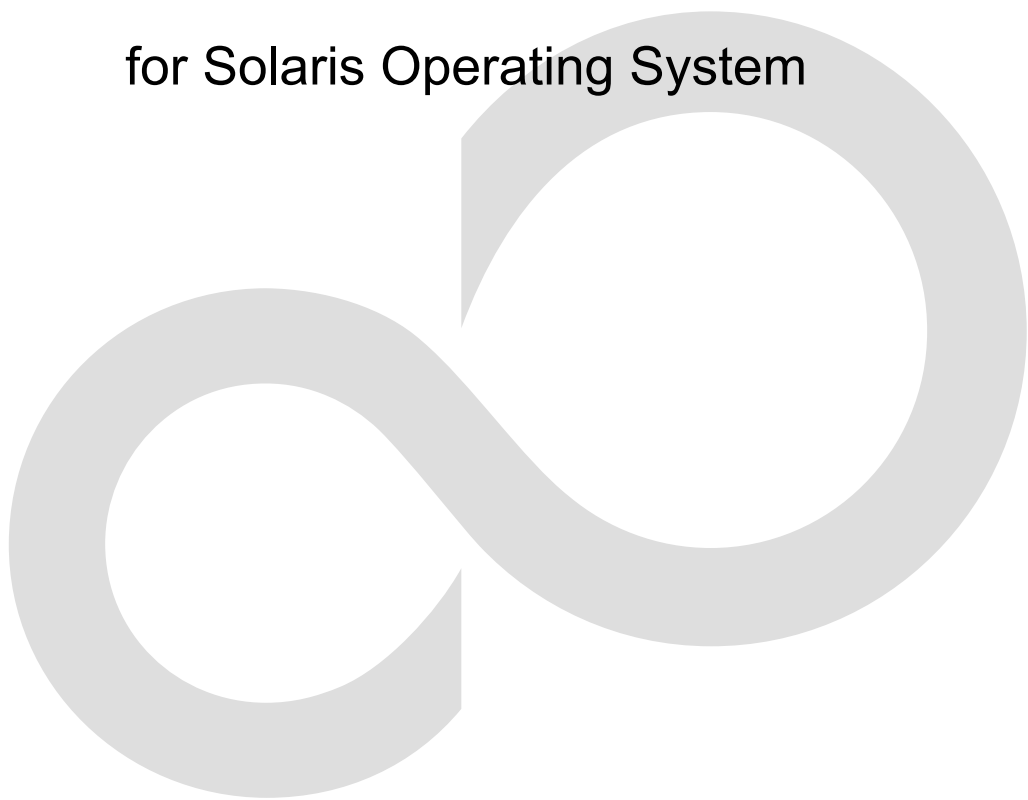




SPARC-Version  
Enhanced Support Facility

# Security System Building Guide

for Solaris Operating System



**FUJITSU**



# Preface

## 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

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## Revision History

Edition	Date	Details
1.0	Dec 12, 2000 Dec 15, 2000 Dec 22, 2000	First Edition Translated (FJ) Revised (FJ) Revised (FSC)
2.0	Dec 30, 2000	Revised (FJ) An ..additional "used with Enhanced Support Facility /etc/dfs/dfstab".. additional error in writing and the expression ..additional "When Enhanced Support Facility is installed, package it Solaris OS necessary" of the article concerning addition System Scanner 4.0 execution result of the article concerning Enhanced Support Facility 1.6/1.7.. are corrected.
3.0	Jan 30, 2002	Revised (FJ) Postscript of article concerning Enhanced Support Facility 1.4- Enhanced Support Facility 1.7. Addition of article concerning Enhanced Support Facility 1.8- Enhanced Support Facility 2.0. Correction of error in writing and expression.
4.0	Aug 06, 2002	Revised (FJ) Addition of article concerning Enhanced Support Facility 2.1- Enhanced Support Facility 2.2. Correction of error in writing and expression.
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6.0	Aug 19, 2003	Revised (FJ) Correction of error in writing concerning PW-CL and PW-CLZ.
7.0	Jan 16, 2004	Revised (FJ) Addition of article concerning Enhanced Support Facility 2.4.
8.0	Apr 28, 2004	Revised (FJ) Addition of article concerning additional system parameter concerning HRM (system operation support function) in article diagnosis.
9.0	Jan 31, 2005	Revised (FJ) Addition of article concerning "Various log files used with Enhanced Support Facility". Addition of article concerning "System file changed with Enhanced Support Facility".
10.0	Feb 28, 2006	Revised (FJ) Addition of article concerning "Service registered in use Service Management Facility of Solaris 10 OS with Enhanced Support Facility". Correction of article concerning "Setting of cron used with Enhanced Support Facility". Addition of article concerning Enhanced Support Facility 2.6.
11.0	Aug 22, 2006	Revised (FJ) Addition of article concerning Enhanced Support Facility 3.0. Correction of error in writing and expression.
12.0	Jan 15, 2007	Revised (FJ) Addition of article concerning "When Enhanced Support Facility is installed, package it Solaris OS necessary".
13.0	Sep 28, 2007	Revised (FJ) Correction of error in writing concerning LE.
13.1	Nov 01, 2007	Revised (FJ) Correction of English sentences that are difficult to understand.
14.0	Nov 01, 2007	Revised (FJ) Addition of article concerning "Logical Domains".
15.0	Mar 14, 2008	Revised (FJ) Correction of error in writing concerning "rc scripts and daemons used in Enhanced Support Facility". Addition of article concerning "About the service registered in Service Management Facility of Solaris 10 OS with Enhanced Support Facility".
16.0	Apr 07, 2008	Revised (FJ) Addition of article concerning LE.

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## **1. Before reading this guide**

Enhanced Support Facility provides the enough safety in respect to security at a usual installation. However, among those who are responsible for system security, there is a request that they want to have information about daemons started or INET ports used. They want to facilitate the management on security in the case of building a system environment like the ISP (Internet Service Providers) in which computers are directly connected to the Internet. With the same reason, they want to restrict the number of daemons or INET ports and also limit software packages to be installed as little as possible. This document describes the information about the SPARC-version Enhanced Support Facility required to establish a sophisticated security system to meet the above requests.

The verification is not done for the settings in all environments and combinations. We can not guarantee that you can change any setting. You can change the setting only when you have full knowledge on the security of the Solaris™ Operating System and enough skill in troubleshooting by yourself.

Information described here is based on the facts that are confirmed at the time of writing this document. Unless stated otherwise, the scope of this document is from the Basic Software Extension 1.0 through the Enhanced Support Facility 3.0. Information written in this document is subject to change due to an enhancement of the Enhanced Support Facility or release of patches in the future.

