



J2X1-7747-01ENZ0(00)

# Enhanced Support Facility User's Guide



**FUJITSU**



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# Preface

## Purpose

This manual provides an overview of each of the functions of the Enhanced Support Facility (ESF). These functions are provided for the SPARC Enterprise Server. Read this manual before using the ESF for the first time.

## Intended Readers

This manual is intended for the following readers:

- System administrators who introduce and operate the ESF.
- Technicians who maintain system hardware

## Organization

This manual is organized as follows:

### Chapter1: Overview of the Enhanced Support Facility

Describes an overview of the ESF.

### Chapter2: Overview of Functions

Describes the function of the ESF.

### Chapter3: Details of Components

Describes the following components provided by the ESF.

For details on another component, see the user's guide for the component.

- Patch Information Collect Command
- Server Default Configuration
- SCF/SCSI Fault LED support option [SPARC Enterprise Server]

### Chapter4: Notes

Describes the notes on ESF.

## Notation

Oracle Solaris might be described as Solaris, Solaris Operating System, or Solaris OS.

Oracle VM Server for SPARC might be described as Logical Domains, or LDomS.

The following names, abbreviated expressions, and symbols are used in this manual:

### Manual names

- This manual itself is referred to as "this manual."
- Any manual for this product is sometimes referred to by omitting "Enhanced Support Facility" at beginning of the formal name and supported server models at the end of the formal name. "User's Guide for Machine Administration," or "User's Guide for REMCS" is one of such examples.

Example: Enhanced Support Facility User's Guide for REMCS

→ User's Guide for REMCS




## Abbreviation

In this document, the formal names of the products below are abbreviated as follows:

Formal name	Abbreviation
SPARC M10-1/M10-4/M10-4S	SPARC M10 Systems
SPARC Enterprise M3000/M4000/M5000/M8000/M9000	SPARC Enterprise M series
SPARC T3-1/T3-2/T3-4/T4-1/T4-2/T4-4 SPARC Enterprise T1000/T2000/T5120/T5140/T5220/T5240/T5440	SPARC Enterprise T series

## Marks

In this manual, the marks below are used for cautionary messages and reference information.

Mark	Description
 Note	Contains a warning or cautionary message. Make sure you read it carefully.
 Point	Contains reference information that you will find useful.
 See	Provides reference information. Refer to the information when necessary.

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# Manuals and how to use them

## Manuals

The following are the relevant manuals:

No	Manual title	Purpose and use
1	Enhanced Support Facility 5.0 Installation Guide	Describes how to install and uninstall the Enhanced Support Facility.
2	Enhanced Support Facility Update Information	Describes the functional additions and modifications made to previous versions of the Enhanced Support Facility.
3	Enhanced Support Facility Technical Guide	Provides the Enhanced Support Facility information required for constructing an advanced security system.
4	Enhanced Support Facility User's Guide (This manual)	Outlines each function of the Enhanced Support Facility and describes the SCF/SCSI Fault LED support option. The manual also provides notes on operation of the Enhanced Support Facility.
5	Enhanced Support Facility User's Guide for Machine Administration	Describes the Machine Administration functions and how to use them.
6	Enhanced Support Facility User's Guide for Machine Administration Automatic power control function (Supplement edition)	Explanation of Automatic power control function to SPARC Enterprise M series.
7	Enhanced Support Facility User's Guide for REMCS	Describes how to enable the REMCS functions and how to collect software investigation materials.
8	Enhanced Support Facility User's Guide for Dynamic Reconfiguration	Describes the Dynamic Reconfiguration functions and provides details of the DR command interface.
9	Enhanced Support Facility User's Guide for Dynamic Reconfiguration I/O device	Describes the procedures using the Dynamic Reconfiguration functions for hot swapping and hot expansion of file-related PCI cards and network-related PCI cards.
10	System Parameter Diagnosis 1.1 User's Guide	Describes the System Parameter Diagnosis for detecting errors in system settings.
11	Tape Driver Configuration Tool 1.2 Update2 User's Guide	Describes the function that automatically configures tape drivers.
12	Enhanced Support Facility User's Guide for System Data Output Tool	Describes the system information collection tool functions and how to use them.

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## How to use the manuals

Refer to the relevant manual on the basis of the phase in which the Enhanced Support Facility is being used.

Manual names	Consideration for product installation	Installation	Operation	Maintenance
Enhanced Support Facility 5.0 Installation Guide		Y	Y	Y
Enhanced Support Facility Update Information	Y	Y		Y
Enhanced Support Facility Technical Guide		Y	Y	Y
Enhanced Support Facility User's Guide	Y	Y	Y	Y
Enhanced Support Facility User's Guide for Machine Administration		Y	Y	Y
Enhanced Support Facility User's Guide for Machine Administration Automatic power control function (Supplement edition)			Y	
Enhanced Support Facility User's Guide for REMCS		Y	Y	Y
Enhanced Support Facility User's Guide for Dynamic Reconfiguration			Y	Y
Enhanced Support Facility User's Guide for Dynamic Reconfiguration I/O device			Y	Y
System Parameter Diagnosis 1.1 User's Guide			Y	Y
Tape Driver Configuration Tool 1.2 Update2 User's Guide		Y	Y	Y
Enhanced Support Facility User's Guide for System Data Output Tool				Y

Y: Supported

- Consideration for product installation: understanding main features and functions, positive effects, application examples of the product before installation
- Installation: installing the product or setting up the environment (saving or restoring the environment, etc.)
- Operation: managing and operating the constructed information system
- Maintenance: troubleshooting system problems

# Revision History

Revision	Date	Details
1	September 04, 2012	First Edition.

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# Chapter 1 Overview of the Enhanced Support Facility

This chapter provides an overview of the Enhanced Support Facility.

## **Enhanced Support Facility**

One of the major features of the UNIX Server of Fujitsu is their high reliability. The Enhanced Support Facility is one of such high reliability services. Being a dedicated system, it provides value-added functions including monitoring tools and a variety of utilities, which can reduce the time required for recovery from a failure or problem.

## **Enhanced Support Facility software that provides UNIX Server of Fujitsu with value-added functions**

The Enhanced Support Facility is software that provides functions for enhancing the manageability and maintainability of the Oracle Solaris.

As a standard function, the Oracle Solaris is provided with system monitoring mechanism that reports the status of an error when it occurs.

The Enhanced Support Facility analyzes log information reported by the System Control Facility and log information of the operating system, and reports the status of the main units in an easy-to-understand format. Also, the Enhanced Support Facility provides tools that facilitate the power control and maintenance of the main unit.

Combining the Oracle Solaris and Enhanced Support Facility lets users achieve stable system operation and quick recovery from problems, and lets users implement solid system deployment for secure Solaris operation and maintenance.

# Chapter 2 Overview of Functions

## 2.1 Function List

This section explains the functions of the Enhanced Support Facility.

Please refer to the following table for the supported features in each of the Oracle Solaris versions.

**Table 2.1 Functions supporting them**

Function		Oracle Solaris		See
		11	10	
Maintenance/Support	Information management	○	○	2.1.1
	Machine administration	○	○	2.1.2
	Remote support	○	○	2.1.3
	Dynamic Reconfiguration	×	○	2.1.4
	System Data Output Tool	○	○	2.1.5
	Tape Driver Configuration Tool	○	○	2.1.6
	Dump assist	○	○	2.1.7
	Automatic dump analysis	○	○	2.1.8
	Patch Information Collect Command	×	○	2.1.9
	System Parameter Diagnosis	×	○	2.1.10
	Server Default Configuration	○	○	2.1.11
	Automatic power supply control	○	○	2.1.12
High reliability	SCF/SCSI Fault LED support option	○	○	2.1.13

## 2.1.1 Information management

The information management is implemented by the component that manages the version of the Enhanced Support Facility.

The Enhanced Support Facility also provides the `esfver` command used for displaying the version.

This command has options that can be used to display the version of each package included in this software, enabling their management.

