2-170224-020
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>In the OID information of scfComponentStatusEvent in the definition file of XSCF extended MIB, the path information of the suspected components may be denoted as "unspecified" in the trap notification.</p> <p>This symptom occurs when the FaultEventCode information of the OID is any of the following:</p> <p>05018113</p> <p>05018123</p> <p>05018133</p> <p>05018211</p> <p>05018221</p> <p>05018231</p>
Workaround	<p>There is no effective workaround. Execute the showlogs error command to confirm the suspected location.</p>
RTI No.	RTIF2-170224-021
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>At the XSCF reboot time, the error message "snmpd[XXXXX] svrSP: error doAction ACTION_CONTROL_LED" regarding SNMP may appear on the XSCF serial terminal.</p>
Workaround	<p>There is no effective workaround.</p> <p>Ignore this message.</p>

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-022
Model	SPARC M12-2S
Description	<p>At the time of replacement or cold replacement of the XSCFU or cold addition of the SPARC M12-2S, if the following conditions are met, "XCP firmware version synchronization failed" may be registered in the event log as the maintenance or addition fails.</p> <ul style="list-style-type: none"> - Multiple XSCFUs or SPARC M12 units are cold replaced or cold added at one time. - The XCP version of a replacement component does not match that of the master XSCF.
Workaround	<p>For cold replacement or cold addition of two or more XSCFUs or SPARC M12 units, execute the <code>replacefru(8)</code> or <code>addfru(8)</code> command, and perform the operations one by one.</p> <p>[How to restore]</p> <p>Execute any of the following procedures.</p> <ul style="list-style-type: none"> - Procedure 1 <ul style="list-style-type: none"> 1. Perform AC OFF/ON. 2. Execute the <code>flashupdate(8)</code> command, specifying the XCP version. <p>XSCF> flashupdate -c update -m xcp -s xxxx -f xxxx is the XCP version of the master XSCF.</p> <ul style="list-style-type: none"> - Procedure 2 <ul style="list-style-type: none"> Execute the <code>replacefru(8)</code> command to perform a pseudo replacement of the XSCFU or SPARC M12-2S that failed to be cold replaced.
RTI No.	RTIF2-170224-023
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>If XSCF login is performed with an XSCF user account, whose privileges are managed by an LDAP server, specified by the <code>setldap(8)</code> command, execution of commands in the XSCF shell or operations on XSCF Web may take a while.</p>
Workaround	<p>In the case of an LDAP server, specified by the <code>setldap(8)</code> command, there is no effective workaround.</p> <p>Specify the LDAP server with the <code>setldapssl(8)</code> command.</p>
RTI No.	RTIF2-170224-024
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>In case of SNMPv3, if the trap host name registered by the <code>setsnmp(8)</code> command contains a colon (:), it does not show up properly by the <code>showsnmp(8)</code> command.</p> <p>[Example]</p> <p>In case the trap host name is "test:example.com", the host name is shown as "test" and port number is shown as "0".</p>
Workaround	<p>In case of SNMPv3, do not register a trap host name with the <code>setsnmp(8)</code> command, that contains a colon (:).</p> <p>If such a trap host name has already been registered, use the following command to remove the trap host name:</p> <pre>setsnmp remv3traphost -u 'username' -p 'port_number' trap_host_name</pre> <p>In such a case, be sure to specify a port number. If the port number is not specified when removing a trap host name that includes a colon(:), the "Entry does not exist" message is displayed and the trap host name is not removed. The port number specified at the time of removal should be the one, which is not wrongly displayed by the <code>showsnmp(8)</code> command, but the one specified at the time of registration.</p>

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-025					
Model	SPARC M12-2S					
Description	<p>Suppose that a SPARC M12-2S (system board: PSB) has been degraded due to a failure in a physical partition (PPAR) consisting of several SPARC M12-2S units. After that, if the PPAR is not powered off before the setpciboxdio(8) command is executed to disable/enable the direct I/O function of the PCI card mounted in the PCI expansion unit connected to the degraded chassis, the following message is output and the command fails.</p> <p>This operation cannot be done because the PPAR including a PSB of the target BB is powered on.</p> <p>This symptom occurs when the state of the PSB is like the following, which can be derived from the executed showhardconf(8) command or showboards(8) command.</p> <p>[Example] PSB#01-0 (BB#01) has been degraded.</p> <pre>XSCF> showhardconf ... * BB#01 Status:Deconfigured; ... XSCF> showboards -a PSB PPAR-ID(LSB) Assignment Pwr Conn Conf Test Fault ----- 01-0 00(01) Assigned n n n Passed Faulted</pre>					
Workaround	Use the replacefru(8) command to perform maintenance on the chassis where the degradation occurred. Then, make settings.					
RTI No.	RTIF2-170224-026					
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S					
Description	If the poweroff(8) command is executed and the master chassis XSCF is rebooted during the time that it takes for a prompt to be returned, the following power on/power off operation cannot be executed.					
Workaround	<p>There is no effective workaround.</p> <p>If this phenomenon occurs, turn off the input power to all chassis and then turn it on again.</p>					
RTI No.	RTIF2-170224-027					
Model	SPARC M12-2S					
Description	<p>With the system input power turned off, if the CPU memory unit lower (CMUL) is replaced or the SPARC M12-2S is added without using the maintenance menu, the following error log may be registered after automatic synchronization of XCP firmware versions.</p> <p>Alarm: :SCF:Gaps between XBBOX-ID</p> <p>Or</p> <p>Information: :SCF:Gaps between BB-ID</p>					
Workaround	<p>There is no effective workaround.</p> <p>Ignore this error log entry.</p>					

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-028
Model	SPARC M12-2S
Description	<p>After the input power is turned on with the XSCF DUAL control cable disconnected or faulty, data between the master and standby XSCFs is not synchronized even if the XSCF DUAL control cable is restored.</p> <p>System operation can continue. However, after master/standby XSCF switching, normal system operation is not guaranteed. This is because information in the old master XSCF is not reflected in the new XSCF.</p> <p>You can check, with the following error logs, whether the XSCF DUAL control cable is disconnected or faulty:</p> <ul style="list-style-type: none"> - The XSCF DUAL control cable is disconnected: Msg: BB control cable detected unexpected - The XSCF DUAL control cable is faulty Msg: Cannot communicate with the other XSCF
Workaround	<p>Before turning on the input power, confirm that the XSCF DUAL control cable is correctly inserted.</p> <p>Also, use the showlogs error command to confirm that the error logs shown in [Description] are not registered.</p> <p>[How to restore]</p> <p>If the XSCF DUAL control cable is disconnected, make sure that it is properly connected. Then, execute the rebootxscf -a command to reboot all XSCFs.</p> <p>If the XSCF DUAL control cable is faulty, replace the cable.</p>
RTI No.	RTIF2-170224-029
Model	SPARC M12-2S
Description	If the input power to the standby or slave chassis is turned off, a "Board control error (MBC link error)" error log may be registered.
Workaround	<p>There is no effective workaround.</p> <p>Ignore this error log entry.</p>
RTI No.	RTIF2-170224-031
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>When the input power of a PCI expansion unit is turned off (AC OFF), an error log is registered but, notification through SNMP trap or REMCS is not performed. You can confirm that the input power of the PCI expansion unit has been turned off, in the execution results of the showlogs error command, like the following output log.</p> <p>Date: Mar 10 20:03:05 JST 2017 Code: 10000400-00d4000000ff0000ff-1100002a0000000000000000 Status: Information Occurred: Mar 10 20:03:00.905 JST 2017 FRU: /BB#0/PCI#8/PCIBOX#2003/PSU#0 Msg: AC FAIL Diagnostic Code: 00083230 30330000 0000 00080000 00000000 0000 00080000 00000000 0000 00000000 00000000 00000000 00000000 00000000 00000000 0000</p>
Workaround	There is no effective workaround.

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-032
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>When the OS panics, a large volume of panic messages may be sent to the XSCF. In this case, the XSCF cannot handle the large volume of panic messages. As a result, the codd process fails and OS-panic error logs are registered in large quantities as shown below.</p> <p>[Example] OS panic and process failure error logs</p> <p>XSCF> showlogs error -v</p> <p>Date: Dec 20 14:44:26 JST 2013</p> <p>Code: 40000000-00ffff0000ff0000ff-01b900060000000000000000</p> <p>Status: Warning Occurred: Dec 20 14:44:26.513 JST 2013</p> <p>FRU: /UNSPECIFIED</p> <p>Msg: XSCF command: System status change (OS panic) (PPARID#00, path: 00)</p> <p>D diagnostic Code:</p> <p>00000000 00000000 0000</p> <p>00000000 00000000 0000</p> <p>00000000 00000000 0000</p> <p>00000000 00000000 00000000 00000000</p> <p>00000000 00000000 0000</p> <p>Date: Dec 20 15:00:01 JST 2013</p> <p>Code: 20000000-00fcff00b0000000ff-010400010000000000000000</p> <p>Status: Notice Occurred: Dec 20 14:59:56.838 JST 2013</p> <p>FRU: /FIRMWARE,/XBBOX#81/XSCFU</p> <p>Msg: SCF process down detected</p> <p>D diagnostic Code:</p> <p>00000000 00000000 0000</p> <p>51000000 00000000 0000</p> <p>00000000 00000000 0000</p> <p>636f6464 2e323537 382e627a 32000000</p> <p>00000000 00000000 0000</p> <p>You can check codd by confirming that the first four bytes on the fourth line of the [Diagnostic Code:] have the value 636f6464.</p>
Workaround	<p>There is no effective workaround.</p> <p>[How to restore]</p> <p>The system is restored when the XSCF is rebooted by codd process failure.</p>
RTI No.	RTIF2-170224-033
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>Description Suppose that a cluster system is built to meet the following conditions: it consists of multiple SPARC M12/M10 system chassis, each of which contains 10 or more guest domains (10 or more cluster nodes) running in one physical partition (PPAR). Moreover, PRIMECLUSTER software is installed on each of these guest domains. Alternatively, the cluster system consists of multiple PPARs inside the SPARC M12/M10 system chassis. Then, if the poweroff -f command is executed on one PPAR to forcibly power off that PPAR, the XSCF may slow down, panic, and then reboot.</p>
Workaround	<p>Confirm that the number of cluster nodes configured per PPAR existing in the SPARC M12/M10 system is fewer than 10 nodes.</p> <p>[How to restore]</p> <p>After an XSCF panic reboot, the poweroff command continues being processed, so the system can be used as is.</p>

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-034
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>With operations performed in the following order, the error message "An internal error has occurred. Please contact your system administrator." appears when the prtfru(8) command is executed. The command abnormally ends.</p> <ol style="list-style-type: none"> 1. Turn on the input power and execute the rebootxscf(8) or switchscf(8) command to start or reboot the XSCF. 2. Execute the snapshot(8) command. 3. Execute the prtfru(8) command.
Workaround	<p>After the XSCF is started or rebooted, execute the prtfru(8) command before executing the snapshot(8) command.</p> <p>[How to restore]</p> <p>Reboot all the XSCFs by executing the rebootxscf(8) command.</p>
RTI No.	RTIF2-170224-036
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>If the guest domain has been kept active for a long time, powering off and then powering on a physical partition (PPAR) may cause the guest domain time to deviate.</p> <p>This phenomenon occurs under the following conditions.</p> <ul style="list-style-type: none"> - A guest domain is configured (*1), and - a long period of time has passed after the ldm add-spconfig command was executed in Oracle VM Server for SPARC (*2), and - a physical partition power is turned on or reset. <p>*1 Time deviation does not occur on the control domain.</p> <p>*2 Time deviation comes to about 20 seconds per month.</p>
Workaround	<p>Immediately before powering off a physical partition or resetting it, execute the ldm addspconfig from Oracle VM Server for SPARC, and store the latest guest domain configuration information in XSCF.</p> <p>[How to restore]</p> <p>If the guest domain time deviates, boot Oracle Solaris in single user mode, and then synchronize the time.</p> <p>[Example] Setting of 18:30:00 on June 27, 2014 # date 0627183014.00</p> <p># date 0627183014.00</p>

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-037
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>Suppose that you execute any of the following on a system with a PCI expansion unit connected when the power to the physical partition is on. In such a case, an SNMP Trap related to the addition of the PCI expansion unit or the link card is sent by mistake.</p> <ul style="list-style-type: none"> - Reboot the XSCF - Switch the master/standby XSCF - Change the SNMP agent from the disabled state to the enabled state - Set the SNMP agent management information when the SNMP agent is enabled <p>In such a case, the following SNMP Traps are sent.</p> <ul style="list-style-type: none"> - PCI expansion unit addition scfPciBoxEvent scfTrapEventType=add(10) - Link card addition scfComponentEvent scfTrapEventType=add(10) <p>Similarly, the following SNMP Trap on the PCIe card addition is sent by mistake in a system with a PCIe card connected.</p> <ul style="list-style-type: none"> - PCIe card addition scfComponentEvent scfTrapEventType=add(10)
Workaround	<p>There is no effective workaround.</p> <p>This incorrect SNMP Trap sending does not affect the behavior of the PCI expansion unit or the PCIe card.</p>
RTI No.	RTIF2-170224-038
Model	SPARC M12-2S
Description	<p>For a successful firmware update, "Event: SCF:XCP update has been completed" is registered in the log at the XCP firmware update time. However, the firmware may not actually have been updated on some SPARC M12 units or crossbar boxes.</p>
Workaround	<p>There is no effective workaround. If any of the following conditions is true, update the XCP firmware again.</p> <ul style="list-style-type: none"> - Condition 1: "Updating XCP:XSCF updated (BBID=x, bank=y)" is not logged twice for each chassis, between the logging of "SCF:XCP update is started (XCP version=xxxx:last version=yyyy)" and "SCF:XCP update has been completed (XCP version=xxxx:last version=yyyy)". - Condition 2: A log indicating an error in a connected chassis is registered between the logging of "SCF:XCP update is started (XCP version=xxxx:last version=yyyy)" and "SCF:XCP update has been completed (XCP version=xxxx:last version=yyyy)". <p>[Example 1] XSCF>showlogs monitor -r Alarm: /XBBBOX#81/XSCFU:SCF:XSCF hang-up is detected</p> <p>[Example 2] XSCF>showlogs monitor -r Notice: /FIRMWARE,/BB#0/CMUL:SCF:SCF panic detected</p>

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-039
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>If available CPU resources in a physical partition (PPAR) have not been assigned when a CPU Activation Interim Permit expires, powering on the PPAR causes the PPAR to be reset repeatedly without power-on processing being suppressed.</p> <p>At this time, the following event log is registered repeatedly.</p> <p>SCF:PPAR-ID x: Reset</p> <p>SCF:SP-Config falling back to factory-default (PPARID 0 factor:0x1010000)</p> <p>SCF:PPAR-ID x: Reset released</p>
Workaround	<p>After a CPU Activation Interim Permit expires, execute the setinterimpermit disable command to disable the CPU Activation Interim Permit.</p> <p>To power on a PPAR, assign available CPU core resources in the PPAR.</p> <p>[How to restore]</p> <p>Perform the following procedure.</p> <ol style="list-style-type: none"> 1. Execute the poweroff -f command to forcibly power off the PPAR that is being reset repeatedly. 2. Execute the poweroff command (without -f) to power off all PPARs other than that described above. 3. Turn off/on (AC OFF/ON) the input power to every SPARC M12. 4. Execute the setinterimpermit disable command to disable the CPU Activation Interim Permit.
RTI No.	RTIF2-170224-040
Model	SPARC M12-2S
Description	<p>If the master XSCF hangs during replacement of the XSCF unit (XSCFU) in the SPARC M12, the following error may be wrongly detected when the input power to the system is turned off/on (AC OFF/ON) to restore the master XSCF.</p> <p>Date: Jan 16 01:39:17 JST 2017</p> <p>Code: 40002000-0075210000ff0000ff-019112200000000000000000</p> <p>Status: Warning Occurred: Jan 16 01:39:13.403 JST 2017</p> <p>FRU: /BB#0/CMUU</p> <p>Msg: Insufficient PUMP rotation speed</p>
Workaround	<p>There is no effective workaround.</p> <p>Turn off/on (AC OFF/ON) the input power to the system again.</p>

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-041
Model	SPARC M12-2S
Description	<p>If you execute a command listed in [Command list] during XSCF master/standby switching, the following problems occur.</p> <ul style="list-style-type: none"> - The XSCF that executes the command stops due to "BOARD ERROR." - You cannot power on the physical partition containing the PSB (BB) of the stopped XSCF described above. <p>You can confirm that XSCF master/standby switching is completed by executing the showhardconf command to check for "Normal" under [Status] of XBBOX or BB.</p> <p>[Command list] restoreconfig(8) rebootxscf(8) flashupdate(8) setdate(8) sethsmode(8)</p>
Workaround	<p>Do not execute any of the commands listed in [Command list] in [Description] during XSCF master/standby switching.</p> <p>[How to restore] Recover the system by performing the following procedure.</p> <ol style="list-style-type: none"> 1. Shut down Oracle Solaris on all logical domains. 2. Execute the poweroff -f command to forcibly power off all PPARs. 3. Turn off (AC OFF) the input power to every SPARC M12. 4. Turn on (AC ON) the input power to every SPARC M12.
RTI No.	RTIF2-170224-042
Model	SPARC M12-2S
Description	<p>Within 30 minutes after using the replacefru command for XSCF unit (XSCFU) replacement, if you execute the replacefru command specified with an XSCFU inside the same physical partition (PPAR), this replacement attempt fails.</p> <p>At this time, the "Warning:055" error appears.</p> <p>[Example] Error message of the replacefru command [Warning:055] BB#7/XSCFU cannot be Replacement.</p> <p>Because the PPAR is a possibility that the control domain is stopped for CoD resource violation.</p>
Workaround	<p>When replacing multiple XSCFUs inside the same PPAR, wait 30 minutes before replacing the next one.</p> <p>[How to restore] After the "Warning:055" error appears, wait 30 minutes, and then replace an XSCFU again.</p>

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-044
Model	SPARC M12-2S
Description	<p>If panic, process down, etc. occurs on the master XSCF during XSCF unit (XSCFU) replacement using the replacefru command, reboot or switching occurs in the master XSCF. At this time, XSCFU replacement work has not been completed. In this state, the execution of a command listed in [Command list] causes any of the following:</p> <ul style="list-style-type: none"> - The command fails, leading to an error, etc. - After master/standby XSCF switching, the master XSCF does not reflect the command setting information. <p>[Command list]</p> <p>addboard(8) addfru(8) addpowerschedule(8) clearremotepwrmgmt(8) deleteboard(8) deletepowerschedule(8) diagxbu(8) flashupdate(8) initbb(8) ioxadm(8) poweroff(8) poweron(8) rebootxscf(8) reset(8) restoreconfig(8) setcod(8) setdate(8) setpowerschedule(8) setpparmode(8) setremotepwrmgmt(8) setupfru(8) testsb(8) setinterimpermit(8) sethsmode(8)</p>
Workaround	<p>After the XSCF is rebooted, execute the replacefru command to complete the XSCFU replacement work.</p> <p>[How to restore]</p> <p>Recover the system by performing the following procedure.</p> <ol style="list-style-type: none"> 1. Shut down Oracle Solaris on all logical domains. 2. Execute the poweroff -f command to forcibly power off all PPARs. 3. Turn off (AC OFF) the input power to every SPARC M12. 4. Replace the XSCFU with a FRU. 5. Turn on (AC ON) the input power to every SPARC M12.

