Enhanced Support Facility User's Guide

FUJITSU

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 and PRIMEPOWER series. Read this manual before using the ESF for the first time.

This manual also includes the explanation of server models, operating system versions, and functions supported by ESF 3.0 or earlier version.   For details, see Chapter 3 of this manual and each manual.

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.
- Path Information collect command
- Server Default Configuration
- SCF/SCSI Fault LED support option [SPARC Enterprise Server]

Chapter4: Notes
Describes the notes on ESF.

Notation

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 SCF Driver (PRIMEPOWER)
       → User's Guide for SCF Driver

Abbreviation

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

Formal name	Abbreviation
Microsoft (R) Windows (R) XP Professional, Microsoft (R) Windows (R) XP Home Edition, Microsoft(R) Windows (R) 2000 Server, Microsoft (R) Windows (R) 2000 Advanced Server, Microsoft (R) Windows (R) 2000 Professional, Windows Server (TM) 2003 Standard Edition, or Windows Server (TM) 2003 Enterprise Edition	Windows(R)

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 for the Enhanced Support Facility:

No	Manual title	Purpose and use
1	Enhanced Support Facility User's Guide	Outlines each function of the Enhanced Support Facility and describes the patch version information collection command, Server Default Configuration, and SCF/SCSI Fault LED support option. The manual also provides notes on operation of the Enhanced Support Facility.
2	Enhanced Support Facility User's Guide for Machine Administration	Describes the Machine Administration functions and how to use them.
3	Enhanced Support Facility User's Guide for REMCS	Describes how to enable the REMCS functions and how to collect software investigation materials.
4	Enhanced Support Facility User's Guide for Dynamic Reconfiguration	Describes the Dynamic Reconfiguration functions and provides details of the DR command interface.
5	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.
6	System Parameter Diagnosis 1.1 User's Guide	Describes the System Parameter Diagnosis for detecting errors in system settings.
7	Enhanced Support Facility User's Guide for PCI Hot Plug (PRIMEPOWER)	Provides details of the PCI Hot Plug function.
8	Enhanced Support Facility User's Guide for PCI Hot Plug I/O device (PRIMEPOWER)	Describes the procedures using the PCI Hot Plug function for hot swapping and hot expansion of file-related PCI cards and network-related PCI cards.
9	Enhanced Support Facility User's Guide for System Data Output Tool	Describes the system information collection tool functions and how to use them.
10	Enhanced Support Facility User's Guide for FJVTS (PRIMEPOWER)	Describes how to start FJVTS and the options and error messages of each test.
11	Enhanced Support Facility User's Guide for Web-Based Admin View (PRIMEPOWER)	Describes the Web-Based Admin View functions and how to use them.
12	Enhanced Support Facility User's Guide for eXtended System Control Facility (PRIMEPOWER)	Describes the System Control Facility, which supports the system monitoring, operation and maintenance of the PRIMEPOWER series servers and their systems.
13	Enhanced Support Facility User's Guide for System Control Facility (SCF) Driver (PRIMEPOWER)	Describes the functions of the SCF driver, which controls the SCF in each PRIMEPOWER-series model and provides the RAS functions required for operation in a server system.
14	Enhanced Support Facility User's Guide for Redundant Console Path Features (PRIMEPOWER)	Describes the redundant console path features and how to use it.

No	Manual title	Purpose and use
15	Tape Driver Configuration Tool 1.2 User's Guide	Describes the function that automatically configures tape drivers.
16	Enhanced Support Facility Security System Building Guide	Provides the Enhanced Support Facility information required for constructing an advanced security system.
17	Enhanced Support Facility Update Information	Describes the functional additions and modifications made to previous versions of the Enhanced Support Facility.
18	Enhanced Support Facility 3.0 Installation Guide	Describes how to install and uninstall the Enhanced Support Facility.
19	Enhanced Support Facility User's Guide for Machine Administration Automatic power control function (Supplement edition)	Explanation of Automatic power control function to SPARC Enterprice M4000/M5000/M8000/M9000.