In this book, the following abbreviations are used for each model name supported by Enhanced Support Facility. The relation between the abbreviation name and uname(1) is as follows.

Model name		uname -m	Abbreviation
SPARC Enterprise M4000/M5000/M8000/M9000	*3	sun4u	CW
SPARC Enterprise T1000/T2000/T5120/T5220 T5140/T5240	*3 *4	sun4v	LE
GP7000F Models 200/200R/400/400A/400R/600/600R		sun4us	PW-T
PRIMEPOWER200/400/600			PW-K
GP7000F Models 1000/2000			
PRIMEPOWER800/1000/2000			PW-CM
PRIMEPOWER650 (Model equipped with SPARC64™ GP)/ 850 (Model equipped with SPARC64™ GP)	*1		PW-CMZ
PRIMEPOWER650 (Model equipped with SPARC64™ V)/ 850 (Model equipped with SPARC64™ V)	*1		PW-P
PRIMEPOWER250/450	*2		PW-CL
PRIMEPOWER1500 (Model equipped with SPARC64™ GP)	*2		PW-CLZ
PRIMEPOWER900/1500 (Model equipped with SPARC64™ V)/ 2500	*2		
PRIMEPOWER1		sun4u	PW-U

- \*1. PRIMEPOWER650 (Model equipped with SPARC64™ GP)/850 (Model equipped with SPARC64™ GP) are supported from Enhanced Support Facility 2.0.
- \*2. PRIMEPOWER250/450/650 (Model equipped with SPARC64™ V)/850 (Model equipped with SPARC64™ V)/900/1500/2500 are supported from Enhanced Support Facility 2.3.
- \*3. SPARC Enterprise T1000/T2000/T5120/T5220/M4000/M5000/M8000/M9000 are supported from Enhanced Support Facility 3.0.
- \*4. SPARC Enterprise T5140/T5240 are supported from Enhanced Support Facility 3.0.1.

Enhanced Support Facility 3.0 or newer supports SPARC Enterprise and PRIMEPOWER250/450/650/850/900/1500/2500.

Enhanced Support Facility 2.6 is the latest version of Enhanced Support Facility that supports GP7000F models 200/200R/400/400A/400R/600/600R/1000/2000 and PRIMEPOWER1/200/400/600/800/1000/2000.

The name of Enhanced Support Facility has been used since version 1.3. It was called the Basic Software Extension before the version 1.3. The version number of the Enhanced Support Facility installed in your system can be confirmed by getting that of FJSVbse package with the pkgparam(1M) command.

```
# pkgparam FJSVbse VERSION
```

## **2. Countermeasures against Enhanced Support Facility security problems**

### **2.1. For Basic Software Extension 1.0 to Enhanced Support Facility 1.4**

- A patch, "R00081," has been released for Enhanced Support Facility 1.4 or earlier versions in order to provide the same security level as Enhanced Support Facility 1.5.

### **2.2. For Enhanced Support Facility 1.7**

- A patch (911131-03 or later, R01081 or later) was issued to fix the security problem of the access privilege of the semaphore which was made by FJSVsrms for Enhanced Support Facility 1.7/ Enhanced Support Facility 1.7.1.

### **2.3. For Enhanced Support Facility 2.1 / Enhanced Support Facility 2.2**

- The security problem, where a process made from FJSVrrda remains as zombie process, is fixed by the patch (911993-01,R02081) correction.
- About the Enhanced Support Facility 2.2, the security problem is already fixed.





No	Components	Abbreviation	Package name	Features
6	SCF/SCSI fault LED support option	CW	FJSVscfsc	SCF/SCSI fault LED support option (Solaris 10 OS) Effective from Enhanced Support Facility 3.0
7	SunVTS, FJVTS	PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P	SUNWvts SUNWvtsmn FJSVvts  SUNWvtsx	SunVTS SunVTS Man Pages FJVTS  SunVTS (64 bit) Effective from Basic Software Extension 1.2
8	Web-Based Admin View/ WWW Server for Admin View	PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVwvcnf FJSVwvbs	WWW Server for Admin View Web-Based Admin View
9	Machine Administration	CW	FJSVamadm FJSVamcl	Machine Admin (Solaris 10 OS) Effective from Enhanced Support Facility 3.0
		LE	FJSVamle	Machine Admin (Solaris 10 OS) Effective from Enhanced Support Facility 3.0
		PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVmasv	Machine Admin (server)
		PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVmaom	Machine Admin Online Manual Enhanced Support Facility 1.5 - 2.6
		LE PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVmadm	Machine Administration common  Effective from Enhanced Support Facility 2.2
		PW-T PW-U	FJSVmand	Machine Admin (node) Basic Software Extension 1.0 - 1.2 Enhanced Support Facility 1.3 - 2.6
		PW-K	FJSVkmsv FJSVkmnd FJSVkmom	Machine Admin (server) Machine Admin (node) Machine Admin Online Manual Enhanced Support Facility 1.5 - 2.6 Even Enhanced Support Facility 1.8 is effective to FJSVkmom. It was integrated to the FJSVmasv and FJSVmaom from Enhanced Support Facility 2.0.
		PW-CM PW-CMZ PW-CL PW-CLZ	FJSVcmnd	Machine Admin (node)  Effective from Enhanced Support Facility 2.0
		PW-P	FJSVpmnd	Machine Administration (node) Effective from Enhanced Support Facility 2.3

No	Components	Abbreviation	Package name	Features		
10	Remote Support	CW	FJSVamrm	REMCS (Solaris 10 OS) Effective from Enhanced Support Facility 3.0		
		LE	FJSVlrm	REMCS (Solaris 10 OS) Effective from Enhanced Support Facility 3.0		
		LE PW-T PW-U PW-CM PW-CMZ PW-P	FJSVrlib FJSVragt FJSVrmaos	REMCS Common Library REMCS System Monitor Agent REMCS Auto Application Support  Effective from Enhanced Support Facility 1.4		
		PW-T PW-U	FJSVmarm	Machine Admin REMCS I/F Enhanced Support Facility 1.5 - 2.6		
		PW-CM PW-CMZ	FJSVcmrm	Machine Admin REMCS I/F Effective from Enhanced Support Facility 2.0		
		PW-CL PW-CLZ	FJSVcmrm2	Machine Admin REMCS I/F Effective from Enhanced Support Facility 2.3		
		PW-K	FJSVkmrm	Machine Admin REMCS I/F Enhanced Support Facility 1.5 - 2.6		
		PW-P	FJSVpmm	Machine Administration REMCS I/F Effective from Enhanced Support Facility 2.3		
		PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVrda	REMCS Resource Delivery Agent Effective from Enhanced Support Facility 1.4		
			FJSVracm	REMCS Advanced Agent Installer Effective from Enhanced Support Facility 2.1		
		Common to all types	FJSVsirms	Software REMCS Effective from Enhanced Support Facility 1.5		
		11	Automatic Power Control	CW PW-T PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVapcs	Auto Power Control System
				CW PW-T PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVapcwv	APCS Admin View  Effective from Enhanced Support Facility 1.3