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-045																																																				
Model	SPARC M12-2S																																																				
Description	<p>Suppose that active replacement using the replacefru command is in progress for the XSCF unit (XSCFU). Meanwhile, if a failure occurs in the PPAR containing the SPARC M12 (PSB) where this XSCFU is mounted, the PPAR is restarted. Then, the PSB with the XSCFU being replaced is left powered on, and only this PSB is disconnected from the PPAR.</p> <p>After the PPAR is restarted, you can confirm the occurrence of this phenomenon by executing the showboards(8) command. Check for the display of "y" under Pwr, "n" under Conn, and "n" under Conf.</p> <p>[Example] PSB#03-0 is in the powered-on state, and the disconnection from the PPAR configuration causes an abnormal state</p> <p>XSCF> showboards -av</p> <table><tr><th>PSB</th><th>R</th><th>PPAR-ID(LSB)</th><th>Assignment</th><th>Pwr</th><th>Conn</th><th>Conf</th><th>Test</th><th>Fault</th></tr><tr><td>00-0</td><td></td><td>00(00)</td><td>Assigned</td><td>y</td><td>y</td><td>y</td><td>Passed</td><td>Normal</td></tr><tr><td>01-0</td><td></td><td>00(01)</td><td>Assigned</td><td>y</td><td>y</td><td>y</td><td>Passed</td><td>Normal</td></tr><tr><td>02-0</td><td></td><td>00(02)</td><td>Assigned</td><td>y</td><td>y</td><td>y</td><td>Passed</td><td>Normal</td></tr><tr><td>03-0</td><td></td><td>00(03)</td><td>Assigned</td><td>y</td><td>n</td><td>n</td><td>Passed</td><td>Normal</td></tr></table>								PSB	R	PPAR-ID(LSB)	Assignment	Pwr	Conn	Conf	Test	Fault	00-0		00(00)	Assigned	y	y	y	Passed	Normal	01-0		00(01)	Assigned	y	y	y	Passed	Normal	02-0		00(02)	Assigned	y	y	y	Passed	Normal	03-0		00(03)	Assigned	y	n	n	Passed	Normal
PSB	R	PPAR-ID(LSB)	Assignment	Pwr	Conn	Conf	Test	Fault																																													
00-0		00(00)	Assigned	y	y	y	Passed	Normal																																													
01-0		00(01)	Assigned	y	y	y	Passed	Normal																																													
02-0		00(02)	Assigned	y	y	y	Passed	Normal																																													
03-0		00(03)	Assigned	y	n	n	Passed	Normal																																													
Workaround	<p>There is no effective workaround.</p> <p>[How to restore]</p> <p>Recover the system by performing the following procedure.</p> <ol style="list-style-type: none">1. Shut down Oracle Solaris on all logical domains.2. Execute the poweroff -f command to forcibly power off all PPARs.3. Turn off (AC OFF) the input power to every SPARC M12.4. Replace the XSCFU being active replaced.5. Turn on (AC ON) the input power to every SPARC M12.																																																				

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-046
Model	SPARC M12-2S
Description	<p>Suppose that you execute the deleteboard command to disconnect the system board (PSB) from the operating physical partition (PPAR). At this timing, if a failure occurs in the PSB being disconnected, the deleteboard command ends normally without the Fatal reboot of the operating PPAR.</p> <p>Actually, the PSB failed to be disconnected, so if system operation continues as is, an error may occur in the operating PPAR.</p> <p>After "BB-ID n: Reset" appears in the event log, you can confirm the occurrence of this phenomenon by looking for an error occurrence and the display of "Reset retry."</p> <p>[Example] The "Abnormal reaction of CPU" error has occurred in the PSB being disconnected.</p> <p>XSCF> showlogs monitor</p> <p>Dec 9 16:36:38 M12-2 Event: SCF:PPAR-ID 0: PSB#03-0 deleteboard started</p> <p>Dec 9 16:36:38 M12-2 Event: SCF:PPAR-ID 0: PSB#03-0 is disconnected (deleteboard)</p> <p>Dec 9 16:36:41 M12-2 Event: SCF:PPARID 0 GID 00000001 state change (Solaris suspended)</p> <p>Dec 9 16:36:41 M12-2 Event: SCF:PPARID 0 GID 00000002 state change (Solaris suspended)</p> <p>Dec 9 16:36:42 M12-2 Event: SCF:PPARID 0 GID 00000003 state change (Solaris suspended)</p> <p>Dec 9 16:36:43 M12-2 Event: SCF:PPARID 0 GID 00000001 state change (Solaris running)</p> <p>Dec 9 16:36:44 M12-2 Event: SCF:PPARID 0 GID 00000002 state change (Solaris running)</p> <p>Dec 9 16:36:44 M12-2 Event: SCF:PPARID 0 GID 00000003 state change (Solaris running)</p> <p>Dec 9 16:37:16 M12-2 Event: SCF:BB-ID 3: Reset</p> <p>Dec 9 16:38:40 M12-2 Warning: /BB#3/CMUU:SCF:Abnormal reaction of CPU (compare) Dec 9 16:38:47 M12-2 Warning: /BB#3/CMUL:SCF:Abnormal reaction of CPU (compare) Dec 9 16:38:48 M12-2 Event: SCF:Reset retry</p> <p>Dec 9 16:39:57 M12-2 Event: SCF:PPAR-ID 0: PSB#03-0 deleteboard completed</p>
Workaround	<p>There is no effective workaround.</p> <p>After resetting the PPAR with the reset -p x por command or after powering off the PPAR with the poweroff command, power on the PPAR with the poweron command to restore the system.</p>
RTI No.	RTIF2-170224-047
Model	SPARC M12-2S
Description	<p>If BB#01 is the master XSCF, the slave chassis may not be recognized when the input power is turned on (AC ON) under any of the following conditions:</p> <ul style="list-style-type: none"> - The XSCF BB control cable between BB#00 and the slave XSCF is disconnected. - The XSCF BB control cable between BB#00 and the slave XSCF is faulty.
Workaround	<p>Turn off (AC OFF) the input power to the system, and either confirm that the XSCF BB control cable is connected or replace this cable. Then, turn on (AC ON) the input power to the system.</p>

Table 3-5 Problems That Might Occur With XCP 3060 and Workarounds (*continued*)

RTI No.	RTIF2-170224-049
Model	SPARC M12-2S
Description	<p>Suppose that a physical partition (PPAR) consisting of multiple SPARC M12-2S (BB) units is operating. If one of the BBs loses power during this time, the PPAR has to be reset in order for the PPAR to operate continuously with the other BBs that still have power.</p> <p>If the BB that lost power performs power recovery while the PPAR is being reset, it may interrupt the PPAR reset and power off the PPAR.</p> <p>At this time, the following error log is registered.</p> <p>Date: Oct 03 13:19:55 JST 2016</p> <p>Code: 40000000-00fcff0000ff0000ff-0192ffff0000000000000000</p> <p>Status: Warning Occurred: Oct 03 13:19:50.293 JST 2016</p> <p>FRU: /FIRMWARE</p> <p>Msg: LSI control error (SP internal)</p>
Workaround	<p>There is no effective workaround.</p> <p>[How to restore]</p> <p>Execute the poweron command to power on the PPAR.</p>
RTI No.	RTIF2-170224-050
Model	SPARC M12-2S
Description	<p>Suppose that XSCF unit (XSCFU) replacement using the replacefru(8) command has failed. If you leave that situation as it is and try to replace another XSCFU, a retry to replace the previous failed XSCFU fails again.</p>
Workaround	<p>If XSCFU replacement using the replacefru(8) command fails, try again to replace the same XSCFU until you are successful.</p> <p>Meanwhile, do not replace the other XSCFUs.</p>

Problems Resolved in XCP 3060

The following table lists the problems resolved in XCP 3060.

Table 3-6 Problems Resolved in XCP 3060

RTI No.	RTIF2-181211-001
Model	SPARC M12-2, SPARC M12-2S
Description	After XSCF unit replacement where the SD card is inherited, powering on a physical partition may cause the logical domain time to deviate. This symptom occurs when the setting specifying the XSCF as an NTP client is enabled for the SPARC M12-2 or the 1BB configuration with the SPARC M12-2S.
Workaround	There is no effective workaround. Set the correct time for logical domains when powering on the physical partition after the XSCFU replacement.
RTI No.	RTIF2-181211-002
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	Immediately after completion of the initial POST diagnosis during physical partition (PPAR) power-on, "POST Diag complete from PPAR" appears in the event log. For the power-off instruction issued at this time, "shutdown started" appears in the event log even though the PPAR is powered off 20 hours later. Consequently, the PPAR may be forcibly powered off while the OS is running.
Workaround	Perform any of the following workarounds: <ul style="list-style-type: none">- To power off the PPAR while it is being powered on, use the -f option to forcibly power it off.- If the PPAR cannot be powered off, shut down Oracle Solaris on all logical domains after Oracle Solaris startup.
RTI No.	RTIF2-181211-003
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	Security fixes.
Workaround	Update the XCP firmware to XCP 3060 or later.

Problems Resolved in XCP 3053

The following table lists the problems resolved in XCP 3053.

RTI No.	RTIF2-180926-001
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>An application may dump core because of misaligned data access, even if it is compiled by Oracle Developer Studio (Oracle Solaris Studio) with the -m64 option and any of the following options specified:</p> <ul style="list-style-type: none"> -xmemalign=2i -xmemalign=4i -xmemalign=8i -xmemalign=16i <p>Details regarding the Oracle Solaris and compiler versions are as follows:</p> <p>[Oracle Solaris 10 environment]</p> <ul style="list-style-type: none"> - All versions of Oracle Solaris 10 - All versions of Oracle Developer Studio (Oracle Solaris Studio) <p>[Oracle Solaris 11 environment]</p> <ul style="list-style-type: none"> - Oracle Solaris 11.1 or later - Oracle Solaris Studio 12.3 or earlier (except Oracle Developer Studio 12.3 1/13 Platform Specific Enhancements) <p>[How to check the compiler version]</p> <p>The -V option shows version information. The date is output at the end of version notation. The compiler version that causes this bug is 2013/10/18 or older.</p> <pre>\$ cc -V cc: Sun C 5.12 SunOS_sparc Patch 148917-07 2013/10/18</pre> <p>Workaround Update the XCP firmware to XCP 3053 or later.</p>
RTI No.	RTIF2-180914-001
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>In a system with sixteen (maximum) 8 GB DIMMs mounted in the MBU (SPARC M12-1) or the CMUL or CMUU (SPARC M12-2/SPARC M12-2S), the following error may be wrongly detected when the physical partition (PPAR) is powered off. Then, the PPAR cannot be powered on. This symptom occurs when 8 GB DIMMs have been added or moved to the system.</p> <p>[Example 1] MBU (SPARC M12-1) error log</p> <pre>XSCF> showlogs error -v Date: Sep 03 16:16:45 JST 2018 Code: 40002008-001b110000ff0000ff-018f00010000000000000000 Status: Warning Occurred: Sep 03 16:16:43.153 JST 2018 FRU: /MBU Msg: Power-off failure Diagnostic Code: 00020000 00000000 0000 00000000 00000000 0000 00000000 00000000 0000 00000909 4d801048 00000010 00000015 00000000 00000000 0000</pre> <ul style="list-style-type: none"> - You can confirm that the 5th and 6th bytes from the beginning of [Code:] are 001b and the 2nd byte on the first line of [Diagnostic Code:] is 02.

Table 3-7 Problems Resolved in XCP 3053 (continued)

[Example 2] CMUL (SPARC M12-2/SPARC M12-2S) error log

```
XSCF> showlogs error -v
Date : Sep 03 15:09:56 JST 2018
Code: 40002008-0052220000ff0000ff-018f00010000000000000000
Status: Warning Occurred: Aug 17 15:09:52.363 JST 2018
FRU: /BB#0/CMUL
Msg: Power-off failure
Diagnostic Code:
00000000 00000000 0000
00000000 00000000 0000
00000000 00000000 0000
00000676 4df01608 00000010 00000025
00000000 00000000 0000
```

- You can confirm that the 5th and 6th bytes from the beginning of [Code:] are 0052 and the 3rd byte on the first line of [Diagnostic Code:] is 00.

[Example 3] CMUU (SPARC M12-2/SPARC M12-2S) error log

```
XSCF> showlogs error -v
Date: Sep 03 15:09:56 JST 2018
Code: 40002008-0070220000ff0000ff-018f00010000000000000000
Status: Warning Occurred: Aug 17 15:09:52.540 JST 2018
FRU: /BB#0/CMUU
Msg: Power-off failure
Diagnostic Code:
00000000 00000000 0000
00000000 00000000 0000
00000000 00000000 0000
00000666 10001b10 00000010 00000025
00000000 00000000 0000
```

- You can confirm that the 5th and 6th bytes from the beginning of [Code:] are 0070 and the 3rd byte on the first line of [Diagnostic Code:] is 00.

[How to restore]

Turn off the input power, and then turn it on again. (AC-OFF/ON)

Workaround Update the XCP firmware to XCP 3053 or later.

Problems Resolved in XCP 3052

The following table lists the problems resolved in XCP 3052.

Table 3-8 Problems Resolved in XCP 3052

RTI No.	RTIF2-180704-002
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	Security fixes. (CVE-2018-3639)
Workaround	Update the XCP firmware to XCP 3052 or later. If the firmware is updated while the power to the physical partition is on, power off and then power on the physical partition.

Problems Resolved in XCP 3051

The following table lists the problems resolved in XCP 3051.

Table 3-9 Problems Resolved in XCP 3051

RTI No.	RTIF2-180403-002
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	Security fixes. (CVE-2017-5753) For details, see the Oracle website relating to the following: <i>Critical Patch Updates</i>
Workaround	Update the XCP firmware to XCP 3051 or later.

Problems Resolved in XCP 3050

The following table lists the problems resolved in XCP 3050.

Table 3-10 Problems Resolved in XCP 3050

RTI No.	RTIF2-180525-002
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	Security fixes. (CVE-2017-1000254, CVE-2015-3144, CVE-2015-3145, CVE-2015-3153, CVE-2015-3236, CVE-2015-3237, CVE-2016-0755, CVE-2016-3739, CVE-2016-5419, CVE-2016-5420, CVE-2016-5421, CVE-2016-7167, CVE-2016-7141, CVE-2016-8615, CVE-2016-8616, CVE-2016-8617, CVE-2016-8618, CVE-2016-8619, CVE-2016-8620, CVE-2016-8621, CVE-2016-8622, CVE-2016-8623, CVE-2016-8624, CVE-2016-9586, CVE-2017-7407) For details, see the Oracle website relating to the following: <i>Critical Patch Updates</i>
Workaround	Update the XCP firmware to XCP 3050 or later.
RTI No.	RTIF2-180220-001
Model	SPARC M12-1

Table 3-10 Problems Resolved in XCP 3050 (continued)

Description	<p>After a physical partition (PPAR) is powered on, the Dual 10Gigabit Ethernet card (10GBase-T) may not be recognized. [Error message example] XSCF> showlogs error Date: Nov 06 13:05:58 JST 2017 Code: 40002000-0019ff002e110000ff-020024350000000000000000 Status: Warning Occurred: Nov 06 13:05:58.901 JST 2017 FRU: /MBU/PCI#2,/MBU Msg: PCI Express link not active</p>
Workaround	<p>There is no effective workaround. [How to restore] Power off the physical partition (PPAR) and power it on again.</p>
RTI No.	RTIF2-180220-002
Model	SPARC M12-1
Description	<p>showhardconf may not properly display the Subsystem_Vendor-ID or Subsystem-ID of the graphics card. [Display example: showhardconf] XSCF> showhardconf : PCI#2 Name_Property:pci; + Vendor-ID:104c; Device-ID:8231; + Subsystem_Vendor-ID:0000; Subsystem-ID:0000; + Model;; :</p>
Workaround	<p>Ignore this message because there is no impact on system operation.</p>

Table 3-10 Problems Resolved in XCP 3050 (*continued*)

RTI No.	RTIF2-180214-001
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>In a system where 64 GB DIMMs are mounted, powering on a physical partition (PPAR) may cause a diagnosis failure with either of the following entries output to the error log.</p> <p>Date: Nov 14 07:12:58 JST 2017 Code: 40002000-004b870134110000ff-020014260000000000000000 Status: Warning Occurred: Nov 14 07:12:58.317 JST 2017 FRU: /BB#0/CMUL/MEM#04B,/BB#0/CMUL Msg: Window size is too small (read VrefDQ training)</p> <p>Date: Oct 24 16:48:46 JST 2017 Code: 40002000-004b870134110000ff-020014240000000000000000 Status: Warning Occurred: Oct 24 16:48:46.655 JST 2017 FRU: /BB#0/CMUL/MEM#05A,/BB#0/CMUL Msg: Address not found (PRBS access)</p> <p>This symptom occurs when any of the following work has been performed:</p> <ul style="list-style-type: none"> - Adding 64 GB DIMMs (including changes to 64 GB DIMMs to expand capacity) - Adding a CPU module (CPU memory unit upper (CMUU)) with 64 GB DIMMs mounted - Adding a SPARC M12-2S with 64 GB DIMMs mounted, into a building block configuration <p>Note - This symptom also occurs when 64 GB DIMMs are moved to the current system from another system.</p>
Workaround	Update the XCP firmware to XCP 3050 or later.
RTI No.	RTIF2-170626-002
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>When only the host node (SPARC M12) loses power and then recovers, the ETERNUS power is turned off once. At this time, the ETERNUS power stays off even after the power to the physical partition (PPAR) is turned on.</p> <p>This may occur when the remote power management function (RCIL) is enabled on the SPARC M12 system connected to the ETERNUS.</p>
Workaround	<p>There is no effective workaround.</p> <p>If the ETERNUS power is off, turn off and on the PPAR again to recover.</p>

Table 3-10 Problems Resolved in XCP 3050 (continued)

RTI No.	RTIF2-170224-051
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>If the poweroff -f command is executed while the physical partition (PPAR) is restarting, the next execution of the poweron command may cause an error that does not allow the PPAR to be powered on.</p> <p>[Example] The PPAR cannot be powered on.</p> <pre>XSCF> poweron -p 0 PPAR-IDs to power on :00 Continue? [y n] :y 00 : Not powering on : An internal error has occurred. Please contact your system administrator.</pre>
Workaround	<p>Before executing the poweroff -f command, use the showpparprogress command to check the status of the target PPAR.</p> <p>If "PPAR reset" is displayed at this point, it means that the target PPAR is restarting. The PPAR restart is completed by the time that "The sequence of power control is completed." appears.</p> <p>Until this message appears, do not execute the poweroff -f command.</p> <p>If "This PPAR is powered on." or "This PPAR is powered off." appears, the PPAR has not been restarted.</p> <p>[Example] The PPAR restart has completed.</p> <pre>XSCF> showpparprogress -p 0 PPAR reset PPAR#0 [1/13] : CPU Start PPAR#0 [13/13] The sequence of power control is completed. XSCF></pre> <p>[How to restore]</p> <p>Turn off the input power to the system, wait 30 seconds, and then turn it on again. (AC OFF/ON)</p>

Problems Resolved in XCP 3040

The following table lists the problems resolved in XCP 3040.

Table 3-11 Problems Resolved in XCP 3040

RTI No.	RTIF2-170801-001
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>If the reporting function by REMCS is used, any of the following symptoms may very rarely occur if the XSCF is not rebooted for a long time.</p> <ul style="list-style-type: none">- The power of the physical partition is not turned on.- Reporting by REMCS is not conducted.- A REMCS periodical connection timeout occurs.- The error message "An internal error has occurred." appears when an XSCF command is executed, and the command fails.
Workaround	<p>Reboot all of the XSCFs by executing the rebootxscf -a command.</p> <p>At this time, it is not necessary to power off the physical partition.</p>

Table 3-11 Problems Resolved in XCP 3040 (*continued*)

RTI No.	RTIF2-170801-002
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>Even when the XCP firmware has been updated, the old XCP firmware version before the update may be displayed for the following cases:</p> <ul style="list-style-type: none"> - The [VERSION] button on XSCF Web is selected. - The prtdiag -v command is executed on Oracle Solaris. <p>In either case, the new XCP firmware version is displayed after the XSCF is rebooted; however, the following message appears at each XSCF login.</p> <p style="padding-left: 40px;">XCP version of XSCF and Back-Panel mismatched!</p>
Workaround	<p>There is no effective workaround.</p> <p>[How to restore]</p> <p>Update the firmware again.</p> <p>To update the firmware with the flashupdate command, specify the -f option.</p>
RTI No.	RTIF2-170508-006
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	The error log with a "LINKCARD I2C error" may inadvertently be registered during firmware update for a PCI expansion unit.
Workaround	<p>There is no effective workaround.</p> <p>Ignore this error log entry.</p> <p>The firmware update for the PCI expansion unit will succeed.</p>
RTI No.	RTIF2-170428-002
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	Suppose you close the browser prematurely while collecting a snapshot from the XSCF Web and then execute the snapshot command to collect a snapshot on the XSCF shell. The newly executed command terminates normally but logs are not collected in the snapshot.
Workaround	To collect a snapshot after you close the browser while collecting a snapshot from the XSCF Web, collect it from the XSCF Web again or wait about an hour after closing the browser to execute the snapshot command.

Problems Resolved in XCP 3030

The following table lists the problems resolved in XCP 3030.