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 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 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
Enhanced Support Facility User's Guide for PCI Hot Plug (PRIMEPOWER)			Y	Y
Enhanced Support Facility User's Guide for PCI Hot Plug I/O device (PRIMEPOWER)			Y	Y
Enhanced Support Facility User's Guide for System Data Output Tool				Y
Enhanced Support Facility User's Guide for FJVTS (PRIMEPOWER)				Y
Enhanced Support Facility User's Guide for Web-Based Admin View (PRIMEPOWER)		Y	Y	Y
Enhanced Support Facility User's Guide for eXtended System Control Facility (PRIMEPOWER)		Y	Y	Y

Manual names	Consideration for product installation	Installation	Operation	Maintenance
Enhanced Support Facility User's Guide for System Control Facility (SCF) Driver (PRIMEPOWER)		Y	Y	Y
Enhanced Support Facility User's Guide for Redundant Console Path Features (PRIMEPOWER)		Y		Y
Tape Driver Configuration Tool 1.2 User's Guide		Y	Y	Y
Enhanced Support Facility Security System Building Guide		Y	Y	Y
Enhanced Support Facility Update Information	Y	Y		Y
Enhanced Support Facility 3.0 Installation Guide		Y	Y	Y
Enhanced Support Facility User's Guide for Machine Administration Automatic power control function (Supplement edition)			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

Related Manuals

See the following manuals as required.

No.	Manual title
1	PRIMEPOWER 250/450 User's Manual

Information for Users of ESF 2.6 or Earlier

The manuals used with ESF 3.0 have different manual titles from those of the corresponding manuals used with ESF 2.6 or earlier.　These manual titles are listed below.

SPARC Enterprise Server = SE
PRIMEPOWER = PW

No	Manual title		Supported server model	
	ESF2.6	ESF3.0	SE	PW
1	Machine Administration Guide	Enhanced Support Facility User's Guide for Machine Administration	Y	Y
2	REMCS Agent Operator's Guide	Enhanced Support Facility User's Guide for REMCS	Y	Y
3	FJVTS Test Reference Manual	Enhanced Support Facility User's Guide for FJVTS (PRIMEPOWER)	-	Y
4	Web-Based Admin View Operation Guide	Enhanced Support Facility User's Guide for Web-Based Admin View (PRIMEPOWER)	-	Y
5	eXtended System Control Facility User's Guide	Enhanced Support Facility User's Guide for eXtended System Control Facility (PRIMEPOWER)	-	Y
6	Dynamic Reconfiguration User's Guide	Enhanced Support Facility User's Guide for Dynamic Reconfiguration	Y	Y
7	Dynamic Reconfiguration User's Guide I/O device edition	Enhanced Support Facility User's Guide Dynamic Reconfiguration I/O device	Y	Y
8	PCI Hot Plug User's Guide	Enhanced Support Facility User's Guide for PCI Hot Plug (PRIMEPOWER)	-	Y
9	PCI Hot Plug User's Guide I/O device edition	Enhanced Support Facility User's Guide for PCI Hot Plug I/O device (PRIMEPOWER)	-	Y

Revision History

Revision	Date	Details
1	July 5, 2006	First Edition
2	April 9, 2007	4.1 No6 The article on Dump assist is deleted.
3-A	May 22, 2007	Manuals & Patches 3.0A20 PRIMEPWOER is taken from Enhanced Support Facility Users Guide for Dynamic Reconfiguration. Dynamic Reconfiguration is moved from PRIMEPOWER-specific Functions to Common Information.
3-B	July 31 2007	The manual of Automatic power control function was added to the preface.
4	February 4 2008	2.4.5 Fixed the outline of eXtended System Control Facility (XSCF) function. 4.2 Added notes on operation in LDoms environment.
5	April 3, 2008	3.3.1.3 Rewrited a description of a shutdown script.