For details of this command, see the *Installation Guide* of Enhanced Support Facility 3.0 or later.

For details of the update history of the Enhanced Support Facility including information on earlier versions, see the *Update Information*.

Among the other functions, there is a function for managing the installation time conditions by collecting and maintaining log information at the installation time.

## 2.1.2 Machine administration

Machine Administration is a software product that monitors the status of main unit hardware and reports any changes in the status to the specified mail address or remote support, thereby assisting in restoration work in the event of a problem.

For details, see the *User's Guide for Machine Administration*.

It provides the explanation of the functions of Machine Administration and its operation method.

### 2.1.3 Remote support

Remote support is a function that supports customers' operations, through the remote customer support system (REMCS) developed by Fujitsu.

The software that supports the function is referred to as REMCS Agent.

REMCS Agent monitors devices on behalf of customers, and communicates with the support center through the network, thereby providing customers with customer operation support. Since latest information on customer devices is automatically sent to the REMCS Center by REMCS Agent, the support provided is more prompt and appropriate than that provided via telephone or facsimile.

You can receive good support without giving detailed problem description to us because necessary information of the problem is sent to the REMCS Center as soon as the problem occurs.

For details, see the *User's Guide for REMCS*.

It describes the setup method for enabling the REMCS function and provides the procedure for collecting software investigation information.

### 2.1.4 Dynamic Reconfiguration

The Dynamic Reconfiguration function allows a system board to be connected (attach) or disconnected (detach) from the Oracle Solaris, and allows the partition configuration to be changed (move of a system board) without stopping the system.

Also, the DR commands (drc, drcstat, and adrc) included in the components of the Enhanced Support Facility can be used for the basic operations of DR:

- Commands: drc, drcstat, and adrc
- Linkage script for automatically processing DR operation
- Message files to be output by the linkage script
- Utility tool designed for the linkage script

For details of the Dynamic Reconfiguration function and the DR command interfaces, see the *User's Guide for Dynamic Reconfiguration*.

For details of the procedures using the Dynamic Reconfiguration functions for hot swapping and hot expansion of file-related PCI cards and network-related PCI cards, see the *User's Guide for Dynamic Reconfiguration I/O Device*.

### 2.1.5 System Data Output Tool

The system data output tool is a software product that collects files relating to hardware and software configurations, the environment setup, logs, and operating states (about 2,000 files of about 200 types) and command execution results. You can collect the necessary files at any time (this may be subject to change) by executing only the system information output command.

Because the information output is not subjected to processing other than compression, the existing command for each information item can be used for analyzing the information.

For details of the system information output tool, see the *User's Guide for System Data Output Tool*.

## 2.1.6 Tape Driver Configuration Tool

The tape driver configuration tool is a component that automatically sets the tape driver configuration (`/kernel/drv/st.conf`). If a tape unit requiring configuration setup is used, this tool automatically sets the configuration information of the device in the `/kernel/drv/st.conf` file.

For details, see the *Tape Driver Configuration Tool 1.2 Update2 User's Guide*.

## 2.1.7 Dump assist

At reboot after a system crash, the dump assist function uses the System Data Output Tool to save the crash dump data, and collect the system information required to investigate the problem.

## 2.1.8 Automatic dump analysis

The following function is provided with an automatic dump analysis.

- `cocore`, which is a core dump-related file collection tool  
`cocore` automatically collects files (including libraries) required for analysis of process core files and creates archives.  
For details of `cocore`, see `/opt/FJSVana/doc/README.cocore(.ja)`.

## 2.1.9 Patch Information Collect Command

The patch information collect command (`fjcollect`) is used by the patch management tool to collect necessary data.

The patch management tool checks the patch application status, checks for unapplied patches, downloads patches, and applies patches.

For details of the patch version information collection command, see Section 3.1, "Patch Information Collect Command" in this manual.

## 2.1.10 System Parameter Diagnosis

The system parameter diagnosis function checks the system settings of the Oracle Solaris that are likely to be changed, detects settings that prevent proper operation of the Oracle Solaris, and reports such settings.

For details of system parameter diagnosis, see the *System Parameter Diagnosis 1.1 User's Guide*.

## 2.1.11 Server Default Configuration

### Oracle Solaris 10 or earlier

#### Suppression of Solaris user registration

The display of the Solaris user registration window, which is to be displayed after the first startup after the installation, is suppressed.

#### Suppression of the system save stop function

The execution of the system save stop function by general users is inhibited. Thus, if the power-off button on the keyboard is pressed mistakenly, the system is prevented from being stopped.

#### Server support function

To increase the maintainability of the server system, the following trace information is collected:

##### Event Trace

Kernel operation log including traps and interrupts

##### Tracking KMA

Detection of illegal use of dynamic memory in the kernel

##### KMA Failure Log

Log collected when dynamic memory allocation in the kernel fails

##### TCP/IP internal trace

Collection of the information of sent or received packets for each connection unit

Information collected with this function is recorded in files that are collected by crash dump or the System Information Output Tool (fjsnap).

### Oracle Solaris 11 or later

#### Server support function

To increase the maintainability of the server system, parameters are setup to collect the following trace information:

##### Event Trace

Kernel operation log including traps and interrupts

##### Tracking KMA

Detection of illegal use of dynamic memory in the kernel

##### KMA Failure Log

Log collected when dynamic memory allocation in the kernel fails

Please refer to "Update Information" for details on previous versions etc. of Enhanced Support Facility

## 2.1.12 Automatic power supply control

According to a specified operation schedule, the automatic power supply control function provides the functions below to perform automatic power-on and power-off of the system. This function can be used through the command interface or Machine Administration Menu. For details, see the *User's Guide for Machine Administration Automatic power control function (Supplement edition)*.

## 2.1.13 SCF/SCSI Fault LED support option

The SCF/SCSI Fault LED support option is software that provides assistance in the following areas:

- accessing the eXtended System Control Facility (XSCF) and RCI (Remote Cabinet Interface), which are provided in high-end models and mid-range models of SPARC Enterprise Server
- SCSI disk drive hot swapping implemented through functions of Machine Administration

For details of the SCF/SCSI Fault LED support option, see Section 3.3, "SCF/SCSI Fault LED Support Option [SPARC Enterprise Server]" in this manual.



## Chapter 3 Details of Components

## 3.1 Patch Information Collect Command

This chapter explains the Patch Information collect command - `fjcollect(1M)`.