No	Components	Abbreviation	Package name	Features
12	Server Default Configuration	Common to all types	FJSVdef	Server Default Configuration Effective from Basic Software Extension 1.1
		CW LE PW-T PW-U PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVssf	Server Support Feature Effective from Basic Software Extension 1.0
		PW-T PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVwarn.us	System Warning Daemon Effective from Enhanced Support Facility 1.4
		PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVpnlx.us FJSVpnl.us	Panel Driver (64 bit) Panel Driver (32 bit) Effective from Enhanced Support Facility 1.4
13	System Data Output Tool	Common to all types	FJSVsnap	System Data Output Tool
14	License Manager	PW-T PW-U PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FSUNlic	FLEXlm License Manager
				Basic Software Extension 1.0 - 1.2 Enhanced Support Facility 1.3 - 2.6
15	Crash Dump Assistant	Common to all types	FJSVdmp	Crash Dump Assistant Effective from Enhanced Support Facility 1.3
16	Auto Dump Analyze Tool	Common to all types	FJSVana	Auto Dump Analyze Tool Effective from Enhanced Support Facility 2.2
17	Drivers for high-reliability	PW-K	FJSVse (Solaris 7 OS or later)	Serial (se) Driver (Solaris 7 OS or later) Effective from Enhanced Support Facility 1.4
			FJSVsef (Solaris 2.6 OS)	Serial (se) Driver (Solaris 2.6 OS) Effective from Enhanced Support Facility 1.5
		PW-CL PW-CLZ	FJSVsec (Solaris 8 OS or later)	Serial Driver (Solaris 8 OS or later) Effective from Enhanced Support Facility 2.3
18	CPU Performance Counter	PW-T PW-U PW-K PW-CM	FJSVcpc	CPU Performance Counter for SPARC64 GP (Solaris 8 6/00, 10/00, 1/01, 4/01, 7/01 OS)
				Enhanced Support Facility 1.7 - 2.6
19	CPU Patrol Diagnosis	PW-T PW-K PW-CL PW-CM	FJSVcpupd	CPU Patrol Diagnosis Enhanced Support Facility 1.8 - 2.6 Supports only the SPARC64™ GP processor.

No	Components	Abbreviation	Package name	Features
20	G-LAN error notification	PW-T PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVgidad	GigabitEthernet interface error notification
				Effective from Enhanced Support Facility 2.4
21	G-LAN MTU setting	PW-T PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVgidr	GigabitEthernet interface error notification
				Effective from Enhanced Support Facility 2.4
22	HCP information management	PW-P	FJSVhcp	Hardware Control Program
				Effective from Enhanced Support Facility 2.3
23	System Parameter Diagnosis	CW LE PW-T PW-U PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVparam	System parameters of the Solaris OS are diagnosed.
				Effective from Enhanced Support Facility 2.4
24	Tape Driver Configuration Tool	Common to all types	FJSVdcnf	Set the driver definition of the tape device automatically.
				Effective from Enhanced Support Facility 2.5
25	Patch Information collect command	Common to all types	FJSVpmgc	The tool allows users to review installed patches, browse and download applicable patches not installed, as well as create a collection of patches to be installed at the same time.
				Effective from Enhanced Support Facility 2.6

FJSVtserv, FJSVobase and FJSVsimo have been deleted from Enhanced Support Facility 1.4.

FSUNnet, FJSVhme and FJSVglm have been deleted from Enhanced Support Facility 1.7.

FJSVmaom, FSUNlic, FJSVcpc and FJSVcpupd have been deleted from Enhanced Support Facility 3.0.

Note: The following are the names used for remote maintenance function.

Name of service: SupportDesK (name of product)

Tool that provides service: REMCS (name of tool)

## 4. rc scripts and daemons used in Enhanced Support Facility

The rc scripts registered and the daemon processes started in the Enhanced Support Facility are explained here. Only start-up scripts are described.

In the following tables, “Suppressible” indicates whether the script can be disabled (for example, by removing the file). “Effect of suppression” explains the impacts by the script being disabled.

### 4.1. /etc/rcS.d

S50FJSVmadmclr

Component	Machine Administration
Package name	FJSVmadm
Support Solaris OS	Solaris 2.6 OS or later
Support models	PW-T, PW-U, PW-K, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P, LE
Support Enhanced Support Facility	Enhanced Support Facility 2.5 or later
Function	Delete temporary files that Machine Administration uses.
Daemon started	None
Port used	None
Suppressible	No
Effect of suppression	You may be unable to recognize hardware failures.
Remarks	

S60fjsv,se\_devlinks

Component	Drivers for high-reliability
Package name	FJSVse (PW-K)/FJSVsef (PW-K)/FJSVsec (PW-CL,PW-CLZ)
Support Solaris OS	FJSVse: Solaris 7 OS or later FJSVsef: Solaris 2.6 OS FJSVsec: Solaris 8 OS or later
Support models	PW-K, PW-CL, PW-CLZ
Support Enhanced Support Facility	FJSVse: Enhanced Support Facility 1.4 or later FJSVsef: Enhanced Support Facility 1.5 or later FJSVsec: Enhanced Support Facility 2.3 or later
Function	Create a special file for a serial port except that for the console connection.
Daemon started	None
Port used	None
Suppressible	Yes (Solaris 9 OS or later)
Effect of suppression	Serial ports other than a console serial port may not be able to be used.
Miscellaneous	

## S90FJSVscfdaemon

Component	SCF driver
Package name	FJSVscr.us (PW-T)/FJSVscr1 (PW-K)/FJSVscr2 (PW-K)/FJSVlscr (PW-U) /FJSVscr3 (PW-CM,PW-CMZ, PW-CL,PW-CLZ)/FJSVpscr (PW-P)
Support Solaris OS	Solaris 2.6 OS or later
Support models	Common to all types
Support Enhanced Support Facility	Basic Software Extension 1.0 or later
Function	Starts a daemon to manage the RAS-control-device (SCF)
Daemon started	pwrctrlrd (Refer to the <i>User's Guide</i> )
Port used	None
Suppressible	No
Effect of suppression	It causes a serious effect for hardware maintenance. Hardware failures caused by an electric power supply, an abnormal temperature or a fan, which are observed by the RAS-control device (SCF), are not monitored at all.
Miscellaneous	