Contents

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 Solaris OS 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 Solaris (OS) with value-added functions

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

As a standard function, the Solaris OS 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 Solaris OS 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.
However, since maintenance functions vary according to the characteristics of the model,
also see the functions of the relevant model.
Model names are abbreviated as follows.

SPARC Enterprise Server: SE
PRIMEPOWER: PW

Table 2.1 Functions and models supporting them

Function		SE	PW	See
Maintenence/Support	Information management function	Y	Y	2.2.1
	Machine administration	Y	Y	2.2.2
	Remote support	Y	Y	2.2.3
	Dynamic Reconfiguration	Y	Y (*1)	2.2.12
	System Data Output Tool	Y	Y	2.2.4
	Tape Driver Configuration Tool	Y	Y	2.2.5
	Dump assist	Y	Y	2.2.6
	Automatic dump analysis	Y	Y	2.2.7
	Patch Information Collect Command	Y	Y	2.2.8
	System Parameter Diagnosis	—	Y	2.2.9
	Server Default Configuration	Y	Y	2.2.10
	Automatic power supply control	Y	Y	2.2.11
	FJVTS	—	Y	2.4.4
	PCI Hot Plug	—	Y	2.4.6
High reliability	SCF/SCSI Fault LED support option	Y	—	2.3.1
	SCF driver	—	Y	2.4.1
	eXtended System Control Facility (XSCF)	—	Y (*2)	2.4.5
	Redundant console path duplicating features	—	Y	2.4.2
Common platform	Web-Based Admin View/ WWW Server for Admin View	—	Y	2.4.3

*1: For PRIMEPOWER 900/1500/2500

*2: For PRIMEPOWER 250/450

2.2 Common Information

This section provides information common to the PRIMEPOWER 250/450/650/850/900/1500/2500 and SPARC Enterprise Server.

2.2.1 Information management

The information management function 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.

2.2.2 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.

2.2.3 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.

2.2.4 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*.

2.2.5 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 User's Guide*.

2.2.6 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.

2.2.7 Automatic dump analysis

The following two functions are 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).

- Automatic crash dump analysis (Solaris 8 OS only)
  At reboot after a system crash, the crash dump data is automatically analyzed.

2.2.8 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.

2.2.9 System parameter diagnosis

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

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

2.2.10 Server Default Configuration

System file log clearing (rotation) function

The system file log clearing function clears the files that are not targets of periodic log clearing (rotation of log files), which is a system standard function, periodically by using cron (1M) or at boot. Thus, it prevents system log files from becoming excessively large, and prevents the file system capacity shortages from occurring.

This function is provided for the Solaris 8 OS and Solaris 9 OS.
In the Solaris 10 OS and later, use logadm(1M) to configure the function according to the operation of your system.

For details of the system file log clearing function, see Section 3.2, "Server Default Configuration."

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 (PRIMEPOWER and SPARC Enterprise Server only).

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 (PRIMEPOWER and SPARC Enterprise Server only).

Panel switch (request switch) function

To increase the maintainability of the server system, the panel switch (request switch) function enables the panel switch of the main unit, and allows Machine Administration including XSCF to collect crash dump data (PRIMEPOWER and SPARC Enterprise Server only).

Memory/CPU 1-bit error monitoring function

The memory/CPU 1-bit error monitoring function periodically monitors for 1-bit errors (correctable error), and displays messages to the console if an error occurs frequently. Also, if an error occurs continuously, it performs off-line processing of the CPU as preventive maintenance.
(Only for PRIMEPOWER. The 1-bit error monitoring is performed only for SPARC GP (360 MHz or faster).

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) (for PRIMEPOWER and SPARC Enterprise Server only).

2.2.11 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 (CUI or GUI menu).
For details, see the *User's Guide for Machine Administration*.