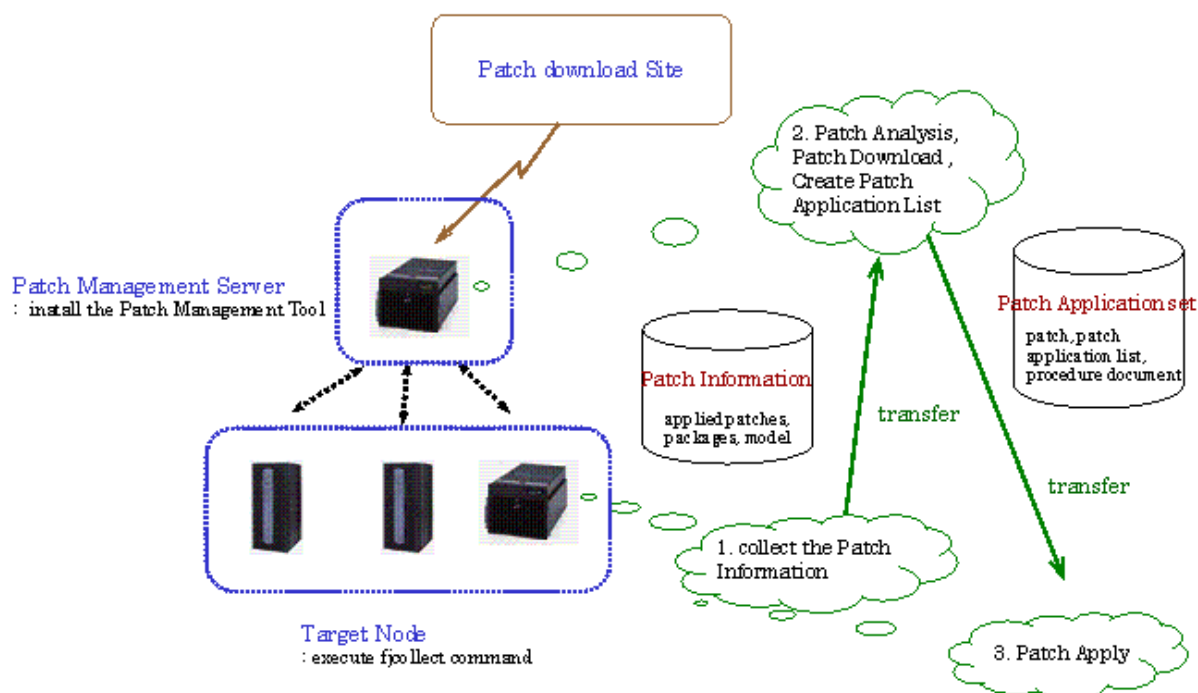
### 3.1.1 Overview

The Patch Information Collect Command (`fjcollect` command) collects "Patch Information" necessary for a patch analysis, such as information of patches applied on the system, packages installed on the system, and machine models.

This information is used to analyze the system with the Patch Management Tool or UpdateAdvisor (Solaris OS).

The Patch Management Tool and UpdateAdvisor (Solaris OS) are tools that enable you to promote the efficiency of a complicated procedure in the system management task, such as confirming patch application status, investigating unapplied patches, and downloading and applying patches.

If you would like to get the Patch Management Tool, please contact Fujitsu's technical staff.



## 3.1.2 Command reference

### 3.1.2.1 fjcollect(1M)

#### NAME

fjcollect - Collect Patch Information of Target Node

#### SYNOPSIS

```
/opt/FJSPmgc/bin/fjcollect [-v] [-Z] [-o output_file] [-s time]
```

#### DESCRIPTION

The fjcollect command collects the Patch Information required for patch analysis of a Target Node. The following information is collected, and stored in the tar.Z format or zip format.

The following information is collected:

Package information (pkginfo -l)	(*1)
Patch application information (patchadd -p)	(*2)
Hostname, Oracle Solaris version (uname -a)	
System configuration (prtconf)	
Host ID (hostid)	
Patch information collection date	
Patch application date	
Patch backout information	

\*1) If you specify “-s”, part of package information is collected.

\*2) If you specify “-s”, showrev -p is collected.

#### OPTION

**-v**

Display the fjcollect command version. The version shown here is 1.2.3.

**-Z**

Collect patch information in the zip format. If omitted, the tar.Z format is used instead of the zip format.

Please analyze the patch information in the zip format using UpdateAdvisor(Solaris OS) 1.6 or later or Patch Management Tool 1.6 or later.

**-s time**

Specify the length of idle time (second) if you want to reduce CPU utilization during the execution of the fjcollect command. You can specify a figure between 0 and 99. The run time of the command is long in proportion to the specified time.

**-o *output\_file***

Specify the name of the archive file for storing the result of patch information collection. Specify the file name with the absolute path (starting with /) or a relative path. Enter the name without the extension (“.tar.Z” or “.zip”). The file named “output\_file.tar.Z” or “*output\_file*.zip” will be created.

If omitted, the file name will be “*NODE*-*yyyymmdd*.tar.Z” or “*NODE*-*yyyymmdd*.zip” in the current directory. (*Node* is the name of the node on which a collection was made, and *yyyymmdd* is the date when the collection was made.)

## EXAMPLES

Collecting patch information and storing in file /data/collect\_data/node01.tar.Z

```
$ /opt/FJSVpmgc/bin/fjcollect -o /data//collect_data/node01
```

Collecting patch information and storing in file /data/collect\_data/node01.zip

```
$ /opt/FJSVpmgc/bin/fjcollect -Z -o /data//collect_data/node01
```

## EXIT CODE

0 Normal end  
>0 Abnormal end

## SEE ALSO

zip(1)

## NOTES

The fjcollect command can be executed by a user other than the superuser.  
If there is no /usr/bin/zip command, the -Z option is unavailable.

## 3. 1. 3 Error Messages

### ERROR: fjcollect: Cannot create file: *FILE\_NAME*

#### Cause:

The tar(1), compress(1) or zip(1) command failed and the file FILE\_NAME could not be created.

Can not create a file in the output destination directory (the current directory or the directory specified with the -o option). Access permissions (read/write/search the directory) may not be set for the output destination directory or there may be no sufficient free space on the file system.

#### Action:

Check access permissions for the output destination directory and free space of the file system. If no access permissions have set for the output destination directory, please specify another directory.

Follow the instructions in the error message displayed for the tar(1) or compress(1) or zip(1) command because detailed information on the cause of the error may be displayed.

### ERROR: fjcollect: Cannot create patch data file: *FILE\_NAME*

#### Cause:

The patch information could not be collected and the file FILE\_NAME could not be created.

#### Action:

Please contact Fujitsu's technical staff.

**ERROR: fjcollect: Command execution failed: *COMMAND\_NAME*****Cause:**

Execution of the command *COMMAND\_NAME* has failed.

**Action:**

Please contact Fujitsu's technical staff.

**ERROR: fjcollect: Command not found: *COMMAND\_NAME*****Cause:**

The required command *COMMAND\_NAME* could not be found.

In case of `"/usr/bin/zip"`, no SUNWzip package has been installed.

In case of non `"/usr/bin/zip"`, the command may have been run on an unsupported version of Oracle Solaris.

**Action:**

Please execute the command on Oracle Solaris 10. If *COMMAND\_NAME* is `"/usr/bin/zip"`, please check whether SUNWzip package is installed. If SUNWzip package is not installed, please install it.

**ERROR: fjcollect: Directory not found: *DIR\_NAME*****Cause:**

The specified output destination directory *DIR\_NAME* does not exist.

**Action:**

Specify the correct directory name.

**ERROR: fjcollect: File already exists: *FILE\_NAME*****Cause:**

The file *FILE\_NAME* that stores the patch information already exists. The command cannot be executed if there is a file or directory having a name that is specified with the `-o` option or there is a file or directory having any of the following extensions `".tar"` or `".tar.Z"` or `"zip"` if the `-Z` option has been specified.

**Action:**

Specify another file name or delete the existing file, and then re-execute the command.

**ERROR: fjcollect: Idle time too long (Max: 99).****Cause:**

A value more than 99 was specified for the `-s` option.

**Action:**

Specify a value from 0 to 99 for the `-s` option.

**ERROR: fjcollect: Internal error occurred (*INTERNAL\_MESSAGE*).****Cause:**

There is an error in the setting or environment for this command to execute or an error has occurred during the processing of this command. Detailed information for investigation is displayed in *INTERNAL\_MESSAGE*.

**Action:**

---

Please contact Fujitsu's technical staff.

**ERROR: fjcollect: Invalid character: *INPUT\_CHAR***

**Cause:**

An invalid character, `INPUT_CHAR`, was specified for the path name of the output destination directory.

**Action:**

Use only alphanumeric characters, "-", "\_", ".", or "/" in the file name.

**ERROR: fjcollect: Unsupported architecture: *ARCH***

**Cause:**

The command was executed on an unsupported architecture `ARCH`.

**Action:**

Execute on SPARC Enterprise Server.

## 3.2 Server Default Configuration

This section provides notes on the Server Default Configuration.

### 3.2.1 Notes on the Server Default Configuration functions

- The Solaris user registration screen that has been displayed during login from a desktop screen, such as the CDE login screen (dtlogin), is no longer displayed after this product is installed.

This is not a problem to users who purchased this product from Fujitsu because they need not use that user registration screen for user registration. Note that the Solaris user registration screen may be displayed even when this product is installed on a system running the Oracle Solaris 10 or a later version. In such cases, do not use that Solaris user registration screen for user registration.