Table 3-12 Problems Resolved in XCP 3030

RTI No.	RTIF2-171013-002
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>Security fixes. (CVE-2016-6304, CVE-2016-2182, CVE-2016-2183, CVE-2016-6302, CVE-2016-6306, CVE-2016-6515, CVE-2017-3731, CVE-2016-7431, CVE-2016-7429, CVE-2016-7433) For details, see the Oracle website relating to the following: <i>Critical Patch Updates</i></p>
Workaround	Update the XCP firmware to XCP 3030 or later.
RTI No.	RTIF2-170522-001
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>Booting from an external DVD drive may fail. [Example of output message] {0} ok boot /pci@8100/pci@4/pci@0/pci@8/usb@0/cdrom@6/disk@0 Boot device: /pci@8100/pci@4/pci@0/pci@8/usb@0/cdrom@6/disk@0 File and args: Can't open boot device</p>
Workaround	<p>To avoid this problem, perform the following procedure.</p> <ol style="list-style-type: none"> 1. Stop OpenBoot PROM at the ok prompt. 2. Perform the following steps to change the OpenBoot PROM environment variable nvramrc. <ol style="list-style-type: none"> a. Execute the nvedit command, and write nvramrc as shown below. <pre>{0} ok nvedit 0: : patch-zero 0 to my-adr0 0 ; 1: ' patch-zero ' 0 ' new-instance d# 28 + token@ (patch</pre> b. Press the [Ctrl] + [C] keys to exit nvedit and return to the ok prompt. c. Execute nvstore to save the edited contents. <pre>{0} ok nvstore</pre> d. Check whether nvramrc was written correctly. <pre>{0} ok printenv nvramrc nvramrc = : patch-zero 0 to my-adr0 0 ; ' patch-zero ' 0 ' new-instance d# 28 + token@ (patch</pre> 3. Set the OpenBoot PROM environment variable use-nvramrc? to true. <pre>{0} ok setenv use-nvramrc? true use-nvramrc? = true</pre> 4. Execute the reset-all command to restart OpenBoot PROM. <pre>{0} ok reset-all</pre> <p>After executing the reset-all command and the system stops at the ok prompt, boot from a DVD drive.</p> <p>Example: Booting from a DVD drive connected to a front USB port <pre>{0} ok boot /pci@8100/pci@4/pci@0/pci@8/usb@0/cdrom@6/disk@0</pre></p> <p>To return the above setting described in [Workaround] to its original state, perform the following steps.</p> <ol style="list-style-type: none"> 1. Stop OpenBoot PROM at the ok prompt. 2. Delete the set contents from the OpenBoot PROM environment variable nvramrc. <ol style="list-style-type: none"> a. Execute nvedit to delete ": patch-zero 0 to my-adr0 0 ;" and "' patch-zero ' 0 ' new-instance d# 28 + token@ (patch" from nvramrc. You can delete lines one by one by

Table 3-12 Problems Resolved in XCP 3030 (*continued*)

	<p>pressing the [Ctrl] + [K] keys twice at the beginning of a line.</p> <p>{0} ok nvedit</p> <p>0:</p> <p>b. Press the [Ctrl] + [C] keys to exit nvedit and return to the ok prompt.</p> <p>c. Execute nvstore to save the edited contents.</p> <p>{0} ok nvstore</p> <p>d. Check whether the nvramrc setting was deleted correctly.</p> <p>{0} ok printenv nvramrc</p> <p>nvramrc =</p> <p>{0} ok</p> <p>3. Set the OpenBoot PROM environment variable use-nvramrc? to false. If it has been set to true before the workaround was performed, this step is unnecessary.</p> <p>{0} ok setenv use-nvramrc? false</p> <p>use-nvramrc? = false</p> <p>{0} ok</p> <p>4. Execute the reset-all command to restart OpenBoot PROM.</p> <p>{0} ok reset-all</p>
RTI No.	RTIF2-170511-001
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	If a CPU failure or memory failure occurs, the OS on a logical domain using the faulty CPU or memory may hang.
Workaround	There is no effective workaround.
RTI No.	RTIF2-170224-048
Model	SPARC M12-2S
Description	<p>In a system with a building block configuration, the following error log may be registered when the input power is turned on (AC ON) or the rebootxscf -a command is used.</p> <p>XSCF data synchronization failed</p> <p>At this time, the physical partition cannot be powered on.</p>
Workaround	<p>There is no effective workaround.</p> <p>Reboot all the XSCFs by using the rebootxscf -a command.</p>

Table 3-12 Problems Resolved in XCP 3030 (continued)

RTI No.	RTIF2-170224-035
Model	SPARC M12-2, SPARC M12-2S
Description	<p>If the setsnmp command tries to set enabled immediately after disabled was set, the "Agent enable failed" message may appear, and the command may fail.</p> <p>This may cause the following phenomena.</p> <ol style="list-style-type: none">1. If it is left as it is, the error log of "SCF panic detected" is registered and the XSCF is rebooted.2. The setting has not been reflected, so if the showsnmp command is executed, it displays "Enabled" for "Agent Status" and "None" for "Enabled MIB Modules."3. If the showsnmp command is executed, it displays "Enabled" for "Agent Status" and "SP MIB" for "Enabled MIB Modules." However, the setting has not actually been reflected, so rebooting the XSCF causes "None" to be displayed for "Enabled MIB Modules."4. The setting has not been reflected, so when the showsnmp command displays "None" for "Enabled MIB Modules," the system using the cluster software detects the following error: "FJSVcluster: Error: DEV: 7240: Cannot connect to the XSCF." [Example] After the setsnmp command fails, the setting is not reflected. XSCF> setsnmp disable XSCF> setsnmp enable setsnmp: Agent enable failed XSCF> showsnmp <p>Agent Status: Enabled Agent Port: 161 System Location: System-Location System Contact: System-Contact : Status: Enabled Community String: public</p> <p>Enabled MIB Modules: None XSCF></p> <p>Similarly, this problem also occurs when the setsnmpusm command or setsnmpvacm command is executed to change the setting while the SNMP setting is enabled.</p>
Workaround	<p>To change the setting to enabled after it was changed to disabled, wait at least 30 seconds, the minimum interval.</p> <p>To change the setting with the setsnmpusm command or setsnmpvacm command, temporarily change the SNMP setting to disable, and then wait at least 30 seconds, the minimum interval.</p> <p>[How to restore]</p> <p>Temporarily set disable with the setsnmp command, and then wait at least 30 seconds, the minimum interval, to set enable.</p> <p>Next, execute the showsnmp, setsnmpusm, or showsnmpvacm command to confirm that the setting has been reflected as expected.</p>

Table 3-12 Problems Resolved in XCP 3030 (*continued*)

RTI No.	RTIF2-170224-043
Model	SPARC M12-2, SPARC M12-2S
Description	<p>Normally, the occurrence of a memory configuration error is supposed to degrade all memory under the CPU. However, some memory has not been degraded. Powering on the PPAR at this time may register the non-degraded memory in an error log.</p> <p>[Example] The MEM#02B memory has been unmounted but the MEM#xxA memory is not degraded.</p> <pre>XSCF> showstatus BB#00 Status:Normal; CMUL Status:Normal; * MEM#00B Status:Deconfigured; * MEM#01B Status:Deconfigured; * MEM#03B Status:Deconfigured; * MEM#04B Status:Deconfigured; * MEM#05B Status:Deconfigured; * MEM#06B Status:Deconfigured; * MEM#07B Status:Deconfigured;</pre> <p>[Example] Example of an error log</p> <pre>XSCF> showlogs error Date: Nov 22 10:57:37 JST 2016 Code: 40002000-004b830134110000ff-020014210000000000000000 Status: Warning Occurred: Nov 22 10:57:37.190 JST 2016 FRU: /BB#0/CMUL/MEM#03A,/BB#0/CMUL Msg: Failed to find write cycle adjustment value Diagnostic Code: 00000300 00000000 0000 00000001 00000000 0000</pre>
Workaround	<p>Before powering on the PPAR, execute the showhardconf command and confirm that the memory is correctly mounted in accordance with memory mounting rules.</p> <p>Remount any memory that is not correctly mounted.</p> <p>[How to restore]</p> <p>Remount the memory correctly in accordance with memory mounting rules.</p> <p>With the mode switch in the Service mode position on the operation panel, turn on (AC ON) the input power to cancel the degradation of the memory registered with an error.</p> <p>Execute the showstatus command to confirm that the memory is not degraded.</p>
RTI No.	RTIF2-170221-001
Model	SPARC M12-2, SPARC M12-2S
Description	<p>The following error may be registered for a PCI slot that has a mounted Dual 10Gigabit Ethernet (10GBase-T) card when the physical partitions (PPARs) are started.</p> <p>[Error message example]</p> <pre>FRU: /BB#0/PCI#3,/BB#0/CMUL Msg: PCI Express link not active</pre>
Workaround	<p>When the device can be recognized from Oracle Solaris, ignore this error message.</p>

Problems Resolved in XCP 3022

The following table lists the problems resolved in XCP 3022.

Table 3-13 Problems Resolved in XCP 3022

RTI No.	RTIF2-170517-001
Model	SPARC M12-2, SPARC M12-2S
Description	After memory (DIMM) replacement or expansion, power-on of the physical partition (PPAR) may fail.
Workaround	There is no effective workaround.

Information on Oracle Solaris

This chapter describes special instructions and problems concerning the SPARC M12 system software.

- [Notes and Restrictions](#)
- [Problems With Oracle Solaris and Workarounds](#)

Notes and Restrictions

Notes and Restrictions on the SR-IOV Function

Notes

- If the maintenance of PCI Express (PCIe) cards that use the SR-IOV function is performed either with dynamic reconfiguration (DR) of physical partitions or with PCI hot plugging (PHP), execute the following steps beforehand.
 1. **Remove all virtual functions (VF) from the I/O domains by executing the `ldm remove-io` command.**
 2. **Destroy all virtual functions (VF) by executing the `ldm destroy-vf` command.**

For the maintenance procedure using DR or PHP, see the *Fujitsu SPARC M12-2/M12-2S Service Manual* or the *PCI Expansion Unit for Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Service Manual*.
For details on the `ldm` command, see the *Oracle VM Server for SPARC Administration Guide* for the version used.
After maintenance with DR or PHP, perform the following steps.
 3. **Create virtual functions (VFs) by executing the `ldm create-vf` command.**
 4. **Assign the virtual functions (VFs) to the I/O domains by using the `ldm add-io` command.**
- The onboard LAN interfaces of the SPARC M12 support the SR-IOV function.

- For details on the SR-IOV function, see the *Oracle VM Server for SPARC Administration Guide* for the version used. For the necessary fixes when using the SR-IOV function, see the *Oracle VM Server for SPARC Release Notes* for the version used.
- For a list of PCI cards that support the SR-IOV function, see the *Fujitsu SPARC M12 PCI Card Installation Guide*.

Notes on Internal SAS Disks, SSDs, and Oracle Solaris MPxIO Settings

We recommend using the internal SAS disks and SSDs of the SPARC M12 with the Oracle Solaris MPxIO setting enabled.

Cause

This can enhance redundancy because access continues even when the communication path between an internal SAS controller and an internal SAS disk or SSD is degraded due to a failure, etc.

Note that you can set MPxIO to enabled by using the bundled tool with Enhanced Support Facility 5.2 or later.

Note - Only SPARC M12 systems sold by Fujitsu in Japan support Enhanced Support Facility (ESF).

Target Internal SAS Disks and SSDs

Whether you need to make the Oracle Solaris MPxIO setting depends on the product name of the internal SAS disk or SSD mounted in the SPARC M12, and the Oracle Solaris version, as shown in [Table 4-1](#).

Table 4-1 Necessity of MPxIO Setting for an Internal SAS Disk or SSD

Product Name Fujitsu/Oracle Model Name	Vendor Name Product Name	Necessity of MPxIO Setting		
		Oracle Solaris 10 1/13	Oracle Solaris 11.1	Oracle Solaris 11.2 or Later
600GB SAS disk drive	TOSHIBA	Required	Required	Not required(*1)
SPME3A11*/ 7105508, 7106318 (*3) 7105571, 7106322 (*4)	MBF2600RC (*5) AL13SEB600 (*5) AL13SEB600AL14SE AL13SEB600AL15SE			
900GB SAS disk drive	TOSHIBA	Required	Required	Required

Table 4-1 Necessity of MPxIO Setting for an Internal SAS Disk or SSD (*continued*)

Product Name Fujitsu/Oracle Model Name	Vendor Name Product Name	Necessity of MPxIO Setting		
		Oracle Solaris 10 1/13	Oracle Solaris 11.1	Oracle Solaris 11.2 or Later
SPME3B11*/ 7111257, 7111260 (*3) 7111261, 7111262 (*4)	AL13SEB900 (*5) AL13SEB900AL14SE AL13SEB900AL15SE			
1.2TB SAS disk drive	TOSHIBA	Required	Required	Required
SPME3C11*/ 7120206, 7120207 (*3) 7120208, 7120209 (*4)	AL15SE12NFUJ1.2T (*5)			
400GB SAS SSD	TOSHIBA	Required	Required	Required
SPME3Y32*/ 7115093, 7115094 (*3) 7115095, 7115096 (*4)	PX04SMB04FUJ400G (*5)			
800GB SAS SSD	TOSHIBA	Required	Required	Required
SPME3Y41*/ 7119191, 7119192 (*3) 7119187, 7119188 (*4)	PX04SMB08FUJ800G (*5)			
When the internal hardware RAID is specified		Not required(*2)	Not required(*2)	Not required(*2)

*1 MPxIO is enabled by default on Oracle Solaris. So, you need not to perform the setting.

*2 Since the internal hardware RAID is not subject to the MPxIO setting, it does not require the setting.

*3 These are factory default drives.

*4 These are used for expansion in the field.

*5 This is a product name set to the scsi_vhci.conf. For 600 GB SAS disk drives, set both MBF2600RC and AL13SEB600 for the product names. For other disk drives (not 600 GB SAS), set only the product name indicated at (*5).

Confirming the Product Name, Vendor Name, and MPxIO State of the Internal SAS Disk or SSD

To determine whether you need to make the MPxIO setting, confirm the product name, vendor name, and device path name of the internal SAS disk or SSD of the SPARC M12, and see [Table 4-1](#).

If MPxIO is already enabled, the character string "scsi_vhci" appears in the device path name of the internal SAS disk or the SSD.

■ When the MPxIO setting is enabled

In the following example, "scsi_vhci" appears in the device path name. So, the MPxIO setting is enabled.

```
# format
Searching for disks...done
AVAILABLE DISK SELECTIONS:
0. c0t50000394281b5310d0 <TOSHIBA-MBF2600RC-3706 cyl 64986 alt 2 hd 27 sec 668>
Logical device path name   Vendor name   Product name
/scsi_vhci/disk@g50000394281b5310
Physical device path name
/dev/chassis/FUJITSU-BBEXP. 500000e0e06d31bf/03N0_HDD00/disk
.....
```

- **When the MPxIO setting is disabled**

In the following example, "scsi_vhci" does not appear in the device path name. So, the MPxIO setting is disabled.

```
# format
Searching for disks...done
AVAILABLE DISK SELECTIONS:
0. c2t50000394281B5312d0 <TOSHIBA-MBF2600RC-3706 cyl 64986 alt 2 hd 27 sec 668>
Logical device path name   Vendor name   Product name
/pci@8800/pci@4/pci@0/scsi@0/ipropt@f/disk@w50000394281b5312,0
Physical device path name
.....
```

Procedure for Enabling MPxIO

Log in as a user with administrator privileges to make this setting.

1. **Add the information (the vendor name and product name) of a disabled internal SAS disk or SSD.**

- **For Oracle Solaris 11 and later**

Add the information (the vendor name and the product name) for the disabled internal SAS disk or SSD to the scsi_vhci.conf file in the /etc/driver/drv folder.

If the /etc/driver/drv folder does not have the scsi_vhci.conf file, copy and use /kernel/drv/scsi_vhci.conf.

For details on how to set the scsi_vhci.conf file, see the online manual.

```
scsi-vhci-failover-override ="TOSHIBA MBF2600RC", "f_sym",
                           Vendor name   Product name
                           "TOSHIBA AL13SEB600", "f_sym";
                           Vendor name   Product name
```

- **For Oracle Solaris 10**

Add the information (the vendor name and product name) of the disabled internal SAS disk or SSD to the /kernel/drv/scsi_vhci.conf file.

```
device-type-scsi-options-list ="TOSHIBA MBF2600RC", "sym-opt",
                               Vendor name Product name
                               "TOSHIBA AL13SEB600", "sym-opt";
                               Vendor name Product name

sym-opt = 0x1000000;
```

2. Enable MPxIO with the stmsboot command.

For details on the stmsboot command, see the online manual.

```
# stmsboot -D mpt_sas -e
```

If the following message is output, continue by executing the stmsboot -u command.

```
# stmsboot -D mpt_sas -e
STMS is already enabled. No changes or reboots needed
# stmsboot -u
```

Executing the stmsboot command restarts the system of the domain, and enables MPxIO of the internal SAS disk or the SSD. After the restart, the target device path name is changed.

You need to change the device path name in application programs, etc., if they specify the name directly.

3. Confirm that MPxIO is enabled.

If MPxIO is enabled, the character string "scsi_vhci" appears in the device path name.

```
# format
Searching for disks...done
AVAILABLE DISK SELECTIONS:
0. c0t50000394281b5310d0 <TOSHIBA-MBF2600RC-...>
   Logical device path name  Vendor name  Product name
   /scsi_vhci/disk@g50000394281b5310
   Physical device path name
```

If the ZFS system volume is installed in an internal SAS disk or SSD of a multipath type (MPxIO), confirm that the volume status is normal.

```
# /usr/sbin/zpool status
...
```

Notes on Updating the SPARC M12 System to Oracle Solaris 11.2

Notes on Enabling MPxIO

The device path name of an internal SAS disk or an SSD may be changed when Oracle Solaris 11.1 is updated to Oracle Solaris 11.2 or later. You can boot Oracle Solaris even when the device path name is changed. However, if any application or backup software specifies the device path name of the internal SAS disk or the SSD directly, the device path may not be available for reference.

Cause

The cause of this is that updating from Oracle Solaris 11.1 to Oracle Solaris 11.2 changes the default MPxIO setting of the internal SAS disk or the SSD from disabled to enabled. For the target internal SAS disks and SSDs, see [Table 4-2](#). For an example of a device path change, see [Table 4-3](#).

Table 4-2 Default MPxIO Setting on an Internal SAS Disk and SSD

Product Name Fujitsu/Oracle Model Name	Vendor Name Product Name	Default MPxIO Setting		
		Oracle Solaris 10 1/13	Oracle Solaris 11.1	Oracle Solaris 11.2 or Later
600GB SAS disk drive	TOSHIBA	Disabled	Disabled	Enabled
SPME3A11*/ 7105508, 7106318 (*1) 7105571, 7106322 (*2)	MBF2600RC AL13SEB600 AL13SEB600AL14SE AL13SEB600AL15SE			
900GB SAS disk drive	TOSHIBA	Disabled	Disabled	Disabled
SPME3B11*/ 7111257, 7111260 (*1) 7111261, 7111262 (*2)	AL13SEB900 AL13SEB900AL14SE AL13SEB900AL15SE			
1.2TB SAS disk drive	TOSHIBA	Disabled	Disabled	Disabled
SPME3C11*/ 7120206, 7120207 (*1) 7120208, 7120209 (*2)	AL15SE12NFUJ1.2T			
400GB SAS SSD	TOSHIBA	Disabled	Disabled	Disabled
SPME3Y32*/ 7115093, 7115094 (*1) 7115095, 7115096 (*2)	PX04SMB04FUJ400G			
800GB SAS SSD	TOSHIBA	Disabled	Disabled	Disabled

Table 4-2 Default MPxIO Setting on an Internal SAS Disk and SSD (continued)

Product Name	Vendor Name	Default MPxIO Setting		
Fujitsu/Oracle Model Name	Product Name	Oracle Solaris 10 1/13	Oracle Solaris 11.1	Oracle Solaris 11.2 or Later
SPME3Y41*/ 7119191, 7119192 (*1) 7119187, 7119188 (*2)	PX04SMB08FUJ800G			

*1 These are factory default drives.

*2 These are used for expansion in the field.

Table 4-3 Example of the Device Path Change Before and After MPxIO Enabling

	Device Path Name Before MPxIO is Enabled	Device Path Name After MPxIO is Enabled
Physical device path name	/pci@8800/pci@4/pci@0/pci@0/scsi@0/iport@f/disk@w50000394281b5312,0	/scsi_vhci/disk@g50000394281b5310
Logical device path name	/dev/rdisk/c2t50000394281B5312d0	/dev/rdisk/c0t50000394281b5310d0

Note that the device path name is not changed if MPxIO of an internal SAS disk or SSD of the SPARC M12 is enabled manually before the updating to Oracle Solaris 11.2.

Corrective Action

Take the following actions after updating to Oracle Solaris 11.2.

- When the physical device path name can be changed

Confirm the physical device path name by using the procedure shown in [Procedure for Confirming the Device Path](#). Change the device path of the internal SAS disk or SSD directly specified in backup software or application programs to the confirmed device path name.

- When the physical device path name cannot be changed

Execute the following command and forcibly disable the MPxIO setting of the internal SAS disk and SSD.

```
# stmsboot -D mpt_sas -d
```

Procedure for Confirming the Device Path

In the following procedure, you can confirm the device path name, vendor name, product name, and enabled/disabled state of MPxIO of the internal SAS disk or SSD in the SPARC M12. If MPxIO is already enabled, the character string "scsi_vhci" appears in the physical device path name of the internal SAS disk or SSD.

- Display example when MPxIO for the internal SAS disk or SSD is enabled

The physical device path name includes the character string "scsi_vhci". So, MPxIO is enabled.

The format command omits a part of the logical device path name to display. The actual name of the logical device path is the path name with "/dev/rdisk" added.

```
# format
Searching for disks...done
AVAILABLE DISK SELECTIONS:
0. c0t50000394281b5310d0 <TOSHIBA-MBF2600RC- 3706 cyl 64986 alt 2 hd 27 sec 668>
Logical device path name Vendor name Product name
/scsi_vhci/disk@g50000394281b5310
Physical device path name
/dev/chassis/FUJITSU-BBEXP. 500000e0e06d31bf/03N0_HDD00/disk
```

- **Display example when MPxIO for the internal SAS disk or SSD is not enabled**

The physical device path name does not include the character string "scsi_vhci". So, MPxIO is disabled.

The format command omits a part of the logical device path name to display. The actual name of the logical device path is the path name with "/dev/rdisk" added.

```
# format
Searching for disks...done
AVAILABLE DISK SELECTIONS:
0. c2t50000394281B5312d0 <TOSHIBA-MBF2600RC-3706 cyl 64986 alt 2 hd 27 sec 668>
Logical device path name Vendor name Product name
/pci@8800/pci@4/pci@0/pci@0/scsi@0/iport@f/disk@w50000394281b5312,0
Physical device path name
/dev/chassis/FUJITSU-BBEXP. 500000e0e06d31bf/03N0_HDD00/disk
```

Notes on Boot Switching by beadm

Boot environment switching with the beadm command or with the pkg command may fail with the output of an error message where Oracle Solaris 11.1 or later is installed on the internal SAS disk or the SSD.

- **Message example 1**

```
# beadm activate S11U1SRU20B04-z_stress-2.10-1
Error while accessing "/dev/rdsk/c2t500003942823F352d0s0":
No such file or directory
Unable to activate S11U1SRU20B04-z_stress-2.10-1.
Error installing boot files.
```

- **Message example 2**

```
# beadm activate S11U1SRU20B04-z_stress-2.10-1
....
Error while accessing "/dev/rdsk/c2t500003942823F352d0s0":
No such file or directory
Unable to activate S11U1SRU20B04-z_stress-2.10-1.
Error installing boot files.
....
```

Cause

This occurred because the MPxIO device path is not properly inherited by beadm or pkg when the internal SAS disk or SSD is made into a multipath type (MPxIO).

Corrective Action

Execute the following command, and then execute the boot environment switching command again.

```
# /usr/sbin/zpool status
```

Notes on Support for Disks With an EFI (GPT) Label

- The default disk label when Oracle Solaris is installed is an EFI (GPT) label. If you need a disk with a VTOC (SMI) label, execute the format -e command of Oracle Solaris to apply the VTOC (SMI) label and then install Oracle Solaris. For details on the format command, see the Oracle Solaris Reference Manual.
In addition, be sure to select [Use a slice on the disk] for the [Solaris slice] screen on the Oracle Solaris installation menu to ensure that the disk is VTOC (SMI) labeled.

```
-----
                        Solaris Slices: 6.0GB unknown Boot

Oracle Solaris can be installed on the whole disk or a slice on the disk.
The following slices were found on the disk.

Slice      #  Size (GB)  Slice      #  Size (GB)
-----
Unused     0      0.1  Unused     5      0.0
Unused     1      0.1  rpool      6      5.7
Unused     3      0.0  Unused     7      0.0
Unused     4      0.0  backup     2      6.0

                Use the whole disk
                Use a slice on the disk

Esc-2_Continue Esc-3_Back Esc-6_Help Esc-9_Quit
-----
```

- If an EFI (GPT) labeled disk is used, Oracle Solaris booting from a disk of more than 2 TiB that is treated as a virtual disk is not supported.