Table 2.2 Automatic power supply control function

No.	Function	PRIMEPOWER 250/450/650 /850, SPARC Enterprise M4000 /M5000/M8000/M9000	PRIMEPOWER 900/1500/2500
1	Editing the schedule, and starting and stopping operation	Y	Y (*1)
2	Power recovery mode setup	Y	Y (*2)

Y: Supported

*1: Function provided by the system console

*2: Display and setup of power recovery mode can be performed for the current partition. Operated from each partition side.

2.2.12 Dynamic Reconfiguration

The Dynamic Reconfiguration function allows a system board to be connected (attach) or disconnected (detach) from the Solaris operating system, 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.*

2.3 SPARC Enterprise Server

This section explains functions specific to SPARC Enterprise Server models.

2.3.1 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.

2.4 PRIMEPOWER-specific Functions

This section explains functions specific to PRIMEPOWER250/450/650/850/900/1500.

2.4.1 SCF driver

The SCF driver, a software component, provides Reliability, Availability, and Serviceability (RAS) functions, These are necessary for accessing the System Control Facility (SCF) installed in the GP7000F series and each model of the PRIMEPOWER series or accessing the System Monitor (for PRIMEPOWER 1/100) to operate the server system. In addition, the SCF driver provides a function for accessing the remote cabinet interface (RCI) through the SCF and commands that support the SCSI DISK hot swapping function provided by Machine Administration.

For details of the SCF driver, see Chapter 1, "Base Cabinet" of the *User's Guide for SCF Driver*.

2.4.2 Redundant console path features

The redundant console path features are provided by the high-reliability driver component included in the Enhance Support Facility and System Console Software.

With this function, the communication path between the base serial port of the PRIMEPOWER 800/900/1000/1500/2500 and GP7000F model 1000/2000 and the OS console on the system management console is duplicated, and the fault tolerance of the communication path can be increased.

For details of the redundant console path features, see the parts relevant to the setting of the console connection unit in the *User's Guide for Redundant Console Path Features* and the *System Console Software User's Guide*.

2.4.3 Web-Based Admin View/WWW Server for Admin View

Web-Based Admin View/WWW Server for Admin View functions

The Web-Based Admin View/WWW Server for Admin View functions are provided as a common foundation for the GUI of the Enhance Support Facility and the display of its online manual.

For details of the Web-Based Admin View/WWW Server for Admin View functions, see the *User's Guide for Web-Based Admin View*.

2.4.4 FJVTS

FJVTS is a component that is used for verifying the correct operation of a device or the hardware controller on the main unit. This component is operated from the user interface of SunVTS.

For details of this component, see the *User's Guide for FJVTS*.

2.4.5 eXtended System Control Facility (XSCF)

XSCF

XSCF is a system monitor and control facility used to control, monitor, operate, and service PRIMEPOWER series servers and their systems.

For XSCF firmware on PRIMEPOWER 250 and 450, only documents are provided in Enhanced Support Facility.

For details of XSCF functions, see the *User's Guide for eXtended System Control Facility*.

The *User's Guide for eXtended System Control Facility*

This document explains XSCF (System Control Facility) on PRIMEPOWER250/450.
The intended reader of "For XSCF" is a system administrator who conducts operation/maintenance of the system.
When using the *User's Guide for eXtended System Control Facility*, see also the following manuals as required:

- *PRIMEPOWER 250/450 User's Manual*
- *User's Guide for Machine Administration*
- *User's Guide for REMCS*

2.4.6 PCI Hot Plug

With the PCI Hot Plug function, a PCI card can be added to (incorporation) or deleted (disconnection) without stopping the system.

For details of the PCI Hot Plug function, see *User's Guide for PCI Hot Plug*.

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

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 collection 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 Update Advisor(Solaris).