- The following message might be displayed by TCP/IP internal trace daemon during shutting down the system. This message can be safely ignored.

```
limstrerr[749]:[ID 978269 daemon.error] fail to getmsg: Error 0
```

## 3.3 SCF/SCSI Fault LED Support Option [SPARC Enterprise Server]

### 3.3.1 Overview

This section explains functions provided by the SCF/SCSI Fault LED support option.

#### 3.3.1.1 Overview of functions

The SCF/SCSI Fault LED support option is software that provides assistance in the following areas:

- Accessing the eXtended System Control Facility (XSCF) and RCI (Remote Cabinet Interface), which are provided in high-end models and mid-range models of SPARC Enterprise Server
- SCSI disk drive hot swapping implemented through Machine Administration functions

The SCF/SCSI Fault LED support option provides the following functions:

- RCI configuration information display function
- Operator call function
- SCSI disk hot swapping support function
- OS shutdown factor display function

For details of each function, see the relevant section provided below.

##### 3.3.1.1.1 RCI configuration information display function

The RCI configuration information display function accesses the XSCF and displays in list format the RCI configuration information held by the XSCF.

The SCF/SCSI Fault LED support option provides the `rciinfo(1M)` command for the display of the RCI configuration information.

For details of the `rciinfo(1M)` command, see Section 3.3.2, "Command reference."

##### 3.3.1.1.2 Operator call function

The operator call function accesses the XSCF and enables the control of an external power control device or terminal board connected to the RCI.

The SCF/SCSI Fault LED support option provides the `rciopecall(1M)` command to enable the control of an external power control device or terminal board.

For details of the `rciopecall(1M)` command, see Section 3.3.2, "Command reference."



### **3.3.1.1.3 SCSI disk hot swapping support function**

The SCSI disk hot swapping support function assists the hot swapping function of disks, which is provided by Machine Administration.

To assist the hot swapping of disks, the SCSI disk hot swapping support function provides the SCSI Fault LED driver (FJSVsfled) and the diskadm(1M) command.

The target devices of the SCSI disk hot swapping support function are expansion file units manufactured by Fujitsu that are connected to Ultra320 SCSI cards and for which the Fault LED control can be enabled.

The SCSI disk hot swapping support function does not support the following file units:

- expansion file units for which the Fault LED control cannot be used
- internal SPARC Enterprise Server SAS disk units
- file units connected to Fibre Channel cards

For details of the diskadm(1M) command, see Section 3.3.2, "Command reference."

### **3.3.1.1.4 OS shutdown factor display function**

When the Oracle Solaris is about to be shut down because of an environmental problem detected by the XSCF, the event causing this shutdown can be displayed with the OS shutdown factor display function.

The XSCF reports an error event to the SCF driver because of an environmental problem, after which the SCF driver performs the shutdown of the Oracle Solaris.

Before the completion of this OS shutdown, this OS shutdown factor can be displayed with the scfsreason(1M) command provided by the SCF/SCSI Fault LED support option.

For details of the use of the OS shutdown factor display function and relevant notes, see Section 3.3.1.3, "Notes on OS shutdown factor display function."

For details of the scfsreason(1M) command, see Section 3.3.2, "Command reference."

## **3.3.1.2 Setting for when the server is installed**

This section explains the setting specific to the SCF/SCSI Fault LED support option according to the system's operation pattern. This setting is necessary when the server is installed.

### **3.3.1.2.1 Changing PATH**

Since the SCF/SCSI Fault LED support option is installed in a path that is different from the one used for ordinary commands of the Oracle Solaris, it is necessary to change the PATH environment variable before using some commands.

If the root shell is the Bourne shell, add the following lines in the /.profile file. If the /.profile file does not exist, create a new one.

```
PATH=$PATH:/opt/FJSVhwr/sbin
export PATH
```

Also, when considering that the user will use su(1M) to become the super user, it will be more convenient to change the SUPATH variable in the /etc/default/su file in advance. The default setting of the SUPATH variable in the /etc/default/su file is as follows:

```
# SUPATH sets the initial shell PATH variable for root
#
# SUPATH=/usr/sbin:/usr/bin
```

Set SUPATH as follows:

```
# SUPATH sets the initial shell PATH variable for root
#
SUPATH=/usr/sbin:/usr/bin:/opt/FJSVhwr/sbin
```

### 3.3.1.3 Notes on the OS shutdown factor display function

With the OS shutdown factor display function, OS shutdown factors arising from an environmental problem including a FAN error, PSU error, temperature alarm, and power failure can be displayed.

The following OS shutdown factors can be displayed:

- Ordinary shutdown
- Shutdown due to a FAN error
- Shutdown due to a PSU error
- Shutdown due to a temperature alarm
- Shutdown due to a power failure when an UPS is connected
- Shutdown by the XSCF or due to panel operation
- Shutdown due to RCI event notification from another host or an external power control device
- Shutdown due to occurrence of SCF HALT

These OS shutdown factors can be displayed with the `scfsreason(1M)` command.

For details of the `scfsreason(1M)` command, see Section 3.3.2, "Command reference."

The OS shutdown factor display function can be used when middleware or a user application performs some special processing prior to OS shutdown due to an environmental problem. Middleware or a user application provides a shutdown script beforehand. It executes the `scfsreason(1M)` command from the shutdown script to acquire the OS shutdown factor. Then, it performs some special processing according to the OS shutdown factor.

The following is an example of a shutdown script:

```
#!/bin/sh
#
# User Action Script Shutdown for UPS power fail
#
case $1 in
'stop')
    if [ ! -x /opt/FJSVhwr/sbin/scfsreason ]; then
        exit 0
    fi
    TRIGGER=`/opt/FJSVhwr/sbin/scfsreason | /bin/cut -f3 -d' '`
    case $TRIGGER in
    'UPS')
        Specific processing
        ;;
    *)
        ;;
    esac
    ;;
*)
    ;;
esac
exit 0
```

For details of shutdown scripts, see `init.d(4)` in the Oracle manual.

## Notes

- If special processing is performed with a shutdown script, sufficient consideration and testing is required to ensure that such processing does not continue for an excessively long time and that the processing is not excessively complicated. If a shutdown script continues processing for an excessively long time, it may cause a hardware error or another problem.
- Be sure to set the execution permission to a created script.

### 3.3.2 Command reference

This section explains the commands provided by the SCF/SCSI Fault LED support option. The following table lists the commands and provides an overview of their functions:

**Table 3.1 Commands provided by this software**

Command name	Function
rciinfo(1M)	Displays information of a device connected via the RCI
rciopecall(1M)	Executes operator call notification for RCI-connected devices
diskadm(1M)	Assists SCSI disk hot swapping
scfsreason(1M)	Displays shutdown factor caused by an environmental problem

#### 3.3.2.1 rciinfo(1M)

##### Name

rciinfo - Displays information of a device connected via the RCI.

##### Syntax

```
/opt/FJSVhwr/sbin/rciinfo
```

##### Function

Displays information of a device connected via the RCI. Address, status, and other information displayed are all hexadecimal numbers.

##### Example

```
# /opt/FJSVhwr/sbin/rciinfo
HOST
address:00010100 mode:010038a0 status:80000000
LIST
Address  status  device-class  sub-class  category
000101ff  9a      0001          04         host
003001ff  90      0400          04         disk
003002ff  90      0400          05         disk
```

HOST represents main unit information.

LIST represents information of devices connected via the RCI including information of the main unit.

#### Note

This command displays information of RCI devices contained in the RCI configuration table held by the XSCF.

If the RCI has not been configured, the system will not display information of an RCI device even if the device is actually connected. Also, if an RCI device remains in the RCI configuration table, information of the device is displayed even if the device is not connected.

For information on RCI configuration, see the hardware manual for each model.

#### Exit status

One of the following exit statuses is returned:

0

Normal end

>0

An error occurred.