Notes on Oracle VM Server for SPARC

- After logical domains are reconfigured by Oracle VM Server for SPARC or after executing the "ldm unbind-domain/ldm bind-domain" command, if the guest domain is operated by the reset(8) command of XSCF firmware before executing the "ldm add-spconfig" command, a guest domain other than what had been specified may be reset. Or, the specified guest domain is not reset. You should save a configuration of the logical domains with the ldm add-spconfig command. Then, to reset the guest domain before saving it, execute the ldm stop command from the control domain, not from the XSCF.
- If you specify a logical domain configuration for the next time you start, use the ldm set-spconfig command in place of ldm add-spconfig -r.
If you use the ldm add-spconfig -r command to specify a logical domain configuration for the next time you start, and operate a guest domain with the reset(8) command of the XSCF firmware, another guest domain may be reset.
- If you execute the ldm migrate-domain command with Oracle VM Server for SPARC for live migration, the following problems occur with the XSCF.
 - If you execute the showdomainstatus(8) command, "Unknown" is the status displayed for the migrated guest domain.
If you execute the ldm add-spconfig command from the migrated control domain to save configuration information, the status will be displayed normally by the showdomainstatus(8) command.
 - After live migration is executed, if showdomainstatus(8) is then executed at the migration source, "Host stopped" is the status displayed for the migrated and non-existent guest domain.
 - When a physical partition (PPAR) is powered off by the poweroff(8) command, not all of the guest domains may be shut down correctly.
 - When a guest domain is reset by the reset(8) command, a guest domain other than the specified one may be reset. If you reset the guest domain, execute from the guest domain, and not from the XSCF.
 - If SNMP is set, the name of the guest domain under trap notification may be incorrect.
- The migration with the ldm migrate-domain command is not supported if the logical domain at the migration source is in the OpenBoot PROM state. Perform migration with the ldm migrate-domain command after changing the logical domain at the migration source to either of the following states (CR 15858731):
 - Stopped state (bound state)
 - State where Oracle Solaris is running
- Be sure to start the ldmd service (svc:/ldoms/ldmd:default) of the control domain.
- The ldm list-rsrc-group, remove-core -g, and ldm remove-memory -g commands of Oracle VM Server for SPARC 3.2 are not supported. For details, see the Oracle VM Server for SPARC 3.2 Administration Guide.
- From Oracle VM Server for SPARC 3.2 onwards, you can allocate memory to a

logical domain in units of 256 MB if the dynamic reconfiguration of the physical partitions (PPAR DR) feature is enabled by the XSCF firmware. On the other hand, if the PPAR DR feature is disabled, you can allocate memory in units of 4 MB.

- Suppose that the system disk in a physical partition (PPAR)(PPAR #A) is switched to a system disk that has been used for another PPAR (PPAR #B), in a system with Oracle VM Server for SPARC 3.1 or later. The PPAR #A domain configuration information saved on the XSCF may be overwritten over the PPAR #B domain configuration information.

Uninstall Oracle VM Server for SPARC from the system disk (PPAR #A) before switching to the system disk used with the other PPAR (PPAR #B) and starting with the new system disk (PPAR #B). After the switching is completed, reinstall Oracle VM Server for SPARC on the system disk.

The same procedure is needed when using the system disk connected to another unit or when the saved domain configuration information in the XSCF is restored using the `restoreconfig(8)` command.

- Suppose that you deleted a building block (PSB) by executing dynamic reconfiguration of physical partitions (PPAR DR) in a system with Oracle VM Server for SPARC 3.3 or later. Then, a CPU socket constraint in the degraded state may be added to each logical domain. This is not a problem but an operation for saving the use status of the CPU sockets before PPAR DR execution. If the CPU socket constraint in the degraded state appears for a logical domain for which the CPU socket constraint is not set, ignore this constraint.

For a logical domain that uses the CPU socket constraint, PPAR DR done by the `deleteboard` command places the CPU socket constraint in the degraded state. Also, resources not specified with the CPU socket constraint may be assigned to the logical domain.

When replacing a building block (PSB) in response to a fault and so on, first add the system board. Then, you can execute the `ldm set-socket --restore-degraded` command to restore the CPU socket constraint. If you are only deleting the building block, execute the `ldm set-socket` command as required to set the CPU socket constraint again.

For details on the CPU socket constraint, see "8.14 Managing Logical Domain Resources Associated with CPU Sockets" in the *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide*.

- Before building block deletion

```
# ldm list-socket
CONSTRAINTS
SOCKET
      TENANT  VCPUS  CORES  SOCKET_ID  GROUP
      primary 8      4      4           /BB1
      :
```

- After building block deletion

```
# ldm list-socket
```

```
-----  
Notice: the system is running a degraded configuration because some  
required resources were removed by Physical DR.  
-----
```

CONSTRAINTS

DOMAIN	SOCKET_ID	STATE
<u>primary* (degraded)</u>	<u>4</u>	<u>active</u>
<u>dom00* (degraded)</u>	<u>0, 3, 4, 5, 6</u>	<u>active</u>

SOCKET

TENANT	VCPUS	CORES	SOCKET_ID	GROUP
primary	8	4	4	/BB1
:				

```
-----
```

- In Oracle VM Server for SPARC 3.3 or later, when the logical domain configuration has been restored by the `ldm init-system` command, resource binding may fail even if the CPU socket constraint is not set. Then, the following message is output.
[Example]

```
# ldm bind-domain XXXX
```

```
Not enough free memory in specified FJ sockets to meet the request.  
Domain XXXX has FJ socket resource constraints for recovery.  
Use 'ldm set-socket socket_id= XXXX' to clear.
```

If the above message has been output, clear the CPU socket constraint with the `ldm set-socket` command as instructed in the message. Then, try again to bind the resources.

[Example]

```
# ldm set-socket socket_id= XXXX  
# ldm bind-domain XXXX
```

- When using the vHBA (Virtual SCSI Host Bus Adapters) function assigned to a guest domain, set the guest domain auto-boot to false, and then save the updated logical domain configuration information.
[How to set]

```
primary# ldm set-variable auto-boot\?=false domain-name  
primary# ldm add-spconfig config-name
```

Notes on Live Migration of Oracle VM Server for SPARC

- With an Oracle Solaris 11 control domain running Oracle VM Server for SPARC

3.5 or later, `cpu-arch=sparc64-class1` and `cpu-arch=generic` can be set for SPARC M12 systems. Likewise, with an Oracle Solaris 10 control domain running Oracle VM Server for SPARC 3.2 with patch 151394-04 or later, `cpu-arch=generic` can be set for SPARC M12 systems. With other versions of Oracle VM Server for SPARC, only `cpu-arch=native` can be set for SPARC M12 systems, which limits live migrations for those configurations to another SPARC M12 system.

- For the `cpu-arch` property values that enable live migration between SPARC M12 and SPARC M10 systems, see [Table 4-4](#).

Table 4-4 `cpu-arch` Property Values That Enable Live Migration Between SPARC M12 and SPARC M10 Systems

Migrate To	SPARC M12	SPARC M10
Migrate From		
SPARC M12	generic sparc64-class1 native	generic sparc64-class1
SPARC M10	generic sparc64-class1	generic sparc64-class1 native(*1)

*1 For details, see "Notes on Live Migration of Oracle VM Server for SPARC" in the *Fujitsu M10/SPARC M10 Systems Product Notes*.

To perform a live migration of a logical domain with `cpu-arch=sparc64-class1` between a SPARC M12 system and a SPARC M10 system, perform the following procedure.

Note - If both of the following conditions are met, you do not need to perform the procedure.

- Oracle VM Server for SPARC 3.5 or later is installed on the control domain of the SPARC M10.
- SRU 11.3.23.5.0 or later is installed on the logical domain.

1. **Add the following lines to the `/etc/system` file on the logical domain.**

```
set enable_lghz_stick = 1
set uhrt_enable=0x0
```

2. **Reboot the logical domain with the above settings.**

- Refer to the following table to determine the feasibility of performing a live migration based on the version of the firmware.

Table 4-5 Versions of the Firmware That Support Live Migration

Migrate To	SPARC M12	SPARC M10 (XCP 2230 or later)	SPARC M10 (XCP 2210 or later and earlier than XCP 2230)	SPARC M10 (XCP 2092 or earlier)	SPARC T-series M-series (SysFW 8.4 or later)	SPARC T-series M-series (SysFW 8.3 or earlier)
Migrate From						
SPARC M12	Available	Available(*2)	Available(*3)	Not available	Available(*3)	Not available
SPARC M10 (XCP 2230 or later)	Available(*2)	Available	Available(*4)	Not available	Available(*4)	Not available
SPARC M10 (XCP 2210 or later and earlier than XCP 2230)	Available(*2)	Available	Available	Not available	Available(*4)	Available(*4)
SPARC M10 (XCP 2092 or earlier)	Available(*2)	Available	Available	Available	Available(*4)	Available(*4)
SPARC T-series M-series(*1) (SysFW 8.4 or later)	Available(*3)	Available(*4)	Available(*4)	Not available	Available	Not available
SPARC T-series M-series(*1) (SysFW 8.3 or earlier)	Available(*3)	Available(*4)	Available(*4)	Not available	Available	Available

*1 It is an Oracle system, such as SPARC M5/M6, which supports Oracle VM Server for SPARC.

*2 On the SPARC M12 with an Oracle Solaris 11 control domain, only Oracle VM Server for SPARC 3.5 or later enables you to perform a live migration. For the SPARC M12 with an Oracle Solaris 10 control domain, see also [Table 4-6](#).

*3 On the SPARC M12 with an Oracle Solaris 11 control domain, only Oracle VM Server for SPARC 3.5 or later enables you to set `cpu-arch=generic` and perform a live migration. For the SPARC M12 with an Oracle Solaris 10 control domain, see also [Table 4-6](#).

*4 Live migration is possible only for `cpu-arch=generic`.

- The following table shows cross-CPU (`cpu-arch=generic`) live migration requirements for the SPARC M12 with an Oracle Solaris 10 control domain.

Table 4-6 Software Requirements for the SPARC M12 With an Oracle Solaris 10 Control Domain

Platform	Control Domain Requirement
SPARC M12	Oracle Solaris 10 Oracle VM Server for SPARC 3.2 151934-04 or later
SPARC M10/SPARC T-Series	Oracle Solaris 10 Oracle VM Server for SPARC 3.2 151934-03 or later

- When a live migration is performed between a SPARC M12 system and a SPARC M10 system, the uptime of a logical domain may not be displayed correctly.

[Example]

UPTIME of a logical domain displays 6m for a SPARC M12 system.

```
M12# ldm list-domain
NAME          STATE      FLAGS    CONS    VCPU  MEMORY  UTIL  NORM  UPTIME
primary       active    -n-cv-   UART    24    8G      0.8%  0.2%  21d 5h 22m
guest         active    -n----   5000    8     8G      0.6%  0.6%  6m
```

After a live migration is performed, UPTIME of the logical domain displays 1h11m for the SPARC M10 system.

```
M10# ldm list-domain
NAME          STATE      FLAGS    CONS    VCPU  MEMORY  UTIL  NORM  UPTIME
primary       active    -n-cv-   UART     8     8G      0.1%  0.1%  4h 18m
guest         active    -n----   5000    8     8G      0.0%  0.0%  1h 11m
```

- If you perform a live migration of the domain with the kernel zone running from a SPARC M12 system, the following message is output, and the live migration fails.

```
# ldm migrate-domain ldg1 root@target-name
Target Password:
Failure occurred while preparing domain ldg1 for suspend
operation
Live migration failed because Kernel Zones are active.
Stop Kernel Zones and retry.
Timeout waiting for domain ldg1 to suspend
Domain Migration of domain ldg1 failed, domain suspend failure.
Domain Migration of LDom ldg1 failed
```

To perform a live migration of a domain with a kernel zone running, stop the kernel zone beforehand.

Notes on a Case When Recovery Mode of Oracle VM Server for SPARC is Enabled

Suppose that you added a building block (PSB) using dynamic reconfiguration of physical partitions in the condition where the domain configuration has been recovered in a degraded configuration. The added resource is not automatically allocated to any logical domain. Allocate the added resource manually. Alternatively, execute the `ldm set-spconfig` command to select the original domain configuration and then restart the physical partition using the `poweron(8)` and `poweroff(8)` commands.

Support for the Acceleration of Encryption Methods by SPARC M12 Systems

SPARC M12 systems provide acceleration for some of the encryption methods supported by Oracle Solaris 11.

The following table lists the encryption methods for which SPARC M12 systems support acceleration.

Table 4-7 Support for the Acceleration of Encryption Methods

Encryption Method	OS Providing Method
RSA	Oracle Solaris 11.2
DSA	Oracle Solaris 11.2
DES	Oracle Solaris 11.1
3DES	Oracle Solaris 11.1
AES	Oracle Solaris 11.1
DH	Oracle Solaris 11.2
SHA1	Oracle Solaris 11.1
SHA256	Oracle Solaris 11.1
SHA384	Oracle Solaris 11.1
SHA512	Oracle Solaris 11.1
SHA224	Oracle Solaris 11.1
AES GCM	Oracle Solaris 11.3 SRU 11.3.5.6.0
MPI & ECC	Oracle Solaris 11.3 SRU 11.3.20.5.0
RSA/bignum	Oracle Solaris 11.3 SRU 11.3.20.5.0

Notes on Using OpenSSL

Oracle Solaris provides cryptographic libraries for SPARC M12 systems. These libraries can be used by using the PKCS11 engine of OpenSSL. For details, see the man pages `openssl(5)`, `engine(3openssl)`, and `evp(3openssl)`.

Please note:

- The PKCS11 engine is the only way in OpenSSL to obtain the acceleration of cryptographic functions from the encryption arithmetic unit of the SPARC64 XII processor.
- The implementation of the PKCS11 engine for OpenSSL in Oracle Solaris requires the enabling of the EVP model for digest and encryption methods supported by engine.
 - The following digest methods have been optimized for the SPARC64 XII

processor:

SHA1, SHA224, SHA256, SHA384, SHA512

- The following encryption methods have been optimized for the SPARC64 XII

processor:

DES-CBC, DES-EDE3-CBC, DES-ECB, DES-EDE3

AES-128-CBC, AES-192-CBC, AES-256-CBC

AES-128-ECB, AES-192-ECB, AES-256-ECB

AES-128-CTR, AES-192-CTR, AES-256-CTR

The command in the following example calls the accelerated AES-256-CBC method on the SPARC64 XII processor.

```
# openssl speed -engine pkcs11 -evp AES-256-CBC
```

- The following public key encryption methods have been optimized for the SPARC64 XII processor, from Oracle Solaris 11.2.

RSA512, RSA1024, RSA2048

DSA512, DSA1024, DSA2048

The command in the following example invokes the RSA2048 method optimized for the SPARC64 XII processor.

```
# openssl speed -engine pkcs11 rsa2048
```

- To use the optimized digest method or encryption method in the PKCS11 engine with an application using the OpenSSL library (libssl, libcrypto), enable the EVP interface explained in `evp(3openssl)`.

Notes and Restrictions on Oracle Solaris 11.4

Notes

- There are notes on live migration of Oracle VM Server for SPARC. See "[Notes on Live Migration of Oracle VM Server for SPARC](#)."
- There are notes on dynamic reconfiguration of physical partitions. See "2.5.2 Considerations in System Operation for Dynamic Reconfiguration" in the *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Domain Configuration Guide*.
- There are notes on migration of Oracle Solaris kernel zones. See "8.2.3 Notes on Oracle Solaris Kernel Zones" in the *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide*.

Restrictions

- The Boot Pools function is not supported at present.
- The automated installer with HMAC-SHA256 is not supported at present.

Notes and Restrictions on Oracle Solaris 11.3

Notes

- There are notes on live migration of Oracle VM Server for SPARC. See "[Notes on Live Migration of Oracle VM Server for SPARC](#)."
- There are notes on dynamic reconfiguration of physical partitions. See "2.5.2 Considerations in System Operation for Dynamic Reconfiguration" in the *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 Domain Configuration Guide*.
- There are notes on migration of Oracle Solaris kernel zones. See "8.2.3 Notes on Oracle Solaris Kernel Zones" in the *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide*.

Restrictions

The Boot Pools function is not supported at present.

Notes on Using Oracle Enterprise Manager Ops Center With SPARC M12 Servers

SPARC M12 servers require Oracle Enterprise Manager Ops Center 12c Release 3 Update 3 or later.

Notes on Using the SPARC M12/M10 Plug-in for Oracle Enterprise Manager Cloud Control

The SPARC M12/M10 plug-in for Oracle Enterprise Manager Cloud Control requires Oracle Enterprise Manager Cloud Control 13.1 or later.

The SPARC M12/M10 plug-in for Oracle Enterprise Manager Cloud Control provides monitoring functionality for SPARC M12/M10 server hardware.

You can obtain the SPARC M12/M10 plug-in for Oracle Enterprise Manager Cloud Control and find the information including installation instructions at the sites listed below. For SPARC M12/M10 systems supported by Oracle, please open an SR in My Oracle Support to access support for this plug-in.

- Global site
https://updatesite.jp.fujitsu.com/unix/en/download/software/unix_soft/emcc_plugin/download/index.html
- Japanese site
https://updatesite.jp.fujitsu.com/unix/jp/download/software/unix_soft/emcc_plugin/download/index.html

Problems With Oracle Solaris and Workarounds

This section describes problems with Oracle Solaris and workarounds for each version.

Problems That Might Occur in Any Versions of Oracle Solaris and Workarounds

The following table lists the problems that might occur in any versions of Oracle Solaris being supported and workarounds for them.

Table 4-8 Problems That Might Occur in Any Versions of Oracle Solaris and Workarounds

Bug	24718083
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	If the XSCF is rebooted while the control domain is running, the power capping function will not work.
Workaround	There is no effective workaround. [How to restore] Execute the svcadm command to restart the ldoms/ldmd service. # svcadm restart ldmd

Table 4-8 Problems That Might Occur in Any Versions of Oracle Solaris and Workarounds *(continued)*

Bug	23025823
Model	SPARC M12-2S, SPARC M10-4S
Description	<p>The addboard command fails to revert the I/O devices which have been degraded with the deleteboard command.</p> <p>This phenomenon occurs when all of the following conditions are true:</p> <ul style="list-style-type: none">- There is/are root domain(s) with two or more root complexes.- The deleteboard command removes root complexes from the root domain(s).- At least one endpoint in one or more of the removed root complexes is either unassigned or assigned to another domain.- The addboard command restores the root complex(es). <p>[Error message example]</p> <pre>----- XSCF> addboard -v -y -c configure -m bind=resource -p 0 00-0 PSB#00-0 will be configured into PPAR-ID 0. Continue?[y n] :y Start connecting PSB to PPAR. [3600sec] 0./ (Omitted) Processing of the incoming DR request by the LDoms Manager is pending Incoming DR request is being processed by the LDoms ManagerDR sequence started (sequence#=2, message#=6)/ Restoring primary failed, it failed in the allocation of PCIE0 60../ Restoring primary failed, it failed in the allocation of PCIE1 .- Restoring primary failed, it failed in the allocation of PCIE2 ..\ Restoring primary succeeded, PCIE3 was assigned 90 Restoring ioroot failed, it failed in the allocation of PCIE4 .. Restoring ioroot failed, it failed in the allocation of PCIE5 ./ Restoring primary failed, it failed in the allocation of PCIE6 ..\ Restoring primary failed, it failed in the allocation of PCIE7 (Omitted) Restoring primary succeeded, 15 core(s) were assigned . Restoring guest1 succeeded, 34896609280 byte memory were assigned DR sequence finished (sequence#=2, message#=6) end PSB#00-0 could not be configured into PPAR-ID 0 due to operating system or Logical Domains Manager error. XSCF> -----</pre> <p>Moreover, once this phenomenon occurs, retrying addboard fails and the ldmd daemon might dump core.</p>
Workaround	<p>Execute the addboard command with -m bind=none option and recover the I/O configuration manually.</p>

Table 4-8 Problems That Might Occur in Any Versions of Oracle Solaris and Workarounds (*continued*)

Bug	-
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>When a logical domain with a 10 Gigabit Ethernet card (SP1X7HF1F) for which the value of OpenBoot PROM environment variable diag-switch? is set to true, the console displays the following warning message and the error log records "Msg: Device error (FCode informed error)".</p> <p>WARNING: /pci@X,XXXXXX: FCODE mapin doesn't match decoded register type;</p> <p>Also, executing the showstatus(8) command may show "Degraded" for the FRU on which the relevant PCI card is mounted.</p>
Workaround	<p>Ignore all these outputs.</p> <p>To prevent these outputs, execute the following command on the ok prompt to change the value of the OpenBoot PROM environment variable diag-switch? to false.</p> <pre>setenv diag-switch? false</pre>
Bug	-
Model	SPARC M12-2S, SPARC M10-4S
Description	<p>If dynamic reconfiguration is performed on a physical partition which has a dual channel 10G FCoE card (SP1X7FBR2F/SP1X7FBS2F/7101683 (7101684)+7101687 (7101688)) mounted on it, system panic may occur due to the processing of the emlx driver.</p>
Workaround	<p>There is no effective workaround.</p> <p>Use Oracle Solaris 11.2 SRU 11.2.2.8.0 or later and Oracle Solaris 10 1/13 or later.</p> <p>If this specific card is mounted on a system, conduct any reconfiguration in deactivated state instead of dynamic reconfiguration.</p>
Bug	-
Model	SPARC M12-2S, SPARC M10-4S
Description	<p>If dynamic reconfiguration is performed on a physical partition which has a Dual Port Gigabit Ethernet card (MMF) (SP1X7GD1F/7100482 (7100481)), the connection is terminated.</p>
Workaround	<p>There is no effective workaround.</p> <p>If this specific card is mounted on a system, conduct any reconfiguration in deactivated state instead of dynamic reconfiguration.</p>
Bug	-
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>When "Oracle VM Server for SPARC 3.1.1.1" is installed on the control domain, messages like the following will be registered to the log file (/var/svc/log/ldoms-ldmd:default.log) of the ldoms/ldmd service.</p> <p>[Example of message]</p> <p>Get Device ID command failed: Unknown (0x7E)</p> <p>ERROR: Cannot connect to BMC</p>
Workaround	<p>There is no effective workaround.</p> <p>Ignore this message because there is no impact on system operation.</p>

Table 4-8 Problems That Might Occur in Any Versions of Oracle Solaris and Workarounds (continued)

Bug	-
Model	SPARC M12-2S, SPARC M10-4S
Description	<p>When physical partition dynamic reconfiguration (PPAR DR) is performed to replace a building block in a physical partition containing logical domains with the whole-core constraint and logical domains without the whole-core constraint, the number of CPUs and memory size of the whole-core constrained domains may not be restored correctly.</p> <p>With the <code>ldm list-domain</code> command, you can check whether the whole-core constraint is enabled for a logical domain. In the following example, the whole-core constraint is applied on the logical domain <code>domain-A</code> and not on the logical domain <code>domain-B</code>.</p> <pre>primary# ldm list-domain -o resmgmt NAME domain-A CONSTRAINT cpu=whole-core max-cores=unlimited ----- NAME domain-B CONSTRAINT</pre>
Workaround	<p>Enable the whole-core constraint for all logical domains in the physical partition, or disable it for all the logical domains.</p> <p>For details on how to set the whole-core constraint, see the <i>Oracle VM Server for SPARC 3.4 Administration Guide</i>.</p> <p>[How to restore]</p> <p>Execute the <code>ldm</code> command to manually restore the resources of the domain.</p>
Bug	-
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>When you start the SunVTS 7.0 ps19 tests on a SPARC M12 system, they may terminate with an error.</p>
Workaround	<p>There is no effective workaround.</p>

Problems That Might Occur With Oracle Solaris 11 and Workarounds

The following table lists the problems that might occur with Oracle Solaris 11 and workarounds for them.