The Patch Management Tool and Update Advisor(Solaris) 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 a provider of the hardware or support service.
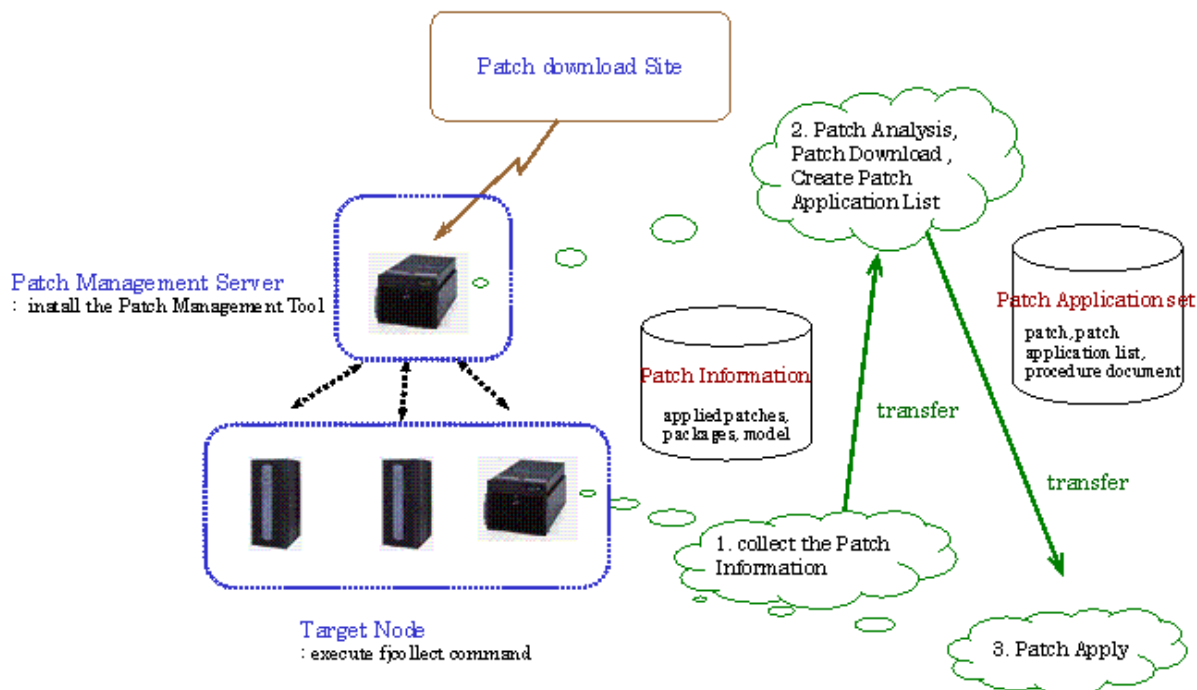
3.1.2 Command reference

NAME

fjcollect - Collect Patch Information of Target Node

SYNOPSIS

/opt/FJSVpmgc/bin/fjcollect [-v] [-o *output_file*]

DESCRIPTION

The fjcollect command collects the Patch Information required for patch analysis of a Target Node. The following information is collected:

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

The collected information is stored in a tar+compress(tar.Z) format file.
The output file must be transferred and imported to the Patch Management Server to be analyzed.

OPTION

-v

Display the fjcollect command version.

-o *output_file*

Specify a file where the information will be stored by absolute path (starting with '/') or relative path. Specify a name without the .tar.Z suffix. The name of the output file will be *output_file*.tar.Z.
If *output_file* is not specified, the information is collected in a file named *NODE*-yyyymmdd.tar.Z in the current directory. (*NODE* indicates the node name of the Target Node and *yyyymmdd* indicates the date when the information is collected).

EXAMPLES

Collecting patch information and storing in file /data/patchmgmt/node01.tar.Z

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

EXIT CODE

0 Normal end
>0 Abnormal end

SEE ALSO

None.

NOTES

None.

3.1.3 Error Messages

ERROR: fjcollect: Cannot create file: *FILE_NAME*

Cause:

The file *FILE_NAME* could not be created since execution of the tar or compress command failed.