### 3.3.2.2 rciopecall (1M)

#### Name

rciopecall - Reports the operator call notification for an RCI-connected device.

#### Syntax

```
/opt/FJShwr/sbin/rciopecall address {disp | on callNo | off callNo}
```

#### Function

Executes operator call notification for a device connected via the RCI.

#### Option

The following options are supported:

##### address

Specifies the address of an RCI device. The address is specified using an 8-digit hexadecimal number.

The following are specified for action:

##### disp

Displays the operator call.

##### on

Sets the operator call ON.

##### off

Sets the operator call OFF.

##### callNo

When on or off is set for action, callNo specifies an operator call number for controlling the operator call. The operator call number is specified using a 2-digit hexadecimal number.

For a device corresponding to each bit of the callNo value to which "1" is set, on or off is set as specified. Multiple bits can be set at one time.

**Example**

```
# /opt/FJSVhwr/sbin/rciopecall 003001ff on 0c
# /opt/FJSVhwr/sbin/rciopecall 003001ff off 0c
# /opt/FJSVhwr/sbin/rciopecall 003001ff disp
address:003001ff callNo:0c status:00
```

**Note**

Only the super user can execute the rciopecall(1M) command.  
One of the following statuses is returned:

00	Meaning	Normal end
20	Meaning	The specified node is not supported.
	Corrective action	Check the specified address.
40	Meaning	Timeout occurred.
	Corrective action	Check the specified address and re-execute the command.

**Exit status**

One of the following exit statuses is returned:

0  
Normal end  
>0  
An error occurred.

**3.3.2.3 diskadm(1M)****Name**

diskadm - Assists the hot swapping of SCSI disks.

**Syntax**

`/opt/FJSVhwr/sbin/diskadm subcommand pathname...`

**Function**

diskadm assists the hot swapping of SCSI disks.

With diskadm, the status of a disk can be displayed.

Be sure to specify one subcommand and at least one pathname in a command line.

pathname can be specified with a physical name, logical name, or controller number cN (N is the logical number of the controller) as shown below. One or more pathnames can be specified.

**Example****Physical name:**

/devices/pci@1f,4000/.../sd@0,0:a

**Logical name:**

/dev/rdisk/c0t0d0s0

**Controller number:**

c0

**Usage****Subcommand:****display pathname**

Displays the status of a specified disk. One or more path names can be specified. The display format is as shown below.

If power is being supplied to the specified disk, this command accesses the disk, checks the status, and display the status.

If power is not being supplied to the specified disk, the disk is displayed as being offline.

**ONLINE**

Power is being supplied.

**OFFLINE**

Power is not being supplied.

**BROKEN?**

The disk controller is not responding. Otherwise, the disk is not mounted.

**(Notes)**

- For pathname, be sure to specify a path name representing an existing disk class.
- For a target for which a device does not exist, information is not displayed.

1) When a controller is specified (example: mounted targets: 0, 2, 3, and 4)

```
# diskadm display c0 <RETURN>
Controller is : /device/....    (c0)
Device Status:
  Target0      Target2      Target3      Target4
  ONLINE      OFFLINE      ONLINE      ONLINE
```

2) When a disk is specified (example: mounted targets: 0 and 3)

```
# diskadm display /dev/rdsk/c0t0d0s2 /dev/rdsk/c0t3d0s2 <RETURN>
Controller is: /device/.....
Device Status:
  Target0      Target3
  ONLINE      OFFLINE
```

**Note**

Only the super user can execute the diskadm(1M) command.

## Exit status

One of the following exit statuses is returned:

- 0  
Normal end
- 1  
An error occurred.

### 3.3.2.4 scfsreason(1M)

#### Name

scfsreason - Displays the shutdown factor caused by an environmental problem

#### Syntax

/opt/FJSVhwr/sbin/scfsreason

#### Function

Displays the shutdown factor, which is caused by an environmental problem such as a FAN error, PSU error, temperature alarm, or power failure.

When OS shutdown is being performed due to an error event notification from the XSCF, the error factor can be displayed with this command.

This command can be used when middleware or a user application performs some special processing prior to OS shutdown due to an environmental problem.

Middleware or a user application must provide a shutdown script beforehand. It executes this command from the shutdown script to acquire the shutdown factor, and performs special processing accordingly.

#### Usage

This command displays its results in the following format:

```
# /opt/FJSVhwr/sbin/scfsreason
Shutdown Reason: Message
```

Messages representing the following OS shutdown factors are displayed:

Message	Meaning
NORMAL	The operating system in operation or ordinary shutdown
FAN	Shutdown due to a FAN error
PSU	Shutdown due to a PSU error
THERMAL	Shutdown due to a temperature alarm
UPS	Shutdown due to a power failure when an UPS is connected
XSCF	Shutdown by the XSCF or due to panel operation
RCI	Shutdown due to RCI event notification via another host or an external power control device
HALT	Shutdown due to the occurrence of the SCF HALT

#### Example: Power failure when an UPS is connected

```
# /opt/FJSVhwr/sbin/scfsreason
Shutdown Reason: UPS
```



#### Note

Only the super user can execute the `scfsreason(1M)` command.

If special processing is performed with a shutdown script, sufficient consideration and testing is required to ensure that such processing does not continue for an excessively long time and that the processing is not excessively complicated.

If a shutdown script continues processing for an excessively long time, it may cause a hardware error or another problem.

Be sure to set the execution permission to a created script.

#### Exit status

One of the following exit statuses is returned:

0

Normal end

1

An error occurred.

### 3.3.3 Driver messages

This section explains messages displayed by the SCSI Fault LED driver that assists the SCSI disk hot swapping function provided by Machine Administration. For each message, the meaning of the message is provided and the action to be taken is indicated.

In the explanation of the meaning of a message, "system call error message" indicates that the message is explained with `man -s 2 Intro`.

#### 3.3.3.1 SCSI Fault LED driver

##### **WARNING: FJSVsfled: \_init: ddi\_soft\_state\_init failed.**

###### **Cause**

The SCSI Fault LED driver could not be incorporated into the system because `ddi_soft_state_init(9F)` terminated abnormally.

###### **Action**

Kernel resources may be insufficient. Allocate memory or contact your Fujitsu maintenance engineer.

##### **WARNING: FJSVsfled: \_init: mod\_install failed.**

###### **Cause**

The SCSI Fault LED driver could not be incorporated into the system because `mod_install(9F)` terminated abnormally.

###### **Action**

Kernel resources may be insufficient. Allocate memory or contact your Fujitsu maintenance engineer.

**WARNING: FJSVsfled: \_fini: mod\_remove failed.**

**Cause**

The SCSI Fault LED driver could not be deleted because mod\_remove(9F) terminated abnormally.

**Action**

Kernel resources may be insufficient. Allocate memory or contact your Fujitsu maintenance engineer.

**WARNING: FJSVsfled: scsi\_probe failed.**

**Cause**

The SCSI Fault LED driver could not be attached to the system because SCSI\_probe(9F) terminated abnormally.

**Action**

Check the SCSI Fault LED unit or the state of the SCSI HOST bus adapter.

**WARNING: FJSVsfled: ddi\_soft\_state\_zalloc failed.**

**Cause**

The SCSI Fault LED driver could not be incorporated into the system because ddi\_soft\_state\_zalloc(9F) terminated abnormally.

**Action**

Kernel resources may be insufficient. Allocate memory or contact your Fujitsu maintenance engineer.

**WARNING: FJSVsfled: ddi\_create\_minor\_node failed.**

**Cause**

The SCSI Fault LED driver could not be incorporated into the system because the minor node of the device could not be created.

**Action**

Check to make sure that there is sufficient capacity for the /devices file system.

**WARNING: FJSVsfled: scsi\_alloc\_consistent\_buf failed.**

**Cause**

Kernel resources for SCSI transport could not be allocated.

**Action**

Kernel resources may be insufficient. Allocate memory or contact your Fujitsu maintenance engineer.