Table 4-9 Problems That Might Occur With Oracle Solaris 11 and Workarounds

Bug	28856511 29033441
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>In an environment with Oracle Solaris 11.4 or later installed, the system might hang when a 6 Gbps SAS HDD or SSD is disconnected without any OS operation performed. The following mpt_sas driver messages may be output to the console and /var/adm/messages when these symptoms occur.</p> <p>[Message output example 1] scsi: [ID 107833 kern.notice] /pci@9100/pci@4/pci@0/pci@0/scsi@0 (mpt_sas4): mptsas_ioc_task_management command completion failed</p> <p>[Message output example 2] WARNING: /pci@8000/pci@4/pci@0/pci@0/scsi@0 (mpt_sas0): mptsas_check_task_mgt: Task 0x3 failed. Target=XX</p> <p>[Message output example 3] scsi: WARNING: /pci@8000/pci@4/pci@0/pci@0/scsi@0 (mpt_sas0): Can only start 1 task management command at a time</p>
Workaround	<p>Perform replacement work according to the active replacement procedure for the disk. There is no problem in this case because the disk is appropriately disconnected by the cfgadm command, etc.</p>
Bug	28059901 28072669 28410937 28418530
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>In an environment with Oracle Solaris 11.3 SRU 11.3.31.6.0 or later or Oracle Solaris 11.4 or later installed, the system might hang during an internal disk failure, a failure of the target 6 Gbps SAS-connected device (disk or tape), or active replacement operations. The following mpt_sas driver messages may be output to the console and /var/adm/messages when these symptoms occur.</p> <p>[Message output example 1] scsi: [ID 107833 kern.notice] /pci@9100/pci@4/pci@0/pci@0/scsi@0 (mpt_sas4): mptsas_ioc_task_management command completion failed</p> <p>[Message output example 2] WARNING: /pci@8000/pci@4/pci@0/pci@0/scsi@0 (mpt_sas0): mptsas_check_task_mgt: Task 0x3 failed. Target=XX</p>
Workaround	This has been modified with SRU 11.4.2.2.0 and LSU 11.3.36.7.0.

Table 4-9 Problems That Might Occur With Oracle Solaris 11 and Workarounds *(continued)*

Bug	16312511
Model	SPARC M12-2S, SPARC M10-4S
Description	In the environment described below, if the system board is deleted by the physical partition dynamic reconfiguration (PPAR DR) function, a system board deletion failure, stop of virtual function (VF) communication, a root domain panic, and other phenomena may occur. The environment has an SR-IOV configuration, and either a 10 Gigabit Ethernet card running the ixgbe driver for the root domain or the onboard LAN of the SPARC M12-2S is assigned there.
Workaround	PPAR DR cannot be used in the above SR-IOV configuration. Use it in a virtual network (vnet) configuration.

Bug	25262938 25954620
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	Execution of the nvmeadm or fwupdate command may fail with the following message displayed. [Display example] # nvmeadm ERROR: Platform not supported # fwupdate ERROR: Platform not supported
Workaround	Perform the following procedure. 1. Delete the configuration information files in /etc/ssm/hmp. # rm /etc/ssm/hmp/* 2. Execute nvmeadm or fwupdate. # nvmeadm Or # fwupdate Configuration information files are automatically created in /etc/ssm/hmp. 3. Create the following configuration information files. Create the following two files in a text editor: host_profile.xml platforms.json - Creating host_profile.xml # cat /tmp/host_profile.xml <?xml version="1.0" encoding="utf-8"?> <hmp_profile schemaVersion="1"> <control> <!-- Time in seconds from Epoch. --> <timestamp>1438633604</timestamp> <!-- Minimum version of HMP supported --> <hmp_min_ver>2.3.2</hmp_min_ver> <!-- ilom, host, patch, other --> <origin>ILOM</origin> <supported_platforms>SPARC M12-1</supported_platforms> <supported_platforms>SPARC M12-2</supported_platforms> <supported_platforms>SPARC M12-2S</supported_platforms>

```

</control>

<tool_support>
  <element>

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    <platform_name>SPARC M12-2S</platform_name>
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      <supported>NO</supported>
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    </utility_property>
    <utility_property>
      <name>FWUPDATE</name>
      <supported>YES</supported>
      <add_runtime_mode>DEFAULT</add_runtime_mode>
    </utility_property>
    <utility_property>
      <name>NVMEADM</name>
      <supported>YES</supported>
      <add_runtime_mode>DEFAULT</add_runtime_mode>
    </utility_property>
  </element>
</tool_support>
<platform_data>
{
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  "platforms": {
    "aliases": {
      "SPARC M12-1": "undefined",
      "SPARC M12-2": "undefined",
      "SPARC M12-2S": "undefined"
    },
    "hosts": {
      "undefined": {
        "internal_hbas": {
          "1000:0050:1000:3060":
            {
              "backplanes": [ "internal_4_square" ],
              "nac_name_format": "/SYS/SASBP/HDD%d"
            }
        }
      }
    }
  }
}
</platform_data>
</hmp_profile>

- Creating platforms.json
# cat /tmp/platforms.json

```

Table 4-9 Problems That Might Occur With Oracle Solaris 11 and Workarounds (continued)

	<pre>{ "version": "1.0.0.0", "platforms": { "aliases": { "SPARC M12-1": "undefined", "SPARC M12-2": "undefined", "SPARC M12-2S": "undefined" }, "hosts": { "undefined": { "internal_hbas": { "1000:0050:1000:3060": { "backplanes": ["internal_4_square"], "nac_name_format": "/SYS/SASBP/HDD%d" } } } } } }</pre>
	<p>4. Replace files with these configuration information files.</p> <pre># rm /etc/ssm/hmp/host_profile.xml # rm /etc/ssm/hmp/platforms.json # cp /tmp/host_profile.xml /etc/ssm/hmp/host_profile.xml # cp /tmp/platforms.json /etc/ssm/hmp/platforms.json</pre>
	<p>5. Execute the fwupdate or nvmeadm command again. No error message will appear, and the command will be executed normally.</p>
Bug	24819902
Model	SPARC M12-2S, SPARC M10-4S
Description	<p>In the control domain with SRU 11.3.8.7.0 (Oracle VM Server for SPARC 3.4) or later applied, the deleteboard command may behave inappropriately where at least one logical domain binds a core shared with another logical domain. This is because Oracle VM Server for SPARC wrongly calculates the number of CPU cores to be removed.</p> <p>[Example]</p> <ul style="list-style-type: none">- The deleteboard -m unbind=resource command succeeds but more CPUs are removed than necessary.- The deleteboard -m unbind=resource command fails even if the CPU allocation is the same as one where it succeeds with Oracle VM Server for SPARC 3.3.- The deleteboard -m unbind=none command fails even though there are sufficient free CPUs in the remaining system boards.
Workaround	<p>Apply either of the following (1) or (2).</p> <p>(1) Assign virtual CPUs with the whole-core constraint.</p> <p>(2) Change the PPAR DR policy to "targeted".</p> <pre># svcadm disable ldmd # svccfg -s ldmd setprop ldmd/fj_ppar_dr_policy=targeted # svcadm refresh ldmd # svcadm enable ldmd</pre>

Table 4-9 Problems That Might Occur With Oracle Solaris 11 and Workarounds (*continued*)

Bug	20882700
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>After you execute dynamic reconfiguration of physical partitions, or after you execute the <code>ldm add-io/remove-io</code> command to add/delete a resource dynamically, a message indicating that the resource was added/deleted may be output to the console.</p> <p>[Example 1] SUNW-MSG-ID: FMD-8000-CV, TYPE: Alert, VER: 1, SEVERITY: Minor EVENT-TIME: Mon May 11 20:04:48 JST 2015 PLATFORM: ORCL,SPARC64-X, CSN: 2081232009, HOSTNAME: 4S-408-D0 SOURCE: software-diagnosis, REV: 0.1 EVENT-ID: 76d8e4f6-d621-4ede-a86e-93abdc908a6 DESC: FRU '/SYS//BB0/CMUU/CMP1/MEM17A' has been removed from the system. ... [Example 2] SUNW-MSG-ID: FMD-8000-A0, TYPE: Alert, VER: 1, SEVERITY: Minor EVENT-TIME: Thu May 14 15:50:31 JST 2015 PLATFORM: unknown, CSN: unknown, HOSTNAME: iodom0 SOURCE: software-diagnosis, REV: 0.1 EVENT-ID: 1f8d1ae8-9097-4204-b5d6-d605aac28390 DESC: FRU '/SYS/BB#1-PCI#6' has been added to the system. ...</p>
Workaround	<p>Before executing dynamic reconfiguration of physical partitions, or before executing the <code>ldm add-io/remove-io</code> command to add/delete a resource dynamically, add the setting below to the <code>/usr/lib/fm/fmd/plugins/fru-monitor.conf</code> file of all logical domains where Oracle Solaris 11.3 is installed. Then, restart the logical domains.</p> <pre>setprop fmon_alert_enable "false"</pre>

Table 4-9 Problems That Might Occur With Oracle Solaris 11 and Workarounds (*continued*)

Bug	20950622
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-4, SPARC M10-4S
Description	<p>Suppose that the root domain is running Oracle Solaris 11.3 or later when an I/O domain created in one of the following procedures is started/restarted. Then, OpenBoot PROM aborts, and the I/O domain cannot be started/restarted.</p> <p>[Creation pattern 1]</p> <ol style="list-style-type: none"> 1. Add a PCI expansion unit to the root domain by using the PCI hot plug (PHP) function. 2. Add two PCI cards to the PCI expansion unit by using PHP. 3. Dynamically create a virtual function (VF) from the physical function (PF) of each PCI card. 4. If the created VF is dynamically assigned to an active I/O domain, OpenBoot PROM will abort when the I/O domain restarts. <p>Or</p> <ol style="list-style-type: none"> 4. If the created VF is statically assigned to an inactive I/O domain, OpenBoot PROM will abort when the I/O domain starts. <p>[Creation pattern 2]</p> <ol style="list-style-type: none"> 1. Add the PCIe bus to the root domain by using dynamic PCIe bus assignment. 2. Add two PCI cards to the same PCIe bus on the root domain by using PHP. 3. If each PCI card is dynamically assigned to an active I/O domain, OpenBoot PROM will abort when the I/O domain restarts. <p>Or</p> <ol style="list-style-type: none"> 3. If each PCI card is statically assigned to an inactive I/O domain, OpenBoot PROM will abort when the I/O domain starts. <p>After step 2, even if you dynamically create a virtual function (VF) from the physical function (PF) of each PCI card and assign the created VF to an I/O domain, the same phenomenon occurs.</p> <p>[Creation pattern 3]</p> <ol style="list-style-type: none"> 1. With two PCI cards mounted to the same PCIe bus, use dynamic PCIe bus assignment to add the PCIe bus to the root domain. 2. If each PCI card is dynamically assigned to an active I/O domain, OpenBoot PROM will abort when the I/O domain restarts. If each PCI card is statically assigned to an inactive I/O domain, OpenBoot PROM will abort when the I/O domain starts. <p>After step 1, if you dynamically create a virtual function (VF) from the physical function (PF) of each PCI card and assign the created VF to an I/O domain, the same phenomenon occurs.</p>
Workaround	<p>To prevent OpenBoot PROM from aborting, delete the VFs and the PCI cards assigned to the I/O domain by using the <code>ldm remove-io</code> command before starting/restarting the I/O domain. After starting the I/O domain, dynamically reassign the VFs and the PCI cards with the <code>ldm add-io</code> command.</p>
Bug	21849217
Model	SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>For Oracle Solaris 11.2 SRU 11.2.14.5.0 or later and for Oracle Solaris 11.3 or later, the following error message may be output when the <code>fwupdate</code> command is executed, and the command may terminate abnormally.</p> <p>ERROR: Could not identify host type</p>
Workaround	<p>Delete all the files in the <code>/etc/ssm/hmp</code> directory, and then execute the <code>fwupdate</code> command.</p> <pre># cd /etc/ssm/hmp # rm -f *</pre> <p>Do not delete the <code>/etc/ssm/hmp</code> directory at this time.</p> <p>After you execute the <code>fwupdate</code> command, new files are created in the <code>/etc/ssm/hmp</code> directory. Do not delete these files.</p>

Table 4-9 Problems That Might Occur With Oracle Solaris 11 and Workarounds (*continued*)

Bug	-
Model	SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>When the fwupdate command is executed, the following message may be output.</p> <p>Get Device ID command failed: Unknown (0x7E)</p> <p>No metadata provided, so version verification can not be completed</p>
Workaround	Ignore this error message because there is no impact on command operation.
Bug	25473170
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>In Oracle Solaris 11.2 SRU 8.4 or later, suppose that the network interface of the dual 10Gbps FCoE card that is made by QLogic and runs the qlcnict driver is deactivated. When it is activated again (*1), panic may occur with the following message displayed during communication using this interface.</p> <p>panic[cpux]/thread=xxxxxxxxxx: Fatal error has occurred in: PCIe fabric.(0x40)(0x41)</p> <p>*1 This applies to the following cases, where the dual 10Gbps FCoE card is used.</p> <ul style="list-style-type: none"> - To change the configuration, the interface is deactivated by the ipadm delete-ip or ifconfig unplumb command, and activated by the ipadm create-ip or ifconfig plumb command. - The FCoE interface is assigned to a logical domain. The physical partition dynamic reconfiguration (PPAR DR) function is used for continuing operation and use even after the logical domain is suspended and resumed. - PRIMECLUSTER Global Link (NIC switching method) is used to switch or switch back a redundant NIC.
Workaround	<p>Perform the following procedure.</p> <ol style="list-style-type: none"> 1. Copy the /kernel/drv/qlcnict.conf file to the /etc/driver/drv directory. 2. Add the "enable_multi_rds_sets = 0;" line to the copied file. 3. Restart the OS.

Table 4-9 Problems That Might Occur With Oracle Solaris 11 and Workarounds (*continued*)

Bug	-
Model	SPARC M12-2S, SPARC M10-4S
Description	<p>In an environment with Oracle VM Server for SPARC 3.4 (SRU 11.3.8.7.0) or later installed on the control domain, the deleteboard(8) command may fail if all of the following conditions are met.</p> <p>[Problem occurrence conditions]</p> <ol style="list-style-type: none">1) The number of logical domains is larger than the number of existing CPU cores in the physical partition after the deleteboard(8) command is executed.2) A logical domain is partially allocated two or more CPU cores.3) The physical partition was dynamically reconfigured by the deleteboard(8) command with the -m unbind=resource option specified. <p>[Example]</p> <pre>XSCF> deleteboard -y -v -c disconnect -m unbind=resource 01-0 PSB#01-0 will be unconfigured from PPAR immediately. Continue?[y n] :y Start unconfigure preparation of PSB. [1200sec] (Omitted) end PSB#01-0 could not be unconfigured from PPAR-ID 0 due to operating system or Logical Domains Manager error.</pre>
Workaround	<p>Change the PPAR DR policy to "targeted".</p> <p>[Example]</p> <pre>primary# svcadm disable ldmd primary# svccfg -s ldmd setprop ldmd/fj_ppar_dr_policy=targeted primary# svcadm refresh ldmd primary# svcadm enable ldmd</pre>
Bug	-
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>A logical domain may panic if all of the following conditions are met.</p> <ol style="list-style-type: none">1) A logical domain is running SRU 11.3.12.4.0 or later.2) A CPU chip is degraded.3) A logical domain is rebooted. <p>[Panic message example]</p> <pre>panic[cpuxxx]/thread=xxxxxxxxxxxx: Could not compute mpo_lgroup[]</pre>
Workaround	<p>There is no effective workaround.</p>

Problems That Might Occur With Oracle Solaris 10 and Workarounds

The following table lists the problems that might occur with Oracle Solaris 10 and workarounds for them.

Table 4-10 Problems That Might Occur With Oracle Solaris 10 and Workarounds

Bug	15738030
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>If both of the following conditions are satisfied, a control domain panic may occur with "BAD TRAP: type=31".</p> <ul style="list-style-type: none"> - The operating system of the control domain is Oracle Solaris 10. - As a result of executing <code>ldm list-domain -o memory primary</code>, the RA (real address) is greater than 0x200000000000.
Workaround	<p>This has been modified with patch 148888-03 for Oracle Solaris 10.</p> <p>Perform the following procedure.</p> <ol style="list-style-type: none"> 1. Execute <code>ldm list-domain -o memory primary</code> to display the value of SIZE. 2. Execute <code>ldm start-reconf primary</code> to enter the delayed reconfiguration mode. 3. Execute <code>ldm remove-memory 256M primary</code> to reduce the assigned memory. 4. Execute <code>ldm set-memory <value of SIZE in step 1> primary</code> to return the assigned memory back to the original size. 5. Restart Oracle Solaris in the control domain. 6. Execute <code>ldm list-domains -o memory primary</code> to confirm that the RA is smaller than 0x200000000000. 7. Execute <code>ldm add-spconfig <configuration information name></code> to save the configuration information to the XSCF.

Problems Resolved in Oracle Solaris 11.4

The following table lists the problems resolved in Oracle Solaris 11.4. You might encounter them in supported releases earlier than Oracle Solaris 11.4.

Table 4-11 Problems Resolved in Oracle Solaris 11.4

Bug	25028104
Model	SPARC M12-2S, SPARC M10-4S
Description	<p>If the root complex is dynamically added/deleted by dynamic reconfiguration of the physical partition, the PCIe end point device under the added/deleted root complex may not be reflected to the PCIe end point device configuration information shown by the <code>XSCF showpparinfo(8)</code> command.</p>
Workaround	<p>[How to restore]</p> <p>Execute the <code>svcadm</code> command in the control domain to restart the <code>ldoms/ldmd</code> services.</p> <pre># svcadm restart ldoms/ldmd</pre>

Table 4-11 Problems Resolved in Oracle Solaris 11.4 (continued)

Bug	26822709 26934364
Model	SPARC M12-2S, SPARC M10-4S
Description	<p>On the control domain with SRU 11.3.8.7.0 (Oracle VM Server for SPARC 3.4) or later installed, dynamic reconfiguration of a physical partition with the XSCF deleteboard(8) command may fail.</p> <p>This phenomenon may occur when the following conditions are met.</p> <ol style="list-style-type: none">1) Memory degradation has occurred (*1).2) The PPAR DR policy is set to "ratio" or "auto" (*2). <p>Or</p> <ol style="list-style-type: none">1) The hvdump-reboot is set to "off" (*3).2) The physical partition has been reset due to the XSCF reset command with the xir option or a hardware error.3) The PPAR DR policy is set to "ratio" or "auto" (*2). <p>*1 How to check the memory degradation primary# ldm list-devices -a -S memory If the STATUS value is "fail" in the output, you can determine that the memory region has been degraded by SIZE from the PA (physical address) displayed on the same line.</p> <p>*2 How to check the PPAR DR policy primary# svccfg -s ldmd listprop ldmd/fj_ppar_dr_policy ldmd/fj_ppar_dr_policy astring auto In this case, the PPAR DR policy is set to "auto."</p> <p>*3 How to check hvdump-reboot primary# ldm list-hvdump hvdump=on hvdump-reboot=off In this case, hvdump-reboot is set to "off."</p>
Workaround	<p>This has been modified with SRU 11.3.29.5.0.</p> <p>Change the PPAR DR policy to "targeted" in the following way.</p> <pre>primary# svcadm disable ldmd primary# svccfg -s ldmd setprop ldmd/fj_ppar_dr_policy=targeted primary# svcadm refresh ldmd primary# svcadm enable ldmd</pre> <p>[How to restore]</p> <p>Restart the physical partition with the XSCF poweroff(8) and poweron(8) commands.</p> <p>Example: Physical partition is 0</p> <pre>XSCF> poweroff -y -p 0 XSCF> poweron -y -p 0</pre>

Table 4-11 Problems Resolved in Oracle Solaris 11.4 (*continued*)

Bug	26822709 26934364
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>On the control domain with SRU 11.3.2.4.0 (Oracle VM Server for SPARC 3.3) or later installed, the Oracle Solaris <code>ldm remove-memory</code> command with the <code>-g</code> option for memory operation may fail.</p> <p>This phenomenon may occur when the following conditions are met.</p> <ol style="list-style-type: none"> 1) Memory degradation has occurred (*1). <p>Or</p> <ol style="list-style-type: none"> 1) <code>hvdump-reboot</code> is set to "off" (*2). 2) The physical partition has been reset due to the <code>XSCF reset(8)</code> command with the <code>xir</code> option or due to a hardware error. <p>*1 How to check the memory degradation primary# <code>ldm list-devices -a -S memory</code> If the <code>STATUS</code> value is "fail" in the output, the memory area has been degraded by <code>SIZE</code> from the PA (physical address) displayed on the same line.</p> <p>*2 How to check <code>hvdump-reboot</code> primary# <code>ldm list-hvdump</code> <code>hvdump=on</code> <code>hvdump-reboot=off</code> In this case, <code>hvdump-reboot</code> is set to "off."</p>
Workaround	This has been modified with SRU 11.3.29.5.0.
Bug	26822709 26934364
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>On the control domain with SRU 11.3.2.4.0 (Oracle VM Server for SPARC 3.3) or later installed, the Oracle Solaris <code>ldm list-rsrc-group</code> command may display memory amounts with incorrect values.</p> <p>This phenomenon may occur when the following conditions are met.</p> <ol style="list-style-type: none"> 1) Memory degradation has occurred (*1). <p>Or</p> <ol style="list-style-type: none"> 1) <code>hvdump-reboot</code> is set to "off" (*2). 2) The physical partition has been reset due to the <code>XSCF reset(8)</code> command with the <code>xir</code> option or due to a hardware error. <p>*1 How to check the memory degradation primary# <code>ldm list-devices -a -S memory</code> If the <code>STATUS</code> value is "fail" in the output, you can determine that the memory region has been degraded by <code>SIZE</code> from the PA (physical address) displayed on the same line.</p> <p>*2 How to check <code>hvdump-reboot</code> primary# <code>ldm list-hvdump</code> <code>hvdump=on</code> <code>hvdump-reboot=off</code> In this case, <code>hvdump-reboot</code> is set to "off."</p>
Workaround	This has been modified with SRU 11.3.29.5.0.