Action:

The error message of the tar or compress command will be displayed. Take appropriate corrective action according to the contents of the message.

ERROR: fjcollect: Cannot create patch data file: *FILE_NAME*

Cause:

The file shown in *FILE_NAME* was not created because the fjcollect command failed to get patch information.

Action:

If this error continues to occur even after the re-execution, collect troubleshooting information and contact the provider of the hardware or support service.

ERROR: fjcollect: Command execution failed: *COMMAND_NAME*

Cause:

Execution of the command *COMMAND_NAME* has failed. In *COMMAND_NAME*, the command name to collect the patch information is displayed.

Action:

Check whether the command displayed can be run or not. If the command can not be run normally, re-execute it after you removing the cause of the error. If the command can be run normally, collect troubleshooting information and contact the provider of the hardware or support service.

ERROR: fjcollect: Command not found: *COMMAND_NAME*

Cause:

The command *COMMAND_NAME* required by fjcollect was not found because this command was executed on a non-supported Solaris OS version.

Action:

This system is not supported.

ERROR: fjcollect: Directory not found: *DIR_NAME*

Cause:

The *DIR_NAME* directory you specified as the destination for output files does not exist.

Action:

Specify the right directory.

ERROR: fjcollect: File already exists: *FILE_NAME*

Cause:

The file *FILE_NAME* specified as the output file already exists. When the file name specified with the -o option or suffixed by ".tar" or ".tar.Z" exists, fjcollect command can not be executed.

Action:

Specify other file name, or execute fjcollect(1M) after removing the existing file.

ERROR: fjcollect: Internal error occurred *(INTERNAL_MESSAGE)*.

Cause:

Obtaining information necessary for the execution of this command has failed or an error has occurred during the processing of this command. The detailed information for troubleshooting is displayed in *INTERNAL_MESSAGE*.

Action:

If this error continues to occur even after the re-execution, collect troubleshooting information and contact the provider of the hardware or support service.

ERROR: fjcollect: Invalid character: *INPUT_CHAR*

Cause:

Invalid character *INPUT_CHAR* was input for the output file name.

Action:

Specify a file name which consists of available characters (alphabet, digit, '-', '.', '/', '_')

ERROR: fjcollect: Unsupported architecture: *ARCH*

Cause:

The command was executed on the non-supported architecture *ARCH*.

Action:

This system is not supported.

3.2 Server Default Configuration

This section describes the Log Clear (rotation) function of the Server Default Configuration and provides notes on the Server Default Configuration.

3.2.1 Feature overview

The Log Clear function clears system log files to prevent the file system from reaching its capacity.　This function has been released for the Solaris 8 OS and Solaris 9 OS.　For the Solaris 10 OS and later versions, use logadm(1M) to make settings appropriate for the operation of your system.

3.2.2 Target log file list

To prevent excessive use of the system disk space, the following log files are regularly cleared.

```
/var/adm/messages
/var/log/syslog
/var/adm/wtmpx (Note)
/var/adm/vold.log
/var/adm/sulog
/var/cron/log
/var/saf/_log
/var/saf/zsmon/log
/var/adm/spellhist
/var/lp/logs/requests
/var/lp/logs/lpsched
```

Note) If the accounting is enabled, the log file is not cleared.

3.2.3 Details of log files

The Log Clear function is executed at system boot, and executed by cron(1M).
The log files are cleared when it meets the following conditions.