**WARNING: FJSVsfled: resource allocation for request sence packet failed.**

**Cause**

Kernel resources for SCSI transport could not be allocated.

**Action**

Kernel resources may be insufficient. Allocate memory or contact your Fujitsu maintenance engineer.

**WARNING: FJSVsflcd: ddi\_get\_soft\_state failed.**

**Cause**

Kernel resource search failed because ddi\_get\_soft\_state(9F) terminated abnormally.

**Action**

Kernel resources may be insufficient. Allocate memory or contact your Fujitsu maintenance engineer.

**WARNING: FJSVsflcd: ddi\_copyin failed.**

**Cause**

ioctl failed because ddi\_copyin(9F) terminated abnormally.

**Action**

Kernel resources may be insufficient. Allocate memory or contact your Fujitsu maintenance engineer.

**WARNING: FJSVsflcd: ddi\_copyout failed.**

**Cause**

ioctl failed because ddi\_copyout(9F) terminated abnormally.

**Action**

Kernel resources may be insufficient. Allocate memory or contact your Fujitsu maintenance engineer.

**WARNING: FJSVsflcd: sfled\_start: SCSI transport error occurred.**

**Cause**

A SCSI transport error occurred in the SCSI HOST bus adapter.

**Action**

If this message is displayed repeatedly, check the state of the SCSI HOST bus adapter.

**WARNING: FJSVsflcd: scsi\_init\_pkt failed.**

**Cause**

Kernel resources for SCSI transport could not be allocated.

**Action**

Kernel resources may be insufficient. Allocate memory or contact your Fujitsu maintenance engineer.

**WARNING: FJSVsflcd: sfled\_restart: SCSI transport error occurred.**

**Cause**

A SCSI transport error occurred in the SCSI HOST bus adapter.

**Action**

If this message is displayed repeatedly, check the state of the SCSI HOST bus adapter.

**WARNING: FJSVsfled: sfled\_callback: SCSI transport error occurred.**

**Cause**

An error occurred during SCSI command transport.

**Action**

If this message is displayed repeatedly, check the state of the SCSI HOST bus adapter or SCSI Fault LED unit.

**WARNING: "device node name" (FJSVsfled?):**

**: status = 0x?, sence\_key = 0x?, ASC = 0x?, ASCQ = 0x?**

**Cause**

A SCSI command error occurred in the Fault LED unit written as "device node name."

**Action**

If this message is displayed repeatedly, check the state of the Fault LED unit.

**WARNING: "device node name" (FJSVsfled?):**

**: No Sense**

**Cause**

A SCSI command error occurred in the Fault LED unit written as "device node name."

**Action**

If this message is displayed repeatedly, check the state of the Fault LED unit.

**WARNING: "device node name" (FJSVsfled?):**

**: Illegal Request (Invalid command operation code)**

**Cause**

A SCSI command error occurred in the Fault LED unit written as "device node name."

**Action**

If this message is displayed repeatedly, check the state of the Fault LED unit.

**WARNING: "device node name" (FJSVsfled?):**

**: Illegal Request(Logical unit not supported)**

**Cause**

A SCSI command error occurred in the Fault LED unit written as "device node name."

**Action**

If this message is displayed repeatedly, check the state of the Fault LED unit.

**WARNING: "device node name" (FJSVsfled?):**

**: Illegal Request**

**Cause**

A SCSI command error occurred in the Fault LED unit written as "device node name."

**Action**

If this message is displayed repeatedly, check the state of the Fault LED unit.

**WARNING: "device node name" (FJSVsfled?):**

**: Unit Attention (Power-on, reset, or bus device reset occurred)**

**Cause**

A SCSI command error occurred in the Fault LED unit written as "device node name."

**Action**

If this message is displayed repeatedly, check the state of the Fault LED unit.

**WARNING: "device node name" (FJSVsfled?):**

**: Unit Attention**

**Cause**

A SCSI command error occurred in the Fault LED unit written as "device node name."

**Action**

If this message is displayed repeatedly, check the state of the Fault LED unit.

**WARNING: "device node name" (FJSVsfled?):**

**: Aborted Command (Message Error)**

**Cause**

A SCSI command error occurred in the Fault LED unit written as "device node name."

**Action**

If this message is displayed repeatedly, check the state of the Fault LED unit.

**WARNING: "device node name" (FJSVsfled?):**

**: Aborted Command (SCSI parity Error)**

**Cause**

A SCSI command error occurred in the Fault LED unit written as "device node name."

**Action**

If this message is displayed repeatedly, check the state of the Fault LED unit.

**WARNING: "device node name" (FJSVsfled?):**

**: Aborted Command (Initiator detected error message received)**

**Cause**

A SCSI command error occurred in the Fault LED unit written as "device node name."

**Action**

If this message is displayed repeatedly, check the state of the Fault LED unit.

**WARNING: "device node name" (FJSVsfled?):**

**: Aborted Command (Invalid message Error)**

**Cause**

A SCSI command error occurred in the Fault LED unit written as "device node name."

**Action**

If this message is displayed repeatedly, check the state of the Fault LED unit.

**WARNING: "device node name" (FJSVsfled?):**

**: Aborted Command**

**Cause**

A SCSI command error occurred in the Fault LED unit written as "device node name."

**Action**

If this message is displayed repeatedly, check the state of the Fault LED unit.

**WARNING: "device node name" (FJSVsfled?):**

**: Unknown Reason**

**Cause**

A SCSI command error occurred in the Fault LED unit written as "device node name."

**Action**

If this message is displayed repeatedly, check the state of the Fault LED unit.

### 3.3.4 Command-related messages

This section explains the meaning and action to be taken for each of the messages that are displayed by different commands provided by the SCF/SCSI Fault LED support option. This section also explains the messages produced by commands that are used for internal processing of this software and that are not explained in "Section 3.3.2, Command reference." As for commands that are not explained in "Section 3.3.2, Command reference," general users are not allowed to use these commands.

In the explanation of the messages below, "system call error message" indicates that the message is explained with `man -s 2 Intro`.

#### 3.3.4.1 rciinfo(1M) command

**rciinfo: failed to open /dev/FJSVhwr/rcictl**

**Cause**

The SCF driver failed to be opened.

**Action**

Check to make sure that this package has been installed correctly.

**rciinfo: ioctl() failed: system call error message**

**Cause**

**Operation not supported:**

RCI cannot be used.

**In cases other than the above:**

The SCF driver cannot be accessed.

**Action**

**Operation not supported:**

Check to make sure that the main unit supports the RCI and that the RCI configuration has been completed on the XSCF.

**In cases other than the above:**

Check whether this package has been installed correctly and whether an error has occurred in the SCF driver.

**rciinfo: malloc() failed**

**Cause**

Memory cannot be allocated.

**Action**

Check the memory or swap.

### 3.3.4.2 rciopcall(1M) command

**Usage:** rciopcall: address { disp | on callNo | off callNo }

**Cause**

This message is displayed when a command option is specified incorrectly.

**Action**

None.

**rciopcall: failed to open /dev/FJSVhwr/rcictl**

**Cause**

The SCF driver failed to be opened.

**Action**

Check to make sure that this package has been installed correctly.

**rciopcall: not super user**

**Cause**

The command was executed with a user privilege other than the root user privilege.

**Action**

Execute the command with the root user privilege.

**rciopcall: ioctl() failed: system call error message**

**Cause**

**Operation not supported:**

RCI cannot be used.

**In cases other than the above:**

The SCF driver cannot be accessed.

**Action**

**Operation not supported:**

Check to make sure that the main unit supports the RCI and to make sure that the RCI configuration has been completed on the XSCF.

**In cases other than the above:**

Check whether this package has been installed correctly and whether an error has occurred in the SCF driver.

**rciopcall: invalid rci address**

**Cause**

An invalid RCI address was specified.

**Action**

Check the RCI address.



**rciopecall: invalid callNo**

**Cause**

An invalid callNo was specified.