Table 4-11 Problems Resolved in Oracle Solaris 11.4 *(continued)*

Bug	24567071
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>If dynamic PCIe bus assignment and the dynamic reconfiguration function for PCIe end points are executed in the following procedure, only one of the two onboard ixgbe ports of the SPARC M12 is recognized.</p> <ol style="list-style-type: none">1. Assign the PCIe bus that is connected to the two onboard ixgbe ports to the root domain by using the dynamic PCIe bus assignment function.2. Delete the two onboard ixgbe ports under the PCIe bus assigned in step 1 from the root domain by using the dynamic reconfiguration function for PCIe end points.3. Assign the two ixgbe ports deleted in step 2 to an I/O domain by using the dynamic reconfiguration function for PCIe end points.4. Delete the two ixgbe ports added in step 3 from the I/O domain by using the dynamic reconfiguration function for PCIe end points.5. Return the two ixgbe ports deleted in step 4 to the root domain by using the dynamic reconfiguration function for PCIe end points.
Workaround	<p>This has been modified with SRU 11.3.17.5.0. Apply SRU 11.3.17.5.0 or later to the control and root domains.</p> <p>[How to restore]</p> <p>Using the dynamic PCIe bus assignment function, delete the PCIe bus from the root domain and then assign the PCIe bus to the root domain again.</p>

Bug	24754492																
Model	SPARC M12-2, SPARC M12-2S, SPARC M10-4, SPARC M10-4S																
Description	<p>A logical domain panic may occur or the ldm daemon may generate a core dump when you execute the ldm shrink-socket command to remove memory from logical domains if both of the following conditions are met.</p> <ul style="list-style-type: none">- Oracle Solaris is running in logical domains.- Multiple memory blocks on the same CPU socket are allocated to logical domains. <p>You can check memory allocation of each CPU socket's memory by the ldm list-socket command. In the following example, two memory blocks on CPU socket #0 are allocated to logical domain domain-A.</p> <pre># ldm list-socket -o memory domain-A</pre> <table><tr><th colspan="4">MEMORY</th></tr><tr><th>PA</th><th>SIZE</th><th>SOCKET_ID</th><th>BOUND</th></tr><tr><td>0x7e0450000000</td><td>16G</td><td>0</td><td>domain-A</td></tr><tr><td>0x7e08d0000000</td><td>1536M</td><td>0</td><td>domain-A</td></tr></table>	MEMORY				PA	SIZE	SOCKET_ID	BOUND	0x7e0450000000	16G	0	domain-A	0x7e08d0000000	1536M	0	domain-A
MEMORY																	
PA	SIZE	SOCKET_ID	BOUND														
0x7e0450000000	16G	0	domain-A														
0x7e08d0000000	1536M	0	domain-A														
Workaround	<p>This has been modified with SRU 11.3.14.6.0.</p> <p>Execute the ldm remove-memory command in place of the ldm shrink-socket command to remove memory from logical domains.</p>																

Table 4-11 Problems Resolved in Oracle Solaris 11.4 (*continued*)

Bug	24973255
Model	SPARC M12-2, SPARC M12-2S
Description	<p>Even when the following settings are implemented for Oracle Solaris kernel zones, warm/live migration of the Oracle Solaris kernel zone that is set with <code>cpu-arch=sparc64-class1</code> from a SPARC M12 system to a SPARC M10 system may fail.</p> <pre> /etc/system file ----- set enable_1ghz_stick = 1 set uhrt_enable=0x0 ----- </pre> <p>For details on settings in the <code>/etc/system</code> file, see "8.2.3 Notes on Oracle Solaris Kernel Zones" in the <i>Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide</i>.</p> <p>This bug occurs when the OS of the Oracle Solaris kernel zone is Oracle Solaris 11.3 SRU 11.3.15.4.0 or Oracle Solaris 11.3 SRU 11.3.16.3.0.</p>
Workaround	This has been modified with SRU 11.3.17.5.0. Apply SRU 11.3.17.5.0 to the Oracle Solaris kernel zone for which warm/live migration is executed.
Bug	21654442
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>If the Virtual SCSI Host Bus Adapter function is used, the following warning message may be output for the root domain or an I/O domain.</p> <pre> [Example] vsan: WARNING: vsan_walk_match_func: ipport-dip(40010ef2fd8): dip(40010ef29b8): prop(class) not found </pre>
Workaround	<p>This has been modified with SRU 11.2.11.5.0.</p> <p>This message has no effect on the functioning of the system, ignore it.</p>

Table 4-11 Problems Resolved in Oracle Solaris 11.4 (*continued*)

Bug	21779989
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>If you execute the <code>ldm list-hba</code> command supported in Oracle VM Server for SPARC 3.3 in a system with the PCI expansion unit connected, the device alias of SLOT4 and later of the PCI expansion unit is displayed by mistake.</p> <p>[Example]</p> <pre># ldm list-hba -l -t -d primary NAME VSAN ---- - /SYS/MBU/SASHBA/HBA0/PORTf [/pci@8000/pci@4/pci@0/pci@0/scsi@0/iproport@f] : /SYS/PCI1/SLOT2/HBA0/PORT0/0/f SLOT4 is correct. [/pci@8100/pci@4/pci@0/pci@1/pci@0/pci@0/pci@0/pci@1/pci@0/pci@10/pci@0/pci@0/LSI,sas@0/iproport@f] init-port w500605b0045c8a90 Transport Protocol SAS /pci@8100/pci@4/pci@0/pci@1/pci@0/pci@0/pci@0/pci@1/pci@0/pci@10/pci@0/pci@0/LSI,sas@0/iproport@f/smp@w50080e52b93fd03f tport w50080e52b93fd03f c31t50000394281BBA1Ad0s0 tport w50000394281bba1a lun 0 /pci@8100/pci@4/pci@0/pci@1/pci@0/pci@0/pci@0/pci@1/pci@0/pci@10/pci@0/pci@0/LSI,sas@0/iproport@f/enclosure@w50080e52b93fd03d,0 tport w50080e52b93fd03d lun 0 : </pre>
Workaround	<p>This has been modified with SRU 11.2.11.5.0.</p> <p>This problem may occur even after SRU 11.3.4.5.0 is applied. In such a case, follow the procedure in "10.12 Saving/Restoring Logical Domain Configuration Information in an XML File" in the <i>Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 System Operation and Administration Guide</i> to save the logical domain configuration information. Then, restore it.</p> <p>[Alternative method]</p> <p>If you execute vHBA related commands such as <code>ldm add-vsan</code>, specify the device path instead of the device alias.</p> <p>[Example]</p> <pre># ldm add-vsan /pci@8100/pci@4/pci@0/pci@1/pci@0/pci@0/pci@0/pci@1/pci@0/pci@10/pci@0/pci@0/LSI,sas@0/iproport@f vsan0 ldom1</pre>

Table 4-11 Problems Resolved in Oracle Solaris 11.4 (*continued*)

Bug	20646928
Model	SPARC M12-2S, SPARC M10-4S
Description	<p>If you perform dynamic deletion with the dynamic reconfiguration function of the physical partition for a system board with the system volume located in the following environment, system board deletion processing may fail.</p> <p>[Problem occurrence conditions]</p> <ol style="list-style-type: none"> 1) A ZFS mirror of the system volume has been created using multiple disks, and 2) the mirroring disk and mirrored disk are located on different system boards, and 3) the system board to which the system volume is assigned has been dynamically deleted. <p>[Example of output message]</p> <pre>XSCF> deleteboard -c disconnect -m unbind=resource 00-0 PSB#00-0 will be unconfigured from PPAR immediately. Continue?[y n] :y All domains are temporarily suspended, proceed?[y n] :y Start unconfigure preparation of PSB. [1200sec] 0end Unconfigure preparation of PSB has completed. Start unconfiguring PSB from PPAR. [7200sec] 0....\ The removal of PCIE0 from the domain primary failed. Error message from svc:/ldoms/agents in domain primary: ERROR: devices or resources are busy. end PSB#00-0 could not be unconfigured from PPAR-ID 0 due to operating system or Logical Domains Manager error.</pre>
Workaround	This has been modified with SRU 11.3.5.6.0.
Bug	25976819
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>In an environment with Oracle VM Server for SPARC 3.3 or later installed on the control domain, a logical domain may not recognize the replacement CPU after a faulty CPU was automatically replaced.</p>
Workaround	<p>This has been modified with SRU 11.3.23.5.0.</p> <p>[How to restore]</p> <p>Reboot the logical domain where the problem occurred.</p>

Table 4-11 Problems Resolved in Oracle Solaris 11.4 (*continued*)

Bug	26052693
Model	SPARC M12-2S
Description	<p>In an environment with Oracle VM Server for SPARC 3.4.0.3 (SRU 11.3.18.6.0) or later installed on the control domain, if you reboot a logical domain after dynamically reconfiguring physical partitions with the XSCF deleteboard(8) command, then a panic on the logical domain may persist.</p> <p>[Panic message example] panic[cpu0]/thread=xxxxxxx: tilelet_assign_cb: assigning pfns [4a0000, 4a8000) to mgid 39, mnodeid 57: pachunk 12 already assigned to mgid 3b, mnodeid 59</p>
Workaround	<p>This has been modified with SRU 11.3.23.5.0.</p> <p>[How to restore] Take action as follows for each logical domain where a panic occurred.</p> <ul style="list-style-type: none"> - If a panic occurs on the control domain <ol style="list-style-type: none"> 1. Stop the physical partition. 2. With the XSCF addboard(8) command, return the physical partition to the state before the reconfiguration. 3. Start the physical partition again. <p>[Example] XSCF> poweroff -y -p 0 XSCF> addboard -y -c configure -m bind=none -p 0 01-0 XSCF> poweron -y -p 0</p> - If a panic occurs on a guest domain Unbind the resource, and bind the resource again. <p>[Example] primary# ldm stop-domain guest primary# ldm unbind-domain guest primary# ldm bind-domain guest primary# ldm start-domain guest</p>
Bug	26176351
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>On a logical domain with SRU 11.3.23.5.0 or later installed, even when the power-saving operation of the physical partition is set to "elastic", the CPU frequency may not decrease. This is because Solaris Power Aware Dispatcher (PAD) does not work for the CPU that the logical domain uses.</p>
Workaround	<p>This has been modified with SRU 11.3.23.5.0.</p> <p>Install SRU 11.3.23.5.0 or later on the control domain.</p> <p>[How to restore] After starting all of the logical domains on which SRU 11.3.23.5.0 or later is installed, set the power-saving operation to "disabled" with the XSCF setpparmode(8) command. Then, set the power-saving operation to "elastic" again.</p> <p>[Example] XSCF> setpparmode -p 0 -y -m powermgmt_policy=disabled XSCF> setpparmode -p 0 -y -m powermgmt_policy=elastic</p>

Table 4-11 Problems Resolved in Oracle Solaris 11.4 (*continued*)

Bug	27112303
Description	<p>In an environment with Oracle VM Server for SPARC 3.1.0.1 or later installed on the control domain, the power-saving operation of the physical partition does not work as "elastic" if the following conditions are met:</p> <ol style="list-style-type: none"> 1) the power-saving operation of the physical partition is set to "elastic"; and 2) the physical partition is operating; and 3) the physical partitions have been dynamically reconfigured with the XSCF deleteboard(8) command or addboard(8) command. <p>Or</p> <ol style="list-style-type: none"> 3) the number of CPU Activations has been changed with the XSCF setcod(8) command.
Workaround	<p>There is no effective workaround.</p> <p>[How to restore]</p> <p>Set the power-saving operation to "disabled" with the XSCF setpparmode(8) command and then set the power-saving operation to "elastic" again.</p> <p>[Example]</p> <ul style="list-style-type: none"> - SPARC M12 system <pre>XSCF> setpparmode -p 0 -y -m powermgmt_policy=disabled XSCF> setpparmode -p 0 -y -m powermgmt_policy=elastic</pre> - SPARC M10 system <pre>XSCF> setpparmode -p 0 -y -m elastic=off XSCF> setpparmode -p 0 -y -m elastic=on</pre>

Problems Resolved in Oracle Solaris 11.3

The following table lists the problems resolved in Oracle Solaris 11.3. You might encounter them in supported releases earlier than Oracle Solaris 11.3.

Table 4-12 Problems Resolved in Oracle Solaris 11.3

Bug	15813959 15813960 (7196117)
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	A PCI expansion unit is added using Oracle Solaris hotplug(1M) in a SPARC M12/M10 system. However, devices on the PCI expansion unit are not recognized.
Workaround	<p>Before you add a PCI expansion unit by hotplug(1M), add the following line in the /etc/system file in advance and restart Oracle Solaris.</p> <pre>set pcicfg:pcicfg_slot_busnums = 4</pre> <p>Note that the system does not recognize a device of a PCI expansion unit if you add the PCI expansion unit by PHP to a root complex that has been added by either of the following: the dynamic reconfiguration of the physical partition, or the Dynamic PCIe bus assignment. If this problem occurs, restart the logical domain to which the PCI expansion unit is assigned to make the system recognize the device of the PCI expansion unit.</p>
Bug	17430911
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S

Table 4-12 Problems Resolved in Oracle Solaris 11.3 (continued)

Description	When you change the power-saving operation of the physical partition from "elastic" to "disabled," the CPU frequency assigned to the logical domain may not increase.
Workaround	This has been modified with SRU 11.2.8.4.0 (Oracle VM Server for SPARC 3.2). Install SRU 11.2.8.4.0 or later on the control domain. [How to restore] Execute the Oracle Solaris svcadm command in the control domain to restart the ldmd services. primary# svcadm restart ldmd
Bug	17561541
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	In a SPARC M10 environment with XCP 2230 or later applied, or in a SPARC M12 environment with XCP 3021 or later applied, suppose that the ldm add-io command is executed after the ldm remove-io command was executed during delayed reconfiguration. Then, the ldmd daemon may cause a core dump and restart.
Workaround	This has been modified with SRU 11.2.8.4.0 and Oracle VM Server for SPARC 3.2 for Oracle Solaris 10. During delayed reconfiguration, execute the ldm remove-io command after executing the ldm add-io command.
Bug	18502702
Model	SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	If the SunVTS 7.0 ps17. 1 test is started on a SPARC M10 system with SPARC64 X+ processors, it may end with an error.
Workaround	This has been modified with SRU 11.2.1.5.0 and patch 151265-03 for Oracle Solaris 10.
Bug	18595023
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	If the "ldm list-io" command is executed after PCI cards, which support the SR-IOV function, are mounted on PCI Expansion Unit's SLOT4 or higher, the pseudonym of the physical function of the PCI cards mounted on SLOT4 or higher is mistakenly shown as SLOT2. Moreover, the virtual functions created from the physical functions of the PCI cards that are mounted on SLOT4 or higher cannot be assigned to logical domains. [Example of command output] # ldm ls-io -l NAME TYPE BUS DOMAIN STATUS ---- ... /SYS/PCI1/SLOT5 PCIE PCIE1 primary OCC [pci@8100/pci@4/pci@0/pci@1/pci@0/pci@0/pci@0/pci@1/pci@0/pci@10/pci@0/pci@1] network@0 network@0,1 ... /SYS/PCI1/SLOT2/IOVNET.PF0 PF PCIE1 primary [pci@8100/pci@4/pci@0/pci@1/pci@0/pci@0/pci@0/pci@1/pci@0/pci@10/pci@0/pci@1/network@0] maxvfs = 7 ...
Workaround	This has been modified with SRU 11.2.2.5.0 and patch 150817-03 for Oracle Solaris 10.

Table 4-12 Problems Resolved in Oracle Solaris 11.3 (*continued*)

Bug	18615814
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>An I/O domain may output the following message, and Oracle Solaris panic may occur if a system board is deleted by executing dynamic reconfiguration of physical partitions (PPAR DR) or a PCIe end point device is dynamically removed from the I/O domain by executing the <code>ldm remove-io</code> command.</p> <pre>panic[cpuX]/thread=XXXXXXXXXXXX: mutex_exit: not owner, lp=XXXXXXXX owner=X thread=XXXXXXXXXXXX</pre>
Workaround	<p>This has been modified with SRU 11.2.8.4.0.</p> <p>Execute the <code>svcadm(1M)</code> command on the I/O domain to disable the <code>intrd(1M)</code> service before deleting the system board by executing dynamic reconfiguration of physical partitions (PPAR DR) or before removing the PCIe end point device from the I/O domain.</p> <pre># svcadm disable intrd</pre> <p>Enable the <code>intrd(1M)</code> service after the process of the <code>ldm remove-io</code> command is completed.</p> <pre># svcadm enable intrd</pre>
Bug	18665751
Model	SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	When using XCP 2210, the Dynamic Resource Management (DRM) feature of Oracle VM Server for SPARC does not work.
Workaround	<p>This has been modified with SRU 11.2.8.4.0 and Oracle VM Server for SPARC 3.2 for Oracle Solaris 10.</p> <p>Update the XCP firmware to XCP 2220 or later.</p>
Bug	18747641
Model	SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>Core dumps may be produced or wrong calculation results may be obtained or a panic may occur when a program, which performs double-precision floating point instructions after enabling SPARC64 X/SPARC64 X+ processor-specific options and 4-byte boundary alignment (*1) and compiled with Oracle Solaris Studio compiler version 12.3 2013/06/17 or newer, is executed on a SPARC M10 system with Oracle Solaris 11.1 or newer.</p> <p>*1 The 4-byte boundary alignment is enabled by default when creating 64-bit programs.</p> <p>In case of 32-bit programs, it is enabled if "-xmemalign=Ns (N=1,2,4,8,16)" or "-fast" is not specified.</p> <p>[Procedure of checking compiler version]</p> <p>The "-V" option shows version information. The date is output at the end of version notation. The compiler version that corresponds to this bug is 2013/06/17 or newer.</p> <pre>\$ cc -V cc: Sun C 5.12 SunOS_sparc Patch 148917-06 2013/06/17 \$ f95 -V (f90 and f77 are also same.) f95: Sun Fortran 95 8.6 SunOS_sparc Patch 148517-05 2013/06/17 \$ CC -V CC: Sun C++ 5.12 SunOS_sparc Patch 148506-11 2013/06/17</pre>
Workaround	<p>This has been modified with SRU 11.2.4.6.0.</p> <p>Recompile the program with the following "-xarch" flag.</p> <pre>-xarch=sparcima</pre>

Table 4-12 Problems Resolved in Oracle Solaris 11.3 (*continued*)