File Name	Backup File Name	Log Clear Conditions
/var/adm/messages	/var/adm/messages.{0,1,2,3}	If the mtime of /var/adm/messages.0 file is older than 7 days. (Solaris 9 OS) If the mtime of /var/adm/messages.0 file is older than 7 days. Or, if file size is larger than 512KB. (Solaris 8 OS)
/var/log/syslog	/var/log/syslog.{0,1,2,3,4,5,6,7}	If the mtime of /var/log/syslog.0 file is older than 7 days. (Solaris 9 OS) If /var/adm/messages file is cleared. (Solaris 8 OS)
/var/adm/wtmpx	/var/adm/wtmpx.old	If file size is larger than 5120KB. If the accounting is enabled, the log file is not cleared.
/var/adm/vold.log	/var/adm/vold.log.old	If file size is larger than 256KB.
/var/adm/sulog	/var/adm/sulog.{0,1,2,3}	If file size is larger than 512KB.
/var/cron/log	/var/cron/olog	If file size is larger than 512KB. (Solaris 9 OS) If file size is larger than 462KB. (Solaris 8 OS)
/var/saf/_log	/var/saf/_log.{0,1}	If file size is larger than 256KB.
/var/saf/zsmon/log	/var/saf/zsmon/log.{0,1}	If file size is larger than 256KB.
/var/adm/spellhist	/var/adm/spellhist.old	If file size is larger than 256KB.
/var/lp/logs/requests	/var/lp/logs/requests.{1,2}	At 3:10 every day. (Solaris 9 OS) If the mtime of /var/lp/logs/requests.1 is older than 7 days. Or, if file size is larger than 256KB. (Solaris 8 OS)
/var/lp/logs/lpsched	/var/lp/logs/lpsched.{1,2}	If the mtime of /var/lp/logs/lpsched.1 is older than 7 days. (Solaris 9 OS) If the mtime of /var/lp/logs/lpsched.1 is older than 7 days. Or, if file size is larger than 256KB. (Solaris 8 OS)

3.2.4 Samples

The followings are sample settings which are equal to ESF feature by using the logadm(1M).
(Note: The logadm(1M) is supported since Solaris 9 OS.)
Please refer to logadm(1M) and logadm.conf(4) for details.

- Sample settings in /etc/logadm.conf

```
/var/adm/wtmpx -p never -N -s 5m -t /var/adm/wtmpx.old
/var/adm/vold.log -N -s 256k -t /var/adm/vold.log.old
/var/adm/sulog -C 4 -N -s 512k
/var/saf/_log -C 2 -N -s 256k
/var/saf/zsmon/log -C 2 -N -s 256k
/var/adm/spellhist -N -s 256k -t /var/adm/spellhist.old
```

- Sample settings in /var/spool/cron/crontabs/root

```
30 3 * * 0 if [ ! -f /var/adm/pacct ]; then /usr/sbin/logadm -p now /var/adm/wtmpx;
fi
```

3.2.5 Notes on the Server Default Configuration functions

- To disable system accounting once it is operating, follow the procedure for stopping
  and disabling system accounting as described in Solaris documentation and also
  delete "/var/adm/pacct" (Solaris 8 OS and Solaris 9 OS only.)

  [Reference manuals]
  Solaris 8 System Administrator Collection - *System Administration Guide*
  Solaris 9 System Administrator Collection - *System Administration Guide:*
  Advanced Administration

- 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 Solaris 10 OS or a later version. In such cases, do not
  use that Solaris user registration screen for user registration. (PRIMEPOWER and
  SPARC Enterprise Server only)

- Since the FJSVwarn package requires LOG_NOTICE of syslog, LOG_NOTICE is enabled by
  default. Do not disable LOG_NOTICE. (PRIMEPOWER only)

  Users are prohibited from executing the system save and stop function. (PRIMEPOWER
  and SPARC Enterprise Server only)

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 Solaris operating system 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 Solaris operating system.

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 Solaris operating system, it is necessary to change the PATH environment variable before using some commands.

If the root shell is the Bourn 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/scfsreson ]; then
            exit 0
     TRIGGER=`/opt/FJSVhwr/sbin/scfsreson | /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 Sun 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/FJSVhwr/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/rdsk/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: FJSVsfled: 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: FJSVsfled: 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: FJSVsfled: 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: FJSVsfled: sfled_start: SCSI transport error occured.