## 4.2. /etc/rc2.d

### S19FJSVdmpsnap

Component	Crash dump assistant
Package name	FJSVdmp
Support Solaris OS	Solaris 2.6 OS or later
Support models	Common to all types
Support Enhanced Support Facility	In terms of Solaris 2.6 OS, it has been released since the Enhanced Support Facility 1.5. In terms of Solaris 7 OS and Solaris 8 OS, it has been released since the Enhanced Support Facility 1.4. In terms of Solaris 9 OS, it has been released since the Enhanced Support Facility 2.2.
Function	In saving “crash dump” information after a system panic, the system information, which is output with the fjsnap command, is stored into “/var/crash”.
Daemon started	None
Port used	None
Suppressible	Yes
Effect of suppression	You may have a difficulty in software maintenance. Immediately after a system panic, the system information in such a file as “/var/adm/message,” which is required to analyze a panic cause, is not automatically output.
Miscellaneous	Since this file has much to do with “/etc/rc3.d/S76FJSVdmpadm,” you must delete both files to suppress the function.

### S30FJSVmadmclr2

Component	Machine Administration
Package name	FJSVmadm
Support Solaris OS	Solaris 2.6 OS or later
Support models	PW-T, PW-U, PW-K, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P, LE
Support Enhanced Support Facility	Enhanced Support Facility 2.5 or later
Function	Delete temporary files that Machine Administration uses.
Daemon started	None
Port used	None
Suppressible	Yes (Solaris 10 OS or later)
Effect of suppression	You may be unable to recognize hardware failures.
Miscellaneous	This script terminates without doing anything on Solaris 10 OS.

### S39FJSVevsnd

Component	Machine Administration
Package name	FJSVkmrm
Support Solaris OS	Solaris 2.6 OS or later
Support models	PW-K
Support Enhanced Support Facility	Enhanced Support Facility 2.2 or later
Function	Inform hardware failure to System Management Console.
Daemon started	evsndd: Reports hardware errors.
Port used	A port assigned by the operating system.
Suppressible	No
Effect of suppression	You may be unable to recognize hardware failures.
Miscellaneous	-



## S39FJSVmarm

Component	Machine Administration (REMCS)
Package name	FJSVmarm, FJSVkmrm (Effective before Enhanced Support Facility 2.0) FJSVmarm(PW-U,PW-T),FJSVkmrm(PW-K),FJSVlmm(LE)
Support Solaris OS	Solaris 2.6 OS or later(FJSVmarm, FJSVkmrm) Solaris 10 OS or later(FJSVlmm)
Support models	PW-U,PW-T,PW-K,LE
Support Enhanced Support Facility	Enhanced Support Facility 1.4 or later(FJSVmarm, FJSVkmrm) Enhanced Support Facility 3.0 or later(FJSVlmm)
Function	Notification and connection services are given for the SupportDesk service
Daemon started	remotereportd : REMCS report is performed rsched : REMCS-regular-connection is managed pipeopener : supports the remotereportd
Port used	None
Suppressible	Yes (only when no SupportDesk service agreement is executed.)
Effect of suppression	You are unable to make use of the SupportDesk service
Miscellaneous	remotereportd, rsched, and pipeopener are not started by PW-K, PW-CM, or PW-CMZ. PW-K does not use this re script since Enhanced Support Facility 2.1 or later.

## S40FJSVcmrm

Component	Machine Administration (REMCS)
Package name	FJSVcmrm
Support Solaris OS	Solaris 8 OS or later
Support models	PW-CM, PW-CMZ
Support Enhanced Support Facility	Enhanced Support Facility 2.0 or later
Function	Initialization are given for the SupportDesk service
Daemon started	None
Port used	None
Suppressible	Yes (only when no SupportDesk service agreement is executed.)
Effect of suppression	You are unable to make use of the SupportDesk service.
Miscellaneous	-

## S40FJSVevhand

Component	Machine Administration
Package name	FJSVmand, FSVkmnd, FJSVcmnd, FJSVpmnd, FJSVsmnd
Support Solaris OS	Solaris 2.6 OS, Solaris 7 OS, Solaris 8 OS, Solaris 9 OS
Support models	Common to all types
Support Enhanced Support Facility	Basic Software Extension 1.2 or later
Function	Alerts hardware errors through monitoring syslog Messages
Daemon started	evhandsd: Extracts messages to be monitored in syslog messages. (This daemon is started by SVC in the case of Solaris 10.) evmond: Alerts an abnormality based on the messages extracted. (This daemon is started by SVC in the case of Solaris 10.) scfdrvrcvd: Extracts messages to be monitored in SCF events (only for PW-CM, PW-CMZ, PW-CL or PW-CLZ). (Enhanced Support Facility 2.2 or later) (This daemon is started by SVC in the case of Solaris 10.)
Port used	None
Suppressible	No
Effect of suppression	You may be unable to recognize hardware failures.
Miscellaneous	-

## S40FJSVpmm

Component	Machine Administration (REMCS)
Package name	FJSVpmm
Support Solaris OS	Solaris 8 OS or later
Support models	PW-P
Support Enhanced Support Facility	Enhanced Support Facility 2.3 or later
Function	Initialization are given for the SupportDesk service
Daemon started	None
Port used	None
Suppressible	Yes (only when no SupportDesk service agreement is executed.)
Effect of suppression	You are unable to make use of the SupportDesk service.
Miscellaneous	-

## S70FJSVinet

Component	Server Default Configuration
Package name	FJSVssf
Support Solaris OS	Solaris 7 OS, Solaris 8 OS, Solaris 9 OS
Support models	Common to all types
Support Enhanced Support Facility	Basic Software Extension 1.0 or later
Function	Records errors occurred on TCP/IP
Daemon started	limstrerr (This daemon is started by SVC in the case of Solaris 10. )
Port used	None
Suppressible	Yes
Effect of suppression	You may have a difficulty in software maintenance. There is a possibility of affecting the troubleshooting concerning a problem occurred on a LAN due to the reason that a part of error information on TCP/IP is not automatically recorded.
Miscellaneous	This component has been released from Solaris 7 OS. This component has not been released for Solaris 2.6 OS.