Bug	19074260
Model	SPARC M10-4S
Description	<p>The following messages may be output in the log of ldoms/ldmd services (/var/svc/log/ldomslmd:default.log), and the communication between the ldmd daemon and the XSCF may be disconnected during or after physical partition dynamic reconfiguration (PPAR DR).</p> <p>[Example of message]</p> <p>Sep 18 13:31:37 warning: Device busy: open_ldc_channel: Open of/devices/virtual-devices@100/channel-devices@200/virtual-channel@3:spds failed</p> <p>After that time, processes which need to communicate with XSCF such as PPAR DR or ldm list-spconfig command fail.</p>
Workaround	<p>This has been modified with SRU 11.2.8.4.0.</p> <p>[How to restore]</p> <p>Execute Oracle Solaris svcadm(1M) command to restart the ldoms/ldmd services.</p> <pre># svcadm restart ldmd</pre>
Bug	19310540
Model	SPARC M10-4S
Description	<p>If the addboard(8) command is executed in the "factory-default" configuration, CPU cores may not be assigned to the control domain.</p>
Workaround	<p>This has been modified with SRU 11.2.8.4.0 and Oracle VM Server for SPARC 3.2 for Oracle Solaris 10.</p> <p>Add the CPU cores or threads which were not added, using the "ldm add-core" command or the "ldm add-vcpu" command.</p>
Bug	19310550
Model	SPARC M12-2S, SPARC M10-4S
Description	<p>On a physical partition, to which 8 or more system boards have been assigned, when collecting dump files of the hypervisor which is executed as the ldoms/ldmd service is started, the following console message is output by the ldoms/ldmd service, and it may fall back to maintenance mode.</p> <p>[Example of message]</p> <p>Feb 28 16:19:39 svc.startd[11]: ldoms/ldmd:default failed: transitioned to maintenance (see 'svcs -xv' for details)</p>
Workaround	<p>This has been modified with SRU 11.2.8.4.0 and Oracle VM Server for SPARC 3.2 for Oracle Solaris 10.</p> <p>[How to restore]</p> <p>Use the following process to change the timeout value of starting the ldoms/ldmd service to 600.</p> <pre># svccfg -s ldmd listprop : start/timeout_seconds count 180 : # svccfg -s ldmd setprop start/timeout_seconds=600 # svccfg -s ldmd listprop : start/timeout_seconds count 600 : # svcadm refresh ldmd # svcadm restart ldmd</pre>

Table 4-12 Problems Resolved in Oracle Solaris 11.3 (*continued*)

Bug	19358400
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	If the root complex is dynamically added/deleted, the PCIe end point device configuration information shown by the <code>showpparinfo(8)</code> command will not reflect the PCIe end point device under the added/deleted root complex.
Workaround	This has been modified with SRU 11.2.9.5.0. [How to restore] By restarting the logical domain that added/deleted the root complex dynamically, the <code>showpparinfo(8)</code> command displays the correct configuration information.
Bug	19424242
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	On a system to which Oracle VM Server for SPARC 3.1.0.1 or later is applied, the following event may occur: If all CPUs or memory in an I/O domain are degraded due to a CPU or memory failure, the <code>ldmd</code> service abnormally terminates, and, as a result, the <code>ldm(1M)</code> command terminates with an error.
Workaround	This has been modified with SRU 11.2.8.4.0 and Oracle VM Server for SPARC 3.2 for Oracle Solaris 10. [How to restore] Replace the faulty CPU or memory. If you want to boot Oracle Solaris while leaving the faulty CPU or memory installed, perform the following procedure on the XSCF: 1. Power off the physical partition (PPAR) by the <code>poweroff(8)</code> command. 2. Execute the <code>setdomainconfig(8)</code> command to place the PPAR in the factory-default state. <code>XSCF> setdomainconfig -p ppar_id -c default</code> 3. Execute the <code>poweron(8)</code> command to activate the PPAR. Oracle Solaris reboots in a configuration that includes only the control domain (factory-default).
Bug	19424359
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	If the domain configuration is restored in the degraded configuration, both of the following settings are reset to their default values: the setting specifying whether to enable/disable hypervisor dump collection and the setting specifying whether to enable/disable automatic reboot during hypervisor dump collection. [Default values] Hypervisor dump collection: Enabled Automatic reboot during hypervisor dump collection: Disabled
Workaround	This has been modified with SRU 11.2.8.4.0 and Oracle VM Server for SPARC 3.2 for Oracle Solaris 10. [How to restore] After executing the Oracle VM Server for SPARC <code>ldm(1M)</code> command to change the hypervisor dump setting, save the domain configuration information. <code># ldm set-hvdump hvdump=XXXX hvdump-reboot=YYYY</code> <code># ldm add-spconfig ZZZZ</code> After replacing the faulty component, execute the <code>setdomainconfig(8)</code> command to initiate a reboot with the original domain configuration.

Table 4-12 Problems Resolved in Oracle Solaris 11.3 (*continued*)

Bug	19513561
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	The ldmd daemon of Oracle VM Server for SPARC may repeat the core dump if suspend processing of the appropriate domain fails during live migration.
Workaround	This has been modified with SRU 11.2.8.4.0 and Oracle VM Server for SPARC 3.2 for Oracle Solaris 10. [How to restore] Restart the physical partition according to the following steps. 1. Execute the poweroff(8) command to power off the physical partition (PPAR). 2. Execute the poweron(8) command to restart PPAR.
Bug	19680186 19454809
Model	SPARC M12-2S, SPARC M10-4S
Description	If Oracle Solaris 11.2 and later is running and the system board is deleted by dynamic reconfiguration of physical partitions (PPAR DR), Oracle Solaris may panic.
Workaround	This has been modified with SRU 11.2.10.5.0. Add the following setting to /etc/system of all logical domains, and restart Oracle Solaris: set lgrp_topo_levels=1 Be sure to delete set lgrp_topo_levels=1 in /etc/system before applying SRU 11.2.10.5.0 or later.
Bug	19728345
Model	SPARC M10-4S
Description	The physical partition dynamic reconfiguration (PPAR DR) fails if the ldoms/ldmd services are restarted because of Oracle Solaris panic and the like during PPAR DR.
Workaround	This has been modified with SRU 11.2.8.4.0 and Oracle VM Server for SPARC 3.2 for Oracle Solaris 10. [How to restore] Hypervisor abort may be caused from the operation of adding/removing memory to/from PPAR DR or a logical domain after the ldoms/ldmd services are recovered. Therefore, execute the poweroff(8) command for XSCF firmware to power off the physical partition (PPAR), then execute the poweron(8) command to power on the PPAR.
Bug	19913088
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	If a root complex with PCI expansion unit connected is added dynamically to the logical domain with the ldm add-io command, the logical domain may output the following message, causing Oracle Solaris to panic. panic[cpuX]/thread=XXXXXXXXXXXX: bad stack overflow at TL 1
Workaround	This has been modified with SRU 11.2.10.5.0. Before adding the root complex to the logical domain dynamically, add the following setting to /etc/system, and then restart Oracle Solaris. set default_stksize = 0xa000

Table 4-12 Problems Resolved in Oracle Solaris 11.3 (continued)

Bug	20061005 19200041
Model	SPARC M10-4S
Description	<p>If you use the <code>ipadm(1M)</code> command or the <code>ifconfig(1M)</code> command on the guest domain that has the physical device after you delete the system board dynamically with the <code>deleteboard(8)</code> command, the guest domain may output the following message, causing Oracle Solaris to panic.</p> <pre>panic[cpuXX]/thread=XXXXXXXXXXXXX: assertion failed: obj->afo_corep == NULL, file: ../../common/os/numaio.c, line: 724</pre>
Workaround	<p>This has been modified with SRU 11.2.10.5.0.</p> <p>If you delete the system board dynamically with the <code>deleteboard(8)</code> command, execute the following command before you execute the <code>ipadm(1M)</code> command or the <code>ifconfig(1M)</code> command on the guest domain.</p> <pre># modunload -i 0</pre>
Bug	20458698
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>No response time from the migration source domain may become long because a different process from the original live migration is performed during live migration. Network services and the like operating on the migration source domain may time out because of no response. This case occurs if the migration source domain meets both of the following conditions.</p> <ul style="list-style-type: none"> - The difference between the maximum RA of the migration source domain (actual address) and its minimum RA cannot be divided by 64 MB - The remainder is 32 MB or less when the difference between the maximum RA of the migration source domain and its minimum RA is divided by 64 MB <p>The maximum RA and the minimum RA of the domain can be checked with the following command.</p> <pre>[Example] # ldm list-domain -o memory domain-name NAME domain-name MEMORY RA PA SIZE 0x10000000 0x7b0fc0000000 1G minimum RA 0x400800000 0x7f01a0800000 11G (a) (b)</pre> <p>The maximum RA is the sum of (a) + (b), which will be 0x6c0800000. $0x400800000 + 0x2c0000000(11G) = 0x6c0800000$ The difference between the maximum RA and the minimum RA is 27400 MB. $0x6c0800000 - 0x10000000 = 0x6b0800000 = 27400 \text{ MB}$ Therefore, the remainder is 8 MB in this example. $27400 \text{ MB} / 64 \text{ MB} = 428$ and the remainder is 8 MB</p>
Workaround	This has been modified with SRU 11.2.11.5.0.

Table 4-12 Problems Resolved in Oracle Solaris 11.3 *(continued)*

Bug	20878144
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>For Oracle Solaris 11.2 SRU 11.2.8.4.0 or later, "OS Started. No state support" is displayed by the <code>showdomainstatus(8)</code> command or in the event log when Oracle Solaris starts. This message indicates that the status of a logical domain has changed to Oracle Solaris.</p> <p>The following is an example of the message.</p> <p>XSCF> showlogs event</p> <p>Date Message</p> <p>--- Omitted ---</p> <p>Mar 27 15:55:31 ** Event: SCF:PPARID 0 GID 00000000 state change (OpenBoot Running)</p> <p>Mar 27 15:55:32 ** Event: SCF:PPARID 0 GID 00000000 state change (OpenBoot Primary Boot Loader)</p> <p>Mar 27 15:55:33 ** Event: SCF:PPARID 0 GID 00000000 state change (OpenBoot Running OS Boot)</p> <p>Mar 27 15:55:35 ** Event: SCF:PPARID 0 GID 00000000 state change (OS Started. No state support)</p> <p>Mar 27 15:55:36 ** Event: SCF:PPARID 0 GID 00000000 state change (OS Started. No state support)</p> <p>Mar 27 15:56:42 ** Event: SCF:PPARID 0 GID 00000000 state change (Solaris booting)</p> <p>Mar 27 15:57:37 ** Event: SCF:PPARID 0 GID 00000000 state change (Solaris booting)</p> <p>Mar 27 15:57:37 ** Event: SCF:PPARID 0 GID 00000000 state change (Solaris running)</p> <p>XSCF> showdomainstatus -p 0</p> <p>2015-MM-DD hh:mm:ss</p> <p>Logical Domain Name Status</p> <p>primary OS Started. No state support.</p>
Workaround	<p>This has been modified with SRU 11.2.11.5.0.</p> <p>Ignore this message since it does not affect the system operation.</p>

Table 4-12 Problems Resolved in Oracle Solaris 11.3 (*continued*)

Bug	20974426
Model	SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>In an environment with Oracle VM Server for SPARC 3.2 applied to the control domain and configuration information already saved in the XSCF, if the SPARC M10 system chassis or physical partition (PPAR) is stopped or started, the SPARC M10 system chassis or PPAR may not be able to start with the saved configuration information.</p> <p>This problem occurs when the configuration information is saved by any of the following means:</p> <ul style="list-style-type: none"> - <code>ldm add-spconfig -r</code> command - Automatic recovery using automatic recovery policy 3 of Oracle VM Server for SPARC <code>ldmd</code> daemon (automatic saving of configuration information) <p>You can check the automatic recovery policy of the <code>ldmd</code> daemon with the following command. The default for the automatic recovery policy is 1 (display warning messages in log files)</p> <p>[Example]</p> <pre># svccfg -s ldmd listprop ldmd/autorecovery_policy ldmd/autorecovery_policy integer 3</pre>
Workaround	<p>This has been modified with SRU 11.2.11.5.0.</p> <p>[How to restore]</p> <ul style="list-style-type: none"> - If the <code>ldm add-spconfig -r</code> command was executed, delete the saved configuration information, and overwrite it by saving the current configuration. <p>[Example]</p> <pre># ldm remove-spconfig CONF-A # ldm add-spconfig CONF-A</pre> <ul style="list-style-type: none"> - If the automatic recovery policy is set to 3, change the automatic recovery policy to 1 by performing the following procedure. <p>[Example]</p> <pre># svccfg -s ldmd setprop ldmd/autorecovery_policy=1 # svcadm refresh ldmd</pre> <p>If the SPARC M10 system chassis or PPAR cannot start with the saved configuration information, start the system in the factory-default configuration, and then restore the configuration information already saved in the XML file.</p>
Bug	21106074
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>If any of <code>aes-128-ccm</code>, <code>aes-192-ccm</code>, and <code>aes-256-ccm</code> is specified for the encryption algorithm, accessing the ZFS data set with encryption enabled may cause a system panic.</p> <p>The default encryption algorithm is <code>aes-128-ccm</code>. If ZFS is encrypted with no encryption algorithm specified, <code>aes-128-ccm</code> is assumed specified.</p> <p>[Panic message example]</p> <pre>panic[cpu34]/thread=2a1053d9c20: bad floating point trap at TL 1 %tl %tpc %tnpc %tstate %tt 1 00000000123eabc0 00000000123eabc4 8880001600 077 %gl: 00 %ccr: 88 %asi: 80 %cwp: 0 %pstate: 16 (Omitted)</pre>
Workaround	<p>This has been modified with SRU 11.2.12.5.0.</p> <p>Add the following statements to the <code>/etc/system</code> file, and restart the system.</p> <pre>set auxv_cap_exclude_hw1=0x10000 set auxv_cap32_exclude_hw1=0x10000</pre>

Table 4-12 Problems Resolved in Oracle Solaris 11.3 *(continued)*

Bug	21306352
Model	SPARC M12-2S, SPARC M10-4S
Description	<p>The physical partition dynamic reconfiguration (PPAR DR) feature may fail if used to delete a system board in an environment containing a root domain (not a control domain) running Oracle Solaris 11.2 SRU 11.2.9.5.0 or later.</p> <p>[Example]</p> <pre>XSCF> deleteboard -y -c disconnect -m unbind=resource 01-0</pre> <p>PSB#01-0 will be unconfigured from PPAR immediately. Continue?[y n] :y</p> <p>Start unconfigure preparation of PSB. [1200sec]</p> <p>0.end</p> <p>Unconfigure preparation of PSB has completed.</p> <p>Start unconfiguring PSB from PPAR. [7200sec]</p> <p>0..... 30..... 60..... 90.....-</p> <p>end</p> <p>Timeout detected during communicate with Logical Domains Manager.</p> <p>XSCF></p>
Workaround	<p>You can avoid this problem by deleting the PCIe bus on the target system board from the domain before the PPAR DR feature deletes the system board.</p> <p>[Example]</p> <pre>primary# ldm remove-io PCIE8 domainX</pre> <p>:</p> <pre>primary# ldm remove-io PCIE15 domainY</pre> <pre>XSCF> deleteboard -y -c disconnect -m unbind=resource 01-0</pre> <p>[How to restore]</p> <p>After deleting the PCIe bus on the target system board from the domain, re-execute the deleteboard command on the XSCF.</p> <p>[Example]</p> <pre>primary# ldm remove-io PCIE8 domainX</pre> <p>:</p> <pre>primary# ldm remove-io PCIE15 domainY</pre> <pre>XSCF> deleteboard -y -c disconnect -m unbind=resource 01-0</pre>

Problems Resolved in Oracle Solaris 11.2

The following table lists the problems resolved in Oracle Solaris 11.2. You might encounter them in supported releases earlier than Oracle Solaris 11.2.

Table 4-13 Problems Resolved in Oracle Solaris 11.2

Bug	15812880
Model	SPARC M12-2S, SPARC M10-4S
Description	<p>If you try to access, via telnet or ssh, a domain where 8000 GB (about 7.8 TB) or greater memory is mounted, the following message appears on the destination control domain console and the access fails.</p> <ul style="list-style-type: none"> - For ssh error: /dev/ptmx: Not enough space error: session_pty_req: session 0 alloc failed - For telnet telnetd: open /dev/ptmx: Not enough space
Workaround	<p>This has been modified with Oracle Solaris 11.1 SRU 3.5.1 and patch 148888-04 for Oracle Solaris 10.</p> <p>Execute the following command to change ptmx_ptymax:</p> <p>[Example] # echo "ptms_ptymax/Z 0x400000" mdb -kw ptms_ptymax: 0 = 0x400000</p>
Bug	15822113
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>If ldm add-vcpu and ldm remove-vcpu are repeatedly executed in a shell script, the process that is being run may cause a core dump and abnormally terminate.</p>
Workaround	<p>This has been modified with SRU 11.1.7.5.0.</p> <p>If this defect occurs because SRU is not applied, execute the command again.</p> <p>In addition, when executing ldm remove-vcpu, execute it in such a condition that the process load is low.</p>

Table 4-13 Problems Resolved in Oracle Solaris 11.2 (*continued*)

Bug	15823255
Model	SPARC M12-2S, SPARC M10-4S
Description	<p>An Oracle Solaris panic may occur if the CPU allocation is changed using the Oracle Solaris <code>psradm(1M)</code> command or <code>psrset(1M)</code> command or the configuration of a virtual CPU is dynamically changed using the Oracle VM Server for SPARC <code>ldm</code> command under the environment that meets the following two conditions.</p> <ul style="list-style-type: none"> - The environment where the physical partition (PPAR) is composed of two or more SPARC M10-4S chassis. - The environment where the following <code>lgroup</code> exists when the <code>lgrpinfo</code> command is executed on the control domain or logical domain. <p>Among the <code>lgroups</code> that are displayed as "lgroup XX (intermediate):", only one number is displayed before (CPU) of the "Lgroup resources:" field. This number is not displayed before (memory).</p> <p>[Example]</p> <pre># /usr/bin/lgrpinfo ... lgroup 12 (intermediate): Children: 10, Parent: 0 CPUs: 0 1 Memory: installed 520M, allocated 494M, free 26M Lgroup resources: 1 (CPU); 10 11 (memory) Latency: 21 ...</pre>
Workaround	<p>This has been modified with Oracle Solaris 11.1 SRU 5.5 and patch 150400-01 for Oracle Solaris 10.</p> <p>Add the following line to <code>/etc/system</code> and restart Oracle Solaris:</p> <pre>set lgrp_topo_levels=2</pre>
Bug	15825208
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>In SPARC M10 Systems, the <code>scp(1)</code>, <code>sftp(1)</code>, and <code>ssh(1)</code> commands of Oracle Solaris may generate an error or installation of Oracle RAC may fail.</p>
Workaround	<p>This has been modified with Oracle Solaris 11.1 SRU 1.4.</p> <p>See "An error occurs in executing the scp(1), sftp(1), or ssh(1) command of Oracle Solaris or the installation of Oracle RAC fails (CR:15825208)."</p>
Bug	15826052
Model	SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>You cannot use the PCI hot plug (PHP) function to add a Quad Gigabit Ethernet card (SE1X7GQ2F) to a PCI Express slot of a PCI expansion unit.</p>
Workaround	<p>This has been modified with XCP 2050 and SRU 11.1.6.4.0.</p> <p>For XCP 2050, see the description of RTIF2-130528-001.</p> <p>If XCP and SRU are not applied, stop the logical domain to which you want add the PCI card before adding it.</p>

Table 4-13 Problems Resolved in Oracle Solaris 11.2 (*continued*)

Bug	15840018
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	After the firmware is updated to XCP 2031 or later on the SPARC M10 or to XCP 3021 or later on the SPARC M12, the following message appears at Oracle Solaris startup. NOTICE: skipping unsupported token: fforclnum
Workaround	This has been modified with SRU 11.1.6.4.0 and patch 148888-03 for Oracle Solaris 10. Ignoring this message does not have an impact on the system.
Bug	15851224
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	When starting the I/O domain, the following message may be output and the panic may persist. recursive rw_enter, lp=XXXXXXXXX wwwh=XXXXXXXXX thread=XXXXXXXXX
Workaround	This has been modified with SRU 11.1.12.5.0 and patch 150840-01 for Oracle Solaris 10. Add the following to /etc/system of the I/O domain and restart Oracle Solaris: forceload: drv/vpci Note that if starting of the I/O domain is disabled, you must change to inactive state the guest domain to which the virtual disk (vdisk), which is a target of the virtual disk service (vds) of the I/O domain, is assigned, with the ldm stop-domain and ldm unbind-domain commands. This will enable starting of the I/O domain. After starting the I/O domain, set the above.
Bug	15851441
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	When the memory fails and is degraded, the following message may be output at startup of Oracle Solaris, and the panic may persist. tilelet_assign_fini_cb(): tile 0xX in memgrp X was unused This may also occur when you set the mirror mode for the memory after saving the logical domain setting with ldm add-spconfig.
Workaround	This has been modified with SRU 11.1.11.4.0. See " If Oracle Solaris is activated during memory degradation, a panic may occur (CR:15851441) ."
Bug	15858713 16769782
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	If memory fault occurs and all memories allocated to guest domains are degraded, Oracle VM Server for SPARC ldmd daemon generates a core dump and terminates abnormally, and the ldm(1M) command ends with an error.
Workaround	This has been modified with SRU 11.1.10.5.0. On Oracle Solaris 10, it has been modified with Oracle VM Server for SPARC 3.1. If this defect occurs because SRU is not applied, replace the memory having an error. If you want to start Oracle Solaris while the memory having an error remains mounted, start it using the following procedure from XSCF. 1. Execute the poweroff(8) command to power off the physical partition (PPAR). 2. Execute the setdomainconfig(8) command to place the PPAR in the factory-default state. XSCF> setdomainconfig -p ppar_id -c default 3. Execute the poweron(8) command to restart PPAR. Oracle Solaris reboots in a configuration that includes only the control domain (factorydefault).