**Action**

Enter a correct callNo.

**rciopecall: malloc() failed**

**Cause**

Memory cannot be allocated.

**Action**

Check the memory or swap.

**rciopecall: RCI xxx does not exist**

**Cause**

No RCI device exists at the specified RCI address XXX.

**Action**

Check the specified RCI device.

**3.3.4.3 diskadm(1M) command**

**Usage: diskadm action pathname ...**

**Cause**

This message is displayed when a command option is specified incorrectly.

**Action**

None.

**diskadm: Not support.**

**Cause**

The command was executed for a model that is not supported.

**Action**

Check to make sure that this package has been installed correctly.

**diskadm: Only root is allowed to execute this program.**

**Cause**

The command was executed with a user privilege other than the root user privilege.

**Action**

Execute the command with the root user privilege.

**diskadm: path name: Incorrect controller.**

**Cause**

A controller that does not exist is specified as a path name.  
Otherwise, the SCSI Fault LED device driver cannot be accessed.

**Action**

Enter a correct path name.  
Also, check to make sure that this package has been installed correctly.

**diskadm: path name: Incorrect controller is specified, or specified controller is not supported.**

**Cause**

A controller that does not exist is specified as a path name.  
Otherwise, a controller that is not supported by the diskadm command is specified.  
Otherwise, the SCSI Fault LED device driver cannot be accessed.

**Action**

Check the specified path name, and enter the correct path name of a controller that is supported by the diskadm command.  
Also, check to make sure that this package has been installed correctly.

**diskadm: path name: Illegal path name.**

**Cause**

An invalid path name is specified as a path name.

**Action**

Enter a correct path name.

**diskadm: path name: No such device.**

**Cause**

A controller that does not exist is specified as a path name.

**Action**

Specify a correct controller.

**diskadm: ioctl() — FLED\_IOC\_GET\_PROP failed: system call error message**

**Cause**

ioctl(2) to the SCF driver failed, and the property (led-control-0 to 79) cannot be read.

**Action**

Check to make sure that this package has been installed correctly.

**diskadm: ioctl() --- FLED\_IOC\_POWER failed: system call error message**

**Cause**

ioctl(2) to the Fault LED device driver failed, and a read or write operation of a register failed.

**Action**

Check to make sure that this package has been installed correctly.

**diskadm: ioctl() --- FLED\_IOC\_POWER\_GET failed: system call error message**

**Cause**

ioctl(2) to the SCF driver failed, and a read operation of a register failed.

**Action**

Check to make sure that this package has been installed correctly.

**diskadm: ioctl() --- FLED\_IOC\_POWER\_SET failed: system call error message**

**Cause**

ioctl(2) to the SCF driver failed, and a write operation of a register failed.

**Action**

Check to make sure that this package has been installed correctly.

**diskadm: strdup() failed: system call error message**

**Cause**

strdup(3C) failed.

**Action**

Allocate memory or swap.

**diskadm: malloc() failed: system call error message**

**Cause**

malloc(3C) failed.

**Action**

Allocate memory or swap.

**diskadm: /dev/rdsk: opendir() failed: system call error message**

**Cause**

opendir(3C) of /dev/rdsk failed.

**Action**

Check the /dev/rdsk directory.

**diskadm: getcwd() failed: system call error message**

**Cause**

getcwd(3C) failed.

**Action**

Use the fsck(1M) command to check whether the root file system has been destroyed.

**diskadm: path name: lstat() failed: system call message**

**Cause**

lstat(2) failed.

**Action**

Use the fsck(1M) command to check whether the root file system has been destroyed.

**diskadm: path name: readlink() failed: system call message**

**Cause**

readlink(2) failed.

**Action**

Use the fsck(1M) command to check whether the root file system has been destroyed.

**diskadm: path name: chdir() failed: system call message**

**Cause**

chdir(2) failed.

**Action**

Use the fsck(1M) command to check whether the root file system has been destroyed.

**diskadm: path name: disk not responding.**

**Cause**

The disk controller is not responding. Otherwise, the disk is not mounted.

**Action**

Check to make sure that the disk is mounted correctly. Check to make sure that the disk controller is operating correctly.

**Warning: Cannot lstat file-name**

**Cause**

lstat(2) of the file failed (file-name represents a file in the /dev/rdisk directory).

**Action**

Check the /dev/rdisk directory.

**Warning: file-name is not a symbolic link**

**Cause**

The /dev/rdisk directory contains a file other than symbolic link files.

**Action**

The /dev/rdisk directory has a problem. Reboot the system with "boot -r".

**Warning: path name: already started, but trying again.**

**Cause**

power on is executed on a disk which was already powered on.

**Action**

None.

---

**Warning: path name: already stopped, but trying again.**

**Cause**

power off is executed on a disk which was already powered off.

**Action**

None.

**diskadm: /dev/FJSVhwr opendir() failed: system call error**

**Cause**

/dev/FJSVhwr opendir(3C) failed.

**Action**

Check to make sure that this package has been installed correctly.

**diskadm: ioctl() --- SFLED\_IOC\_LIST failed: system call error**

**Cause**

ioctl(2) to the SCSI Fault LED device driver failed.

**Action**

Check the state of the SCSI Fault LED device, and re-execute the command.

**diskadm: ioctl() --- SFLED\_IOC\_OFF failed: system call error**

**Cause**

ioctl(2) to the SCSI Fault LED device driver failed.

**Action**

Check the state of the SCSI Fault LED device, and re-execute the command.

**diskadm: ioctl() --- SFLED\_IOC\_ON failed: system call error**

**Cause**

ioctl(2) to the SCSI Fault LED device driver failed.

**Action**

Check the state of the SCSI Fault LED device, and re-execute the command.

**diskadm: /dev/FJSVhwr/sfledX: open failed: Device Busy**

**Cause**

The diskadm command is being executed.

**Action**

Re-execute the command.

**diskadm: /dev/es/sesX: open failed: Device Busy**

**Cause**

The diskadm command is being executed. Otherwise, the SES device driver failed to be opened.

**Action**

Re-execute the command.

**diskadm: /dev/openprom: open() failed: system call error message**

**Cause**

/dev/openprom failed to be opened.

**Action**

Check the /dev/openprom file, and re-execute the command.

**diskadm: ioctl() --- OPROMNXTPROP failed: system call error message**

**Cause**

ioctl(2) to /dev/openprom failed.

**Action**

Check the /dev/openprom file, and re-execute the command.

**diskadm: ioctl() --- OPROMGETPROP failed: system call error message**

**Cause**

ioctl(2) to /dev/openprom failed.

**Action**

Check the /dev/openprom file, and re-execute the command.

**diskadm: ioctl() --- OPROMNEXT failed: system call error message**

**Cause**

ioctl(2) to /dev/openprom failed.

**Action**

Check the /dev/openprom file, and re-execute the command.

**diskadm: ioctl() --- OPROMCHILD failed: system call error message**

**Cause**

ioctl(2) to /dev/openprom failed.

**Action**

Check the /dev/openprom file, and re-execute the command.

**diskadm: ioctl() --- SESIOC\_GETNOBJ failed: system call error message**

**Cause**

ioctl(2) to the SES device driver failed.

**Action**

Check the /dev/es/sesX file, and re-execute the command.

**diskadm: ioctl() --- SESIOC\_GETOBJMAP failed: system call error message**

**Cause**

ioctl(2) to the SES device driver failed.

**Action**

Check the /dev/es/sesX file, and re-execute the command.

**diskadm: ioctl() --- SESIOC\_SETOBJMAP failed: system call error message**

**Cause**

ioctl(2) to the SES device driver failed.

**Action**

Check the /dev/es/sesX file, and re-execute the command.

**diskadm: ioctl() --- USCSICMD failed: system call error message**

**Cause**

ioctl(2) to the SES device driver failed.

**Action**

Check the /dev/es/sesX file, and re-execute the command.

**diskadm: sysinfo() failed: system call error message**

**Cause**

sysinfo(2) failed.