## S72SystemWalkerSSInit

Component	Machine Administration (REMCS)
Package name	FJSVrmaos, FJSVragt
Support Solaris OS	Solaris 2.6 OS or later
Support models	PW-T, PW-U, PW-CM, PW-CMZ, PW-P, LE
Support Enhanced Support Facility	Enhanced Support Facility 2.1 or later
Function	REMCS agent (reports a failure occurrence to Fujitsu support center)
Daemon started	None
Port used	None
Suppressible	Yes
Effect of suppression	You are unable to make use of the SupportDesk service.
Miscellaneous	This script runs only when a registration for the SupportDesk service is made. Nothing is done without a registration.

## S73rmagt.syslog

Component	Remote Support (REMCS)
Package name	FJSVragt
Support Solaris OS	Solaris 2.6 OS or later
Support models	PW-T, PW-U, PW-CM, PW-CMZ, PW-P
Support Enhanced Support Facility	Enhanced Support Facility 1.4 or later
Function	REMCS agent (software-monitoring)
Daemon started	f3crsyslog
Port used	None
Suppressible	Yes
Effect of suppression	You are unable to take advantage of the SupportDesk service.
Miscellaneous	This script works only when a registration for the SupportDesk is made and nothing is performed without a registration. Daemons are effective before Enhanced Support Facility 2.0.

## S75FJSVsavecore

Component	Server Default Configuration
Package name	FJSVdef
Support Solaris OS	Solaris 2.6 OS
Support models	Common to all types
Support Enhanced Support Facility	Basic Software Extension 1.0 later
Function	Since the “/etc/rc2.d/S20syssetup” in Solaris 2.6 OS has been released with it made invalid, it is made valid by this component.
Daemon started	None
Port used	None
Suppressible	Yes
Effect of suppression	You may have a difficulty in software maintenance because in the Solaris 2.6 OS, “crash dump” information is not automatically saved after a system panic. You should make it valid by modifying “/etc/rc2.d/S20syssetup” in the Solaris 2.6 OS.
Miscellaneous	Applicable only for Solaris 2.6 OS. It has been made valid since Solaris 7 OS or later release.

## S80FJSVparam

Component	System Parameter Diagnosis
Package name	FJSVparam
Support Solaris OS	Solaris 8 OS or later
Support models	PW-T, PW-U, PW-K, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P, CW, LE
Support Enhanced Support Facility	Enhanced Support Facility : Enhanced Support Facility 2.4 or later
Function	System parameters of the Solaris OS are diagnosed.
Daemon started	None
Port used	None
Suppressible	Yes
Effect of suppression	System parameters are not diagnosed.
Miscellaneous	

## S80FJSVwvbs

Component	Web-based Admin View
Package name	FJSVwvbs
Support Solaris OS	Solaris 2.6 OS or later
Support models	Common to all types
Support Enhanced Support Facility	Basic Software Extension 1.0 or later
Function	A communication infrastructure for Web applications
Daemon started	<p>Java (java -mx32m com.fujitsu.webview.base*)</p> <p>A communication feature between a server and a client used when the Machine Administration and the like run in GUI mode using the Web-based Admin View.</p> <p>wwrespawn: It restarts the java daemon automatically when it terminates abnormally.</p> <p>wvCIEventd: It is a daemon for notifying the cluster event for SynfinityCluster. It starts up only when using cluster operation management of SynfinityCluster 1.0.4 or earlier.</p> <p>wvMaEventd: It reports machine administration events for the SynfinityCluster and is started only when the Web-based Admin View for SynfinityCluster are being used.</p> <p>wvCmdInvoker: Daemon for command execution. It executes the command instead of Web-Based Admin View.</p>
Port used	<pre>fjwv_g  9396/udp  # FJSVwvbs group RMI fjwv_n  9397/tcp  # FJSVwvbs node RMI fjwv_s  9398/tcp  # FJSVwvbs server RMI fjwv_c  9399/tcp  # FJSVwvbs client RMI</pre>
Suppressible	Yes
Effect of suppression	The way of suppressing the function and an effect by that are described in the <i>Installation Guide</i> . Please refer to “- Changes in the /etc/inet/services definition file” in Section 7.2, “Details of the Files Changed by Enhanced Support Facility,” in this document together with the <i>Installation Guide</i> .
Miscellaneous	-

## S88FSUNlicense

Component	License Manager
Package name	FSUNlic
Support Solaris OS	Solaris 2.6 OS or later
Support models	Common to all types
Support Enhanced Support Facility	Basic Software Extension 1.0 to 1.2 Enhanced Support Facility 1.3 to 2.6
Function	FLEXlm License Manager (Refer to the <i>User's Guide</i> .)
Daemon started	<p>The following daemons are started when license-file contains license information.</p> <ol style="list-style-type: none"> <li>1) lmgrd</li> <li>2) J-FUJITSU</li> </ol>
Port used	<p>27000 (default).</p> <p>You may designate a port number to use when registering a license-server using the setup_license command attached to the FSUNlic package. A recommendable value for it is from 27000 through 27009.</p>
Suppressible	Yes, if software which requires the License Manager is not used. Neither the Enhanced Support Facility nor the Solaris OS operating system use it.
Effect of suppression	You are unable to use the License Manager. The software which needs the License Manager is impossible to run.
Miscellaneous	-

## S90FJSVconspath

Component	Machine Administration
Package name	FJSVkmnd
Support Solaris OS	Solaris 2.6 OS or later
Support models	PW-K , PW-CL , PW-CLZ
Support Enhanced Support Facility	Enhanced Support Facility 2.3 or later
Function	Controls redundant console path.
Daemon started	conspathd (for PW-K, PW-CL and PW-CLZ) (Solaris 8 OS or later) Sends the control code used for console multi-path.
Port used	None
Suppressible	Yes, if the console path is not redundant configuration.
Effect of suppression	Redundant console path configuration cannot be used.
Miscellaneous	When the FJSVse (PW-K) or FJSVsec (PW-CL, PW-CLZ) is removed on Solaris 9 OS or later, suppress this script.