Table 4-13 Problems Resolved in Oracle Solaris 11.2 (*continued*)

Bug	15887244
Model	SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	When you start the SunVTS 7.0 ps14 and ps15 tests in a SPARC M10 system, they may terminate with an error.
Workaround	This has been modified with Oracle Solaris 11.1 SRU 4.6 and patch 149395-02 for Oracle Solaris 10. There is no workaround other than applying the modification.
Bug	16238762
Model	SPARC M12-2S, SPARC M10-4S
Description	If a system board is added to the PPAR by dynamic reconfiguration of physical partitions after booting the Oracle Solaris in the control domain with the factory-default configuration, or if CPUs on the system board are added to a domain by the <code>ldm add-vcpu</code> command after the system board is added by dynamic reconfiguration of physical partitions, the system will panic with the following message: panic[cpuX]/thread=XXXXXXXXXX: mpo_cpu_add: Cannot read MD
Workaround	This has been modified with SRU 11.1.7.5.0 and Oracle Solaris 10 patch 150400-12. Meanwhile, when this fix has been applied to the system, if a system board is added to the system by means of the dynamic reconfiguration of physical partitions, the following message may be output but as it has no effect on the system, ignore it. WARNING: mpo_cpu_add: defaulting to lgroup x for CPU x For the control domain or the domain whose CPU is added by the <code>ldm add-vcpu</code> command, add the following line to the domain's <code>/etc/system</code> file and restart Oracle Solaris. <code>set suspend_count = 1</code>
Bug	16292272
Model	SPARC M12-2S, SPARC M10-4S
Description	If you configure many guest domains in a system where 16 BBs compose one physical partition (PPAR), it takes time to perform binding for the guest domains. The time taken by new binding processing for each guest domain is approximately (number of guest domains that are already bound + 1) x 6 + 10 seconds. Therefore, if there are no domains for which binding has been performed, and binding is performed for the guest domains one by one through the <code>ldm bind-domain</code> command, the required time is obtained by summing the times taken to perform binding for all of them.
Workaround	This has been improved with SRU 11.1.16.4.0 and patch 150011-03 for Oracle Solaris 10. We recommend that you do not configure the system with a single PPAR but divide it into multiple PPARs and then configure guest domains in each PPAR. Using the recommended configuration described above, not only mitigates the described phenomenon but also helps improve fault tolerance. If a virtual network switch (vsw) is configured, you can reduce the time for binding by half by setting <code>inter-vnet-link</code> to off. For notes when <code>inter-vnet-link</code> is set to off, see the <i>Oracle VM Server for SPARC Administration Guide</i> or <i>Oracle VM Server for SPARC Release Notes</i> .

Table 4-13 Problems Resolved in Oracle Solaris 11.2 (*continued*)

Bug	17510986
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	If the guest domain is Oracle Solaris 11.1 and SRU 11.1.9.5.1 or later is applied to it, or if the guest domain is Oracle Solaris 10 and 150400-01 or newer is applied to it, system panic may occur when conducting live migration or dynamic reconfiguration of physical partitions.
Workaround	It has been modified with SRU 11.1.14.5.0 and Oracle Solaris 10 patch 150400-07.
Bug	17627526
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>Messages like the following are output to the console at the time of starting Oracle Solaris and the ldoms/ldmd service is put into maintenance mode.</p> <p>[Example of message]</p> <p>Jan 20 16:01:37 svc.startd[11]: svc:/ldoms/ldmd:default: Method "/opt/SUNWldm/bin/ldmd_start" failed with exit status 96.</p> <p>Jan 20 16:01:38 svc.startd[11]: ldoms/ldmd:default misconfigured: transitioned to maintenance (see 'svcs -xv' for details)</p> <p>At this time, messages like the following will be registered to the log file (/var/svc/log/ldomslmdmd: [Example of message]</p> <p>[Jan 21 20:08:55 Executing start method ("/opt/SUNWldm/bin/ldmd_start").]</p> <p>ldmd cannot communicate with the hypervisor as the required device does not exist:</p> <p>/devices/virtual-devices@100/channel-devices@200/virtual-channel@0:hvctl</p>
Workaround	<p>It has been modified with SRU 11.1.19.6.0 and Oracle Solaris 10 patch 150840-04.</p> <p>[How to restore]</p> <p>After confirming that the device file in question exists, restore the ldoms/ldmd service using the svcadm(1M) command of Oracle Solaris.</p> <pre># ls -l /devices/virtual-devices@100/channel-devices@200/virtual-channel@0:hvctl crw----- 1 root sys 148, 2048 Jan 21 20:08 /devices/virtual-devices@100/channel-devices@200/virtual-channel@0:hvctl # svcadm clear ldmd</pre>
Bug	17709858
Model	SPARC M12-2S, SPARC M10-4S
Description	<p>If the system board is deleted by dynamic reconfiguration of the physical partition, any of the following phenomena may occur.</p> <ul style="list-style-type: none"> - The following message is output from the logical domain, and Oracle Solaris enters the panic state. Fatal error has occurred in: PCIe fabric.(0xxx)(0xxx) - There is a hangup during the device resume processing of a logical domain, and deleteboard (8) ends with an error due to a timeout.
Workaround	This has been modified with SRU 11.1.15.4.0.

Table 4-13 Problems Resolved in Oracle Solaris 11.2 (*continued*)

Bug	17777004
Model	SPARC M10-4S
Description	If the logical domain has degraded memory because of a memory failure, when dynamic reconfiguration of the physical partition is executed with the deleteboard(8) command, Oracle Solaris on the domain with the degraded memory may enter the panic state.
Workaround	<p>This has been modified with SRU 11.1.17.5.0 and patch 150817-02 for Oracle Solaris 10. Before executing dynamic reconfiguration of the physical partition, check whether memory degradation has occurred from the control domain. If memory degradation has occurred, delete the associated memory area in advance.</p> <p>[How to check] Execute "ldm list-devices -a -S memory". If the resulting STATUS column displays "fail", the memory area has been degraded by SIZE from PA (physical address) displayed on the same line.</p> <p>[How to delete a memory area] Execute "ldm remove-memory <total value of above SIZES> <domain name>".</p>
Bug	18055846
Model	SPARC M12-2, SPARC M12-2S, SPARC M10-4, SPARC M10-4S
Description	When adding a PCI Expansion Unit by PCI hot plug (PHP), Oracle Solaris may panic by producing the following message. panic[cpuX]/thread=XXXXXXXXXX: Fatal error has occurred in: PCIe fabric.(0xX)(0xXX)
Workaround	It has been modified with Oracle Solaris 11.2 and Oracle Solaris 10 patch 150400-18.
Bug	18112775
Model	SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	When Oracle VM Server for SPARC 3.1.0.1/SRU 11.1.14.5.0 is installed on the control domain, if dynamically assigned memory is reduced from a guest domain, which is running Oracle Solaris 10, with the ldm set-memory or the ldm remove-memory command, Oracle VM Server for SPARC Idmd daemon on the control domain may produce a core dump and it may be restarted.
Workaround	<p>This has been modified with SRU 11.1.17.5.0 and patch 150817-02 for Oracle Solaris 10. Check the memory size that has been assigned to a logical domain with the "ldm list-domain" command and reduce it to the required size in several steps, using the "ldm remove-memory" command. It is recommended to reduce memory size by less than 256 MB at one time, but memory may also be reduced by a larger amount at one time.</p> <p>Meanwhile, the reduction may fail due to the occurrence of the same symptom while performing this action. In such a case, reduce the memory into smaller units.</p>
Bug	18009532
Model	SPARC M12-2S, SPARC M10-4S
Description	If dynamic reconfiguration is performed on a physical partition which has a dual channel 10Gbps FCoE card (SP1X7FAR2F/SP1X7FAS2F/7101673 (7101674)+7101677 (7101678)) mounted on it, system panic may occur due to the suspend processing of the inactivated qlcnlc driver.
Workaround	<p>This has been modified with SRU 11.1.19.6.0 and patch 149167-03 for Oracle Solaris 10. Before dynamically reconfiguring a physical partition on which this specific card is mounted, activate any unplumbed qlcnlc interface with the "ifconfig interface_name plumb" command.</p>

Table 4-13 Problems Resolved in Oracle Solaris 11.2 (*continued*)

Bug	-
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S, SPARC M10-1, SPARC M10-4, SPARC M10-4S
Description	<p>If Java VM is started on a SPARC M12 system or on a SPARC M10 system with the SPARC64 X+ processor, the following message may be output along with the production of a core dump.</p> <p>[Example of message]</p> <pre># A fatal error has been detected by the Java Runtime Environment: # # Internal Error (output.cpp:1576), pid=1310, tid=91 # guarantee((int)(blk_starts[i+1] - blk_starts[i]) >= (current_offset - blk_offset)) failed: shouldn't increase block size # <...> # Abort (core dumped)</pre> <p>Moreover, due to the production of the core dump by Java VM, the following events may occur:</p> <ol style="list-style-type: none"> 1. On a SPARC M12 system or on a SPARC M10 system with the SPARC64 X+ processor, the [Add Asset] operation on Oracle Solaris fails. 2. On a SPARC M12 system or on a SPARC M10 system with the SPARC64 X+ processor, the [Install Server] operation for Oracle Solaris installation fails. 3. On a SPARC M12 system or on a SPARC M10 system with the SPARC64 X+ processor, Enterprise Controller and Proxy Controller (Ops Center management server) installation on the domains fail.
Workaround	This has been modified with SRU 11.1.17.5.0.
Bug	-
Model	SPARC M10-4S
Description	<p>If dynamic reconfiguration is performed on a physical partition which has a Dual 10Gbps FCoE card (SE0X7EC12F/SE0X7EF12F/SG-PCIEFCOE2-Q-TA (SG-XPCIEFCOE2-Q-TA, 7105382)/SGPCIEFCOE2-Q-SR (SG-XPCIEFCOE2-Q-SR,7105381)) mounted on it, system panic may occur due to the processing of the qlge driver.</p>
Workaround	<p>This has been modified with SRU 11.1.8.4.0 and patch 145648-04 for Oracle Solaris 10.</p> <p>There is no workaround other than applying the modification.</p> <p>If this specific card is mounted on a system, conduct any reconfiguration in deactivated state instead of dynamic reconfiguration.</p>

An error occurs in executing the scp(1), sftp(1), or ssh(1) command of Oracle Solaris or the installation of Oracle RAC fails (CR:15825208)

[Workaround]

Using the following procedure, change the setting so that the AES_CTR, AES_CBC, MAC, and AES_CFB128 algorithms are not used with the assist function of the encryption unit.

- If you use it with the client function (scp(1), sftp(1), ssh(1), etc.):
 1. **Add the content of the setting to the target file as one line. A space is necessary only between "Cipher" and "aes128-cbc."**
 - Target file
 - Settings for entire system: /etc/ssh/ssh_config
 - Settings per user: \$HOME/.ssh/ssh_config

- Setting contents

```
Ciphers aes128-cbc,aes192-cbc,aes256-cbc,3des-bc,arcfour128,
arcfour256,arcfour,blowfish-cbc
```

- If you use it with the server function (such as Oracle Solaris sshd daemon)
 1. **Add the content of the setting to the target file as one line.**
 - Target file
/etc/ssh/ssh_config
 - Setting contents (recommended)

```
Ciphers 3des-cbc,arcfour128,arcfour256,arcfour,blowfish-cbc
```

2. **Restart the service with the following command:**

```
# svcadm restart svc:/network/ssh:default
```

- If the problem cannot be resolved with any of the client function and server function changes
 1. **Add the following, in place of the above content of the setting:**

```
UseOpenSSLEngine no
```

If Oracle Solaris is activated during memory degradation, a panic may occur (CR:15851441)

[Workaround]

If a panic occurs due to a memory failure, replace the failed memory.

If a panic occurs due to the memory mirror mode setting, start the system from the XSCF by using the following procedure.

Also, if a panic occurs due to a memory failure, starting the system from the XSCF by using the procedure shown below may prevent the problem, but this method is not always reliable. If a panic recurs even after the system is started by using the following procedure, replace the failed memory.

1. **Execute the poweroff(8) command to power off the physical partition (PPAR).**
2. **Execute the setdomainconfig(8) command to place the PPAR in the factory-default state.**

```
XSCF> setdomainconfig -p ppar_id -c default
```

3. **Execute the poweron(8) command to activate the PPAR.**

Oracle Solaris reboots in a configuration that includes only the control domain (factorydefault).

If you set the mirror mode for the memory, configure a logical domain after setting the mirror mode in the factory-default condition. Then, save the settings with `ldm add-spconfig`.

If the settings were saved with the mirror mode not set, do not specify them in the `ldm set-spconfig` command or the XSCF `setdomainconfig(8)` command for an environment using the mirror mode.

Chapter 5

Information on SPARC M12 System Hardware

This chapter describes special instructions and problems concerning the hardware of SPARC M12 systems (SPARC M12-1/M12-2/M12-2S).

- [Notes and Restrictions](#)
- [Problems With Hardware and Workarounds](#)

Notes and Restrictions

Notes on Using Internal SAS Disks and SSDs

We recommend using the internal SAS disks and SSDs of SPARC M12 systems with the Oracle Solaris MPxIO setting enabled.

For details on differences based on the type of internal SAS disk or SSD and Oracle Solaris release, reasons to recommend enabling MPxIO, effects of disabled MPxIO, setting procedures, confirmation procedures, and so on, see "[Notes on Internal SAS Disks, SSDs, and Oracle Solaris MPxIO Settings](#)" in "[Notes and Restrictions](#)" in "[Chapter 4 Information on Oracle Solaris](#)."

Notes on Using an External DVD Drive

USB bus power drive is not supported for external DVD drives connected via USB.

Notes on Using USB Memory

Use USB memory to install Oracle Solaris from USB memory, save/restore the system with Oracle Solaris Unified Archives (integrated archives), and save data with XSCF commands.

Before executing an Oracle Solaris or XSCF command that specifies USB memory as the data save destination, connect the USB memory used as the media.

The saved data contains system-related information. When using USB memory, you need to take care to manage the USB memory that has the saved data from the standpoint of maintaining security.

- Fujitsu does not guarantee the operation of the USB memory currently sold by any manufacturer.
- USB memory is not suitable for long-term data retention. Use magnetic tape or disk units for long-term data retention.
- Some types of the USB memory used are thought to possibly cause errors such as a data read/write failure. If such an error occurs, immediately stop using the USB memory.
- Connect USB memory directly to a server or XSCF USB port. A connection via a USB hub, extension cable, etc. may cause an error.
- Do not disconnect USB memory during access. Doing so may result in an error or a command being unable to respond.
- To connect or disconnect USB memory in the OpenBoot PROM state, stop the SPARC M12 system and then perform the operation. If you perform the operation without stopping the system, the OpenBoot PROM may become non-responsive

Restrictions on Replacing a Crossbar Box (Only for SPARC M12-2S)

Replacement of a crossbar box using the `replacefru(8)` command is not supported at present. To replace a crossbar box, perform the following procedure:

1. **Execute the `showhardconf` command to confirm that the crossbar box to be replaced is not the master chassis.**

The crossbar box with the "Role:Master" indication is the master chassis.

```
XSCF> showhardconf
:
XBBOX#80 Status:Normal; Role:Master; Ver:2038h; Serial:2111206001;
:
```

2. **If the crossbar box to be replaced is the master chassis, first execute the `switchscf` command to switch the box to standby.**

```
XSCF> switchscf -y -t Standby
```

3. **The master XSCF is switched. Log in to the XSCF again.**
4. **Power off the physical partition (PPAR) that uses the crossbar box, and then power off the crossbar box to be replaced.**

Confirm that the Power-LED on the operation panel of the crossbar box is turned off.

5. **Disconnect the power supply to the crossbar box to be replaced, and then replace it.**

Note - Although error logs for the crossbar box to be replaced are registered when the input power supply is disconnected, they can safely be ignored.

6. **Connect the power cord of the crossbar box to the input power supply.**
For details, see "5.3 Connecting Cables to the Crossbar Box" in the *Fujitsu SPARC M12-2S Installation Guide*.
Wait until the STANDBY-LED on the operation panel of the crossbar box goes on.
7. **Execute the diagxbu command to perform diagnosis of the newly installed crossbar box.**

```
XSCF> diagxbu -y -b XX -t YY -t ZZ
```

Specify the BB_IDs (00 to 15) of the powered-off SPARC M12-2S in XX, YY, and ZZ.

8. **Execute the showlogs command to confirm that no error occurred during the diagnosis.**

```
XSCF> showlogs error
```

9. **Confirm that there are no faulty components.**

```
XSCF> showstatus
```

Notes on LAN Switch Connections

We recommend connecting to a 10GBase-T switch when using a 10GbE LAN port. The 10GbE LAN port can be connected to a switch that is not 10GBase-T. However, after taking the time to link up, the port may connect at 100 Mbps or may not be able to communicate, depending on the switch.

In that case, use a semi-crossed cable (T-568A on one end and T-568B on the other end).

Such cases do not happen with an XSCF-LAN port.

Problems With Hardware and Workarounds

There is no problem that has been confirmed as of this moment.

Information on the PCI Expansion Unit

This chapter describes special instructions and problems concerning the PCI expansion unit hardware.

- [PCI Expansion Unit Firmware Versions and Support Information](#)
- [Direct I/O Function for the PCI Expansion Unit](#)
- [Problems With the PCI Expansion Unit and Workarounds](#)

PCI Expansion Unit Firmware Versions and Support Information

The following table lists the PCI expansion unit firmware versions that have been released for SPARC M12 systems.

Table 6-1 PCI Expansion Unit Firmware Versions

Version	Main Support Information
1310	SPARC M12 support

Direct I/O Function for the PCI Expansion Unit

On the SPARC M12-1/M12-2/M12-2S, you can use the direct I/O function of Oracle VM Server for SPARC for the PCI expansion unit. This makes it possible to assign an I/O domain for each slot of the PCI expansion unit. For details on the direct I/O function of Oracle VM Server for SPARC, see the *Oracle VM Server for SPARC Administration Guide* for the version used.

If the PCI expansion unit is connected to the SPARC M12-2/M12-2S, make the setting in ["Setting/Displaying the Direct I/O Function"](#) before using the direct I/O function. For the SPARC M12-1, the settings in ["Setting/Displaying the Direct I/O Function"](#) do need not be made. The direct I/O function can be used simply by connecting the PCI expansion unit to the SPARC M12-1.

Setting/Displaying the Direct I/O Function

To set the direct I/O function for the PCI expansion unit, use the `setpciboxdio(8)` command of the XSCF firmware. To confirm the present settings, use the `showpciboxdio(8)` command.
For details on the `setpciboxdio(8)` and `showpciboxdio(8)` commands, see the *Fujitsu SPARC M12 and Fujitsu M10/SPARC M10 XSCF Reference Manual* or the manual page for each command.

Problems With the PCI Expansion Unit and Workarounds

This section describes problems regarding the PCI expansion unit as well as the workarounds for them for each version of the PCI expansion unit firmware.

Problems and Their Workarounds for All Versions of the PCI Expansion Unit Firmware

The following table shows problems that might occur in any versions of Oracle Solaris being supported and workarounds for them.

Table 6-2 Problems and Their Workarounds for All Versions of the PCI Expansion Unit Firmware	
RTI No.	RTIF2-130703-001
Model	SPARC M12-2, SPARC M12-2S
Description	When installing a PCI expansion unit by PCI hot plug (PHP), among PCI expansion unit slots 6, 7, 10 and 11, those without HBA will have the command execution result "disconnected" instead of "empty" for the Oracle Solaris <code>cfgadm(1M)</code> command. Although the display is not appropriate, the slots work normally if you mount HBA. This phenomenon does not occur if you restart the logical domain after connecting the PCI expansion unit.
Workaround	This is just a display problem and does not affect operation.

Table 6-2 Problems and Their Workarounds for All Versions of the PCI Expansion Unit Firmware (*continued*)

RTI No.	RTIF2-130703-002
Model	SPARC M12-2, SPARC M12-2S
Description	When you install a PCI expansion unit with PCI hot plug (PHP), there may be lane degradation.
Workaround	When using PHP, execute <code>cfgadm -c configure</code> instead of <code>cfgadm -c connect</code> .
RTI No.	RTIF2-130703-003
Model	SPARC M12-2, SPARC M12-2S
Description	When you install a PCI expansion unit by PCI hot plug (PHP), a PCI Express correctable error may occur and cause degradation of the PCI expansion unit at the next reboot.
Workaround	If you see a fault error message after installing a PCI expansion unit with PHP, reinstall the PCI expansion unit.
RTI No.	RTIF2-130703-004
Model	SPARC M12-2, SPARC M12-2S
Description	When you install a PCI expansion unit with PCI hot plug (PHP), the PCI expansion unit may not be recognized.
Workaround	If the PCI expansion unit is not recognized after installing it with PHP, reinstall the PCI expansion unit.
RTI No.	RTIF2-130724-002
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>If a 6 Gbps SAS card is mounted in the PCI expansion unit with PCI hot plug (PHP), linkup with PCI Express 8 Lane may not succeed, and Speed may be displayed as "5.0GTx4" or "5.0GTx2" by the <code>prtdiag</code> command of Oracle Solaris.</p> <p>[prtdiag output example] /SYS/PCI0 PCIE LSI,sas-pciex1000,72 LSI,2008 5.0GTx2 /pci@8100/pci@4/pci@0/pci@9/pci@0/pci@0/pci@0/pci@1/pci@0/pci@8/LSI,sas@0</p>
Workaround	Restart the physical partitions (PPARs) or I/O domain, or reinstall the 6Gbps SAS card by PHP.
RTI No.	RTIF2-130724-003
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>The following error may be registered for the PCI cards mounted in slots 6, 7, 10, and 11 of the PCI expansion unit when the physical partitions (PPARs) are started.</p> <p>[Error message example] FRU: /MBU/PCI#0/PCIBOX#0000/PCI#7 Msg: PCICARD failed</p>
Workaround	When the device can be recognized from Oracle Solaris, ignore this error message.

Table 6-2 Problems and Their Workarounds for All Versions of the PCI Expansion Unit Firmware (*continued*)

RTI No.	RTIF2-170215-001
Model	SPARC M12-1, SPARC M12-2, SPARC M12-2S
Description	<p>Suppose that the PCIe root complex connecting the PCI expansion unit is dynamically added to a logical domain with the ldm add-io command. In this case, any of the following phenomena may occur on the PCI cards mounted in slots of the PCI expansion unit.</p> <ul style="list-style-type: none">- The following error may be registered: [Error message example] FRU: /BB#0/PCI#0/PCIBOX#0000/PCI#11 Msg: PCICARD failed- There may be "lane degrade". To check whether there is "lane degrade", execute the prtdiag command of Oracle Solaris and check "Cur Speed/Width".
Workaround	<p>There is no effective workaround. [How to restore] Restart the logical domain connected to this PCI expansion unit.</p>

Chapter 7

Information on SPARC M12 Manuals

There are currently no revisions.