**Action**

Check the /dev/es/sesX file, and re-execute the command.

### 3.3.4.4 scfsreason(1M) command

**Usage: scfsreason**

**Cause**

This message is displayed when a command option is specified incorrectly.

**Action**

None.

**scfsreason: not super user**

**Cause**

The command was executed with a user privilege other than the root user privilege.

**Action**

Execute the command with the root user privilege.

**scfsreason: failed to open /dev/FJSVhwr/pwrctl: system call error message**

**Cause**

The SCF driver failed to be opened.

**Action**

Check to make sure that this package has been installed correctly.

**scfsreason: ioctl() failed: system call error message**

**Cause**

The SCF driver cannot be accessed.

**Action**

Check to make sure that this package has been installed.

### 3.3.4.5 scfreport(1M) command

**scfreport: not super user**

**Cause**

The command was executed with a user privilege other than the root user privilege.

**Action**

Execute the command with the root user privilege.

**/dev/FJSVhwr/pwrctl: system call error message**

**Cause**

The SCF driver cannot be accessed.

**Action**

Check to make sure that this package has been installed correctly.

**/etc/rc0.d/K00FJSVscfsc: scfreport shutdown was executed.**

**Cause**

The start of the system shutdown was reported to the XSCF.

If power failure occurs after the display of this message, the system will not be re-booted even after power recovery.

**Action**

None.

### 3.3.4.6 lcdecho(1M) command

**/dev/FJSVhwr/pwrctl: system call error message**

**Cause**

The SCF driver cannot be accessed.

**Action**

Check to make sure that this package has been installed correctly.



# Chapter 4 Notes

## 4.1 Notes on Operation

This section provides notes on using the Enhanced Support Facility.

No.	Component	Description
1	Machine Administration	A root user can use the Machine Administration menu. To enable a non-root user to use the Menu, do as follows: <ul style="list-style-type: none"><li>• Register a group named "cemainte".</li><li>• Register the user in the "cemainte" group.</li></ul>

## 4.2 Notes on Oracle VM Server for SPARC/Logical Domains (LDoms)

This section explains notes on using Enhanced Support Facility in Oracle VM Server for SPARC/Logical Domains (LDoms).

### 4.2.1 General Notes

This section explains general notes on using Oracle VM Server for SPARC/Logical Domains (LDoms).

No.	Component	Description
1	Machine Administration	<ul style="list-style-type: none"> <li>- Control Domain While configuration information is displayed, regarding any parts other than memory, only hardware allocated to control domain is displayed.</li> <li>- Guest Domain Memory information is not displayed while configuration information is displayed. Also virtualized I/O is not displayed.</li> <li>- Common Basically, error notification is done from the control domain. However, error detection of parts allocated to the guest domain by Direct I/O and Panic notification for the guest domain are done on the guest domain.</li> </ul>
2	Remote Support	The software investigation information collection is not supported on the guest domain.

## 4.2.2 Notes when using Logical Domains Manager 1.2 or older

Solaris Security Toolkit (hereinafter referred to as SST) is bundled with Logical Domains Manager 1.2 or older. SST removes the setting of cron, and as a result, installing Enhanced Support Facility fails. This section explains the impact on Enhanced Support Facility when the security setting is done by using SST.

However, SST is not bundled with Logical Domains Manager 1.3 or newer, therefore there is no problem. For the details on Oracle VM Server for SPARC/Logical Domains (LDoms), please refer to "SPARC Enterprise Oracle VM Server for SPARC Guide".

Components whose behavior is affected by applying Oracle VM Server for SPARC/Logical Domains (LDoms)

No.	Component	Behavior Overview	When workaround should be done.
1	Information management	This component is required to install Enhanced Support Facility.	Before installing Enhanced Support Facility
2	Machine Administration	Machine Administration monitors the status of the main unit hardware and reports to a system administrator or remote support just in case. This is a necessary component for Enhanced Support Facility	Just after installing a security control driver on the system where Enhanced Support Facility has already been installed.
3	Remote Support	REMCS agent monitors the status of your system remotely and communicates with REMCS center via network to support the operation of your system.	Just after installing the security control driver on the system where Enhanced Support Facility has already been installed.

## 4.2.2.1 Information management

Component	Information management
Package name	FJSVbse
Support Oracle Solaris	Oracle Solaris 10 or later
Support models	SPARC Enterprise T5120/T5140/T5220/T5240/T5440
Support Enhanced Support Facility	Effective for Enhanced Support Facility 3.0 or later
Impact when installing SST	Installation fails. The following message appears when installing Enhanced Support Facility. "esfadd: ERROR: use permission of cron was not set up. (root, adm) was not set up."
Cause	The settings (root, adm) used during the installation of Enhanced Support Facility have been deleted from the cron setting file after the security control driver was installed.
Workaround	<p>Before executing the esfadd command, please take either steps below as a workaround.</p> <ul style="list-style-type: none"> <li>• Workaround: Editing files directly Update the /etc/cron.d/cron.allow file to let the file have the following entry. Also update the /etc/cron.d/cron.deny file to prevent the file from having the following entry. adm</li> <li>• Workaround: Using a command Execute "/opt/SUNWjass/bin/jass-execute -u" to remove the security.</li> </ul> <p>After taking either of the above steps, please perform either of the followings to return the system to its original configuration so that "esfadd" can work correctly.</p> <ul style="list-style-type: none"> <li>• In case that you edited the files directly Update the /etc/cron.d/cron.deny file to let the file have the following entry. Also update the /etc/cron.d/cron.allow file to prevent the file from having the following entry. adm</li> <li>• In case that you used the command Execute "/opt/SUNWjass/bin/jass-execute -q -d ldm_control-secure.driver" to configure the security.</li> </ul> <p>For more information on how to use the commands, please refer to documents issued by Oracle.</p>
Remarks	

## 4.2.2.2 Machine Administration

Component	Machine Administration
Package name	FJSVamle
Support Oracle Solaris	Oracle Solaris 10 or later
Support models	SPARC Enterprise T5120/T5140/T5220/T5240/T5440
Support Enhanced Support Facility	Enhanced Support Facility 3.0 or later
Impact when installing SST	Hardware Monitoring Information function of Machine Administration does not work.  Hardware Monitoring Information function performs monitoring hardware error, its service life and detecting a sign of trouble.
Cause	The settings used by Machine Administration have been deleted from the /etc/syslog.conf file by installing the security control driver.
Workaround	Please do the followings after installing the security control driver. <ul style="list-style-type: none"> <li>• Check whether the following is described in the /etc/syslog.conf file. If it is not described, describe it.</li> </ul> <pre>*.err;kern.debug;daemon.notice&lt;tab&gt;/var/opt/FJSVadm/evh/evh_pipe</pre> <p>"&lt;tab&gt;" means the creation of space before and after by pressing the tab key.</p>
Remarks	

## 4. 2. 2. 3 Remote Support

Component	Remote Support
Package name	FJSVlrm
Support Oracle Solaris	Oracle Solaris 10 or later
Support models	SPARC Enterprise T5120/T5140/T5220/T5240/T5440
Support Enhanced Support Facility	Enhanced Support Facility 3.0 or later
Impact when installing SST	Error Report function does not work.
Cause	The settings used by Machine Administration have been deleted from the /etc/syslog.conf file by installing the security control driver.
Workaround	<p>If you want to use the Error Report function because Hardware Monitoring Information function of Machine Administration is available, you need to run the Hardware Monitoring Information function of Machine Administration. Therefore, please execute the following after applying the security control driver.</p> <ul style="list-style-type: none"> <li>• Check whether the following is described in the /etc/syslog.conf file. If it is not described, describe it.</li> </ul> <pre>*.err;kern.debug:daemon.notice&lt;tab&gt;/var/opt/FJSVmadm/evh/evh_pipe</pre> <p>"&lt;tab&gt;" means the creation of space before and after by pressing the tab key.</p>
Remarks	