## S90FJSVscf

Component	SCF driver
Package name	FJSVscr.us (PW-T)/FJSVscr1 (PW-K)/FJSVscr2 (PW-K)/FJUSV1scr (PW-U)/FJUSV1scr3/FJSVpscr (PW-P)
Support Solaris OS	Solaris 2.6 OS or later
Support models	Common to all types
Support Enhanced Support Facility	Basic Software Extension 1.0 or later
Function	Collects hardware error information logged by the RAS-control- device (SCF). In addition, the monitoring of the main processor is started to RAS control device (SCF).
Daemon started	None
Port used	None
Suppressible	No
Effect of suppression	You have a difficulty in hardware maintenance because you are unable to collect hardware error information logged by the RAS control device (SCF). In addition, the main processor is not monitored with RAS control device.
Miscellaneous	-

## S90FJSVscfsc

Component	SCF/SCSI fault LED support option
Package name	FJSVscfsc
Support Solaris OS	Solaris 10 OS or later
Support models	CW
Support Enhanced Support Facility	Enhanced Support Facility 3.0 or later
Function	Notify the status of your system.
Daemon started	None
Port used	None
Suppressible	No
Effect of suppression	There is a possibility that a problem occurs in monitoring the status of your system by XSCF. Also RCI may stop notifying the status of your system and a switchover of a cluster system may be delayed.
Miscellaneous	-

## S91FJSVemnd

Component	Machine Administration
Package name	FJSVemnd
Support Solaris OS	Solaris 8 OS or later
Support models	PW-CM, PW-CMZ, PW-CL, PW-CLZ
Support Enhanced Support Facility	Enhanced Support Facility 2.0 or later
Function	The removable disk such as CD-ROM and DVD is judged.
Daemon started	None
Port used	None
Suppressible	No
Effect of suppression	Machine Administration cannot correctly make hardware configuration data.
Miscellaneous	for PW-CL This component has been released since Enhanced Support Facility 2.3 or later. for PW-CMZ and PW-CLZ This component has been released since Enhanced Support Facility 2.3 or later.

## S91FJSVconspath

Component	Machine Administration
Package name	FJSVkmnd
Support Solaris OS	Solaris 2.6 OS or later
Support models	PW-K
Support Enhanced Support Facility	From Enhanced Support Facility 1.7 to Enhanced Support Facility 2.2
Function	Controls redundant console path.
Daemon started	conspathd (for PW-K) (Solaris 8 OS or later) Sends the control code used for console multi-path.
Port used	None
Suppressible	Yes, if the console path is not redundant configuration.
Effect of suppression	Redundant console path configuration cannot be used.
Miscellaneous	When the FJSVse (PW-K) is removed on Solaris 9 OS or later, suppress this script.

## S91FJSVmand

Component	Machine Administration
Package name	FJSVmand, FJSVsmnd, FJSVamle
Support Solaris OS	Solaris 2.6 OS or later
Support models	PW-T, PW-U, LE
Support Enhanced Support Facility	Enhanced Support Facility 2.0 or later
Function	The removable disk such as CD-ROM and DVD is judged.
Daemon started	None
Port used	None
Suppressible	No
Effect of suppression	Machine Administration cannot correctly make hardware configuration data.
Miscellaneous	

## S97FJSVmadm

Component	Machine Administration
Package name	FJSVpmnd
Support Solaris OS	Solaris 8 OS or later
Support models	PW-P
Support Enhanced Support Facility	Enhanced Support Facility 2.4 or later
Function	Monitors hardware errors and reports them.
Daemon started	hardmond: Monitors hardware errors based on information other than syslog messages. (ex. monitoring of cleaning tape devices) pmndinitd: Manages the function of Machine Administration. hcd: Manages the hardware configuration information. madm_logd: Manages the log information. scfeventd: Receives the error events from SCF.
Port used	None
Suppressible	No
Effect of suppression	You may be unable to recognize hardware failures.
Miscellaneous	-

## S98FJSVmadm

Component	Machine Administration
Package name	FJSVmand, FSVkmnd, FJSVcmnd, FJSVsmnd, FJSVamle, FJSVpmnd (only for Enhanced Support Facility 2.3)
Support Solaris OS	Solaris 2.6 OS or later
Support models	PW-T, PW-U, PW-K, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P, LE Only Enhanced Support Facility 2.3 for PW-P.
Support Enhanced Support Facility	Basic Software Extension 1.0 or later
Function	Monitors hardware errors and reports them.
Daemon started	hardmond: Monitors hardware errors based on information other than syslog messages. (ex. monitoring of cleaning tape devices) evsddd: Reports hardware errors. (only for PW-K, PW-CL and PW-CLZ. Effective before Enhanced Support Facility 2.1 for PW-K) del_filed: Remove temporary files created by machine administration. (only for PW-CM, PW-CMZ, PW-CL and PW-CLZ). mc_evlog_updatecfr: Create hardware configuration data (only for PW-CM, PW-CMZ, PW-CL and PW-CLZ). pmndinitd: Manages the function of Machine Administration (only for PW-P). hcd: Manages the hardware configuration information (only for PW-P). madm_logd: Manages the log information (only for PW-P). scfeventd: Receives the error events from SCF (only for PW-P).
Port used	A port assigned by the operating system (only for PW-K, PW-CL and PW-CLZ. Effective before Enhanced Support Facility 2.1 for PW-K).
Suppressible	No
Effect of suppression	You may be unable to recognize hardware failures.
Miscellaneous	-

## S99apcs

Component	Automatic Power Control
Package name	FJSVapcs
Support Solaris OS	Solaris 2.6 OS or later
Support models	PW-T, PW-K, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P
Support Enhanced Support Facility	Basic Software Extension 1.0 or later
Function	Registers power-off jobs or schedule-updating jobs using the Automatic Power Control into the cron.
Daemon started	The following daemon is started when you select the way of not using the cron at the version of Enhanced Support Facility 1.6 or later. /opt/FJSVapcs/sbin/apcsat
Port used	None
Suppressible	Yes
Effect of suppression	Automatic-Power- Control is not used.
Miscellaneous	In the Enhanced Support Facility 1.6 or later version, you may specify with the apcschmod command whether you use either the cron or the apcsat daemon. The cron is always used in the Enhanced Support Facility 1.5 or earlier version.

## S99FJSVemrm

Component	Machine Administration (REMCS)
Package name	FJSVemrm
Support Solaris OS	Solaris 8 OS or later
Support models	PW-CM
Support Enhanced Support Facility	Enhanced Support Facility 2.0 or later
Function	Notification and connection services are given for the SupportDesk service
Daemon started	rc_get_fifo : REMCS report is performed rc_schedule : REMCS-regular-connection is managed pipeopener : supports the rc_get_fifo
Port used	None
Suppressible	Yes (only when no SupportDesk service agreement is executed)
Effect of suppression	You are unable to make use of the SupportDesk service
Miscellaneous	

## S99FJSVepupd

Component	CPU Patrol Diagnosis
Package name	FJSVcpupd
Support Solaris OS	Solaris 2.6 OS or later
Support models	PW-T, PW-K, PW-CM, PW-CL
Support Enhanced Support Facility	Enhanced Support Facility 1.8 or later
Function	Controls execution of CPU patrol diagnostic, and reports errors.
Daemon started	The following daemon is started when you enable the CPU patrol diagnostic. The CPU patrol diagnostic is disabled in the default setting. /opt/FJSVcpupd/lib/fjptld
Port used	None
Suppressible	Yes
Effect of suppression	The CPU diagnostic is not performed.
Miscellaneous	This component has been released since Enhanced Support Facility 1.8.