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: 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: FJSVsfled: sfled_restart: SCSI transport error occured.

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 occured.

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 rciopecall(1M) command

Usage: rciopecall: address { disp | on callNo | off callNo }

Cause

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

rciopecall: 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.

rciopecall: 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.

rciopecall: 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.

rciopecall: 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.

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/rdsk directory).

Action
Check the /dev/rdsk directory.

Warning: file-name is not a symbolic link

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

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

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

Cause
diskadm tried to turn on the disk device power when the device was already on.

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

Cause

diskadm tried to turn off the disk device power when the device was already off.

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.

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/K00FJSVscf: 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.

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	Web-Based Admin View and WWW Server for Admin View	Core files can be created in the following directories while the Web-Based Admin View is in use: • /var/opt/FJSVwvbs/logs/server • /var/opt/FJSVwvbs/logs/node Output of core files is considered to be caused by an error in the Java implementation itself. Even if Java terminates abnormally when core files are output, Web-Based Admin View is automatically restarted and continues operation without a problem. Ignore core files. If a connection to Web-Based Admin View cannot be established, refer to the appropriate troubleshooting explanation in the Web-Based Admin View manual, and take necessary measures.
		To display "Machine Administration" on a client, a Java Plug-in environment must be configured on the client. For the method of configuring it, see the *Web-Based Admin View Edition*.
2	Machine Administration	A root user can use the Machine Administration menu. To enable a non-root user to use the Menu, do as follows: • Register a group named "cemainte". • Register the user in the "cemainte" group. The "cemainte" group and "cemainte" group users are automatically registered with the PRIMEPOWER 900/1500/2500 when the operating system is installed from the system console.
		Always use the same Machine Administration version between the system console and each partition of the PRIMEPOWER 900/1500/2500.
3	Automatic power control	Use the system console to make automatic power control settings for automatic power-on and power-off of the PRIMEPOWER 900/1500/2500.
4	Redundant console path features	Except for the basic serial ports used for console paths, up to five serial ports on the PRIMEPOWER 900/1500/2500 can be used by the user. Note that before a system board, PCI or DISK-BOX is disconnected by Dynamic Reconfiguration, the application that uses the associated serial port must be terminated.

4.2 Notes on LDoms environment

This section explains notes when using Enhanced Support Facility in the environment of LDoms.
Regarding support environment, please refer to "20. Logical Domains" in "Security System Building Guide".

No.	Component	Description
1	Enhanced Support Facility Information Management	Do not install the Logical Domains Manager prior to the Enhanced Support Facility. The Logical Domains Manager contains Solaris Security Toolkit. The Solaris Security Toolkit will delete the cron setting from the system and installing the Enhanced Support Facility will fail.
2	Machine Administration, Remote Support	The hardware monitoring information function of Machine Administration may not work. This is because the settings used by the Machine Administration have been deleted from the /etc/syslog.conf file by the Solaris Security Toolkit. To avoid this problem, you need to edit the /etc/syslog.conf file. The /etc/syslog.conf file must have the following entry. `* err;kern.debug;daemon.notice<tab>/var/opt/FJSVmadm/evh/evh_pipe` "<tab>" means creating space before and after by pressing the tab key. For more information, please refer to"20. Logical Domains" in "Security System Building Guide".

3	Machine Administration	- Control Domain
		  While configuration information is displayed, regarding any parts other than memory, only hardware allocated to control domain is displayed.
		- Guest Domain
		  Memory information is not displayed while configuration information is displayed.
		  Also virtualized I/O is not displayed.
		- 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.

4	Remote Support	The software investigation information collection is not supported on the guest domain.
5	HRM-S	CPU and Memory properties (frequency, DIMM volume etc) are not displayed on the guest domain.
6	System data output tool	On the guest domain, the prtvtoc command does not work due to a different disk logical device name. Execute the fjsnap command on the control domain if you need to collect the same information that the prtvtoc command collects.