## S99dcnf

Component	Tape Driver Configuration Tool
Package name	FJSVdcnf
Support Solaris OS	Solaris 8 OS or earlier
Support models	Common to all types
Support Enhanced Support Facility	Enhanced Support Facility 3.0 or later
Function	To automatically recognize tape devices that have been reconfigured, this script automatically reboots the system again during system reboot processing following execution of fjcfnfset(1M).
Daemon started	None
Port used	None
Suppressible	Yes
Effect of suppression	Automatic recognition of reconfigured tape devices is no longer possible.
Remarks	This script runs only during system reboot processing after executing fjcfnfset(1M) to reconfigure tape devices. In all other cases, nothing is done.

## S99FJSVlogadm

Component	Server Default Configuration
Package name	FJSVdef
Support Solaris OS	Solaris 9 OS
Support models	Common to all types
Support Enhanced Support Facility	Enhanced Support Facility 2.2 or later
Function	Prevents a system volume from being overloaded by log file expansion.
Daemon started	None . However, similar processes are periodically invoked by the crontabs of "root". root: 30 3 * * 0 if [ ! -f /var/adm/pacct ]; then /usr/sbin/logadm ...
Port used	None
Suppressible	Yes
Effect of suppression	No monitoring for logfile-expansion is made.
Miscellaneous	This has been released since Enhanced Support Facility 2.2 and supports Solaris 9 OS. The conditions to rotate the log files are described in Section 3.2, "Server Default Configuration," in the <i>User's Guide</i> . The system that needs to save log files for a long term for security reasons, you need to build the similar feature instead.

## S99FJSVlogclear

Component	Server Default Configuration
Package name	FJSVdef
Support Solaris OS	Solaris 2.6 OS, Solaris 7 OS, Solaris 8 OS
Support models	Common to all types
Support Enhanced Support Facility	Basic Software Extension 1.1 or later
Function	Prevents a system volume from being overloaded by log file expansion.
Daemon started	None . However, similar processes are periodically invoked by the crontabs of “root” or “adm”. root: 33 3 * * 0 /opt/FJSVdef/sbin/chkslog VOLDLOG SULOLOG ... adm: 30 3 * * 0 /opt/FJSVdef/sbin/chkslog WTMP
Port used	None
Suppressible	Yes
Effect of suppression	No monitoring for logfile-expansion is made.
Miscellaneous	This component has been released since Basic Software Extension 1.1 and support Solaris 2.6 OS, Solaris 7 OS, and Solaris 8 OS. The conditions to rotate the log files are described in Section 3.2, “Server Default Configuration,” in the <i>User’s Guide</i> . The system that needs to save log files for a long term for security reasons, you need to build the similar feature instead.

## S99FJSVpmm

Component	Machine Administration (REMCS)
Package name	FJSVpmm
Support Solaris OS	Solaris 8 OS or later
Support models	PW-P
Support Enhanced Support Facility	Enhanced Support Facility 2.3 or later
Function	Notification and connection services are given for the SupportDesk service
Daemon started	rc_get_fifo : REMCS report is performed rc_schedule : REMCS-regular-connection is managed pipeopener : Supports the rc_get_fifo
Port used	None
Suppressible	Yes (only when no SupportDesk service agreement is executed)
Effect of suppression	You are unable to make use of the SupportDesk service.
Miscellaneous	

## S99FJSVwarn

Component	Server Default Configuration
Package name	FJSVwarn
Support Solaris OS	Solaris 2.6 OS, Solaris 7 OS, Solaris 8 OS, Solaris 9 OS
Support models	PW-T, PW-K, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P
Support Enhanced Support Facility	Enhanced Support Facility 1.4 or later
Function	It monitors intermittent single-bit errors of CPU caches or memories and outputs messages into the syslog in the case of detecting a failure.
Daemon started	syswarnd (This daemon is started by SVC in the case of Solaris 10.)
Port used	None
Suppressible	Yes
Effect of suppression	You have a difficulty in hardware maintenance. Because no message is output even if intermittent single bit errors of CPU caches or memories frequently occur.
Miscellaneous	This component has been released since Enhanced Support Facility 1.4.

## S99SystemWalkerSS

Component	Machine Administration (REMCS)
Package name	FJSVrmaos,FJSVragt
Support Solaris OS	Solaris 2.6 OS or later
Support models	PW-T, PW-U, PW-CM, PW-CMZ, PW-P, LE
Support Enhanced Support Facility	Enhanced Support Facility 1.4 or later
Function	REMCS agent (reports a failure occurrence to Fujitsu support center)
Daemon started	f3crkrty, f3crkxsv
Port used	JMACT4 19369/tcp # FJSVrmaos REMCS SS-Agent JMACT5 19370/tcp # FJSVrmaos REMCS SS-Agent
Suppressible	Yes
Effect of suppression	You are unable to make use of the SupportDesk service.
Miscellaneous	This script runs only when a registration for the SupportDesk service is made. Nothing is done without a registration. Daemons are effective before Enhanced Support Facility 2.0.

**4.3. /etc/rc3.d**

## S76FJSVdmpadm

Component	Crash Dump assistant
Package name	FJSVdmp
Support Solaris OS	Solaris2.6 or later
Support models	Common to all types
Support Enhanced Support Facility	This file has been released since the Enhanced Support Facility 1.5 for Solaris 2.6 OS. In terms of Solaris 7 OS and Solaris 8 OS, it has been released since the Enhanced Support Facility 1.4. In terms of Solaris 9 OS, it has been released since the Enhanced Support Facility 2.1.
Function	The system information, which is output with the fjsnap command, is saved into “/var/crash” at the time of storing the crash-dump information after a panic.
Daemon started	None
Port used	None
Suppressible	Yes
Effect of suppression	You may have a difficulty in software maintenance. Immediately after a system panic, the system information in such a file as “/var/adm/messages,” which is required to analyze a panic cause, is not automatically output.
Miscellaneous	If you suppress this file, you must also suppress /etc/rc2.d/S19FJSVdmpsnap.

## S99FJSVwvcnf

Component	WWW Server for Admin View
Package name	FJSVwvcnf
Support Solaris OS	Solaris2.6 OS or later
Support models	Common to all types
Support Enhanced Support Facility	Basic Software Extension 1.0 or later
Function	The WWW server for the Web-Based Admin View only
Daemon started	wvcnfd: An http daemon by which the Machine Administration and the like run in GUI mode using the Web-based-Admin View.
Port used	fjwv-h 8081/tcp # FJSVwvcnf Web Port
Suppressible	Yes
Effect of suppression	The way of suppressing the function and an effect by that are described in the <i>Installation Guide</i> . Please refer to “- Changes in the /etc/inet/services definition file” in Section 7.2, “Details of the Files Changed by Enhanced Support Facility,” in this document together with the <i>Installation Guide</i> .

Miscellaneous	-
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## 5. TCP/IP ports used in Enhanced Support Facility

### 5.1. Web-Based Admin View

It uses the following ports for communication with a client, administration server, and monitoring node and for display on a client.

fjwv-h	8081/tcp	# FJSVwvcnf Web Port
fjwv_s	9398/tcp	# FJSVwvbs server RMI
fjwv_n	9397/tcp	# FJSVwvbs node RMI
fjwv_c	9399/tcp	# FJSVwvbs client RMI

As well as the ports listed above, the following TCP/UDP ports are used when SynfinityCluster and PRIMECLUSTER are used or when Web-Based Admin View and operation administration GUI are used in a redundant operation.

fjwv_g	9396/udp	# FJSVwvbs group RMI
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Three TCP ports allocated dynamically by the operating system are used for inter-node communication.

Besides the ports shown above, JavaVM used by the Web-Based Admin View temporarily takes advantage of a port allotted dynamically by the operating system.

The way of suppressing the function and an effect by that are described in Section 5.3.9, “Environment setting after installation” in the *Installation Guide*. Please refer to “- Changes in the /etc/inet/services definition file” in Section 7.2, “Details of the Files Changed by Enhanced Support Facility,” in this document together with the *Installation Guide*.

### 5.2. Machine Administration (only for PW-K)

It uses a port which is dynamically assigned by the operating system to communicate the system console.

### 5.3. Remote Support (REMCS) (Only for LE, PW-T, PW-K, PW-CM, PW-CMZ, PW-P, PW-CL, PW-CLZ and PW-U)

These are used to display the status of mails sent to Fujitsu support center.

JMACT4	19369/tcp	# FJSVrmaos REMCS SS-Agent
JMACT5	19370/tcp	# FJSVrmaos REMCS SS-Agent

The ports are used only when a registration for the SupportDesk service is made.

You can change the port number to be used by adding them to “/etc/inet/services.”

The ports are not used since Enhanced Support Facility 2.1.

#### **5.4. *FLEXlm***

You may specify a port to use when registering a license server with the setup license command attached to the FSUNlic package.

The recommendable value is from 27000 through 27009 and the default is 27000.

#### **5.5. *Crash Dump Assistant (FJSVdmp)***

The package does not use the TCP/UDP port directly, however, it uses the port indirectly because of its use of NFS.

## 6. Log Files Used by Enhanced Support Facility

The log files generated by Enhanced Support Facility are listed below.

For more information such as information on disk space requirements, refer to the *Installation Guide* for the corresponding version of Enhanced Support Facility.

- No.1: Enhanced Support Facility information management

Component	Enhanced Support Facility information management
Package name	FJSVbse
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	All models
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later
Log file name	/opt/FJSVbse/etc/ esfinfo.data (Up to 2 KB) install.log (Up to 2 MB)
File capacity	0 byte to about 2M bytes (esfinfo.data 2K bytes/ install.log 2M bytes)
Allocation timing	During Enhanced Support Facility installation
Need for periodic deletion	No
Remarks	

- No.2: No log file is generated for the DR Command (component).
- No.3: No log file is generated for the NGDR Command (component).
- No.4: No log file is generated for the IKPDR Command (component).

- No.5: SCF Driver

Component	SCF Driver
Package name	FJSVscdx.us, FJSVscd.us, FJSVscr.us, FJSVscu.us, FJSVscuja
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later
Log file name	/var/opt/FJSVhwr/scferlog
File capacity	A multiple of 0 to 64 bytes. The file needs to be deleted periodically.
Allocation timing	Occurrence of an SCF error
Need for periodic deletion	Yes
Remarks	
Log file name	/var/opt/FJSVhwr/scfpwrlog
File capacity	A multiple of 0 to 8 bytes. The file needs to be deleted periodically.
Allocation timing	Start of the system
Need for periodic deletion	Yes
Remarks	Information on power-on and power-off recorded by SCF. A record is added to “/var/opt/FJSVhwr/scfpwrlog” every time the power is turned on or off.
Log file name	/var/opt/FJSVhwr/scf.dump
File capacity	0 byte to 384 KB
Allocation timing	Detection of an error by SCF hardware
Need for periodic deletion	No
Remarks	When SCF hardware detects a local error and enters the halt or offline state, the SCF driver dumps the SCF memory data without modification.
Log file name	/var/opt/FJSVhwr/wdlog/wdlog.*      16 KB × number of CPUs A number from 0 to 2 is assigned to * in order. Example: /var/opt/FJSVhwr/wdlog/wdlog.0      16 KB × number of CPUs /var/opt/FJSVhwr/wdlog/wdlog.1      16 KB × number of CPUs
File capacity	16 KB × number of CPUs for each file
Allocation timing	Entry of the CPU into the Watchdog Reset or RED mode state
Need for periodic deletion	No
Remarks	(Up to 500 KB each)
Log file name	/var/opt/FJSVhwr/hltlog/hltlog.*      (Up to 2 MB) A number from 0 to 2 is assigned to * in order. Example: /var/opt/FJSVhwr/hltlog/hltlog.0      (Up to 2 MB) /var/opt/FJSVhwr/hltlog/hltlog.1      (Up to 2 MB)
File capacity	0 byte to 6 MB (up to 2 MB each)
Allocation timing	Start of the OS after a halt log event occurred
Need for periodic deletion	No
Remarks	

- No.6: No log file is generated for the SCF/SCSI fault LED support option (component).



- No.7: SunVTS, FJVTS

SunVTS, FJVTS (SunVTS4.5 or later)

Component	SunVTS, FJVTS
Package name	SUNWvts, SUNWvtsmn, SUNWvtsx, FJSVvts
Supported Solaris OS	Solaris 9 OS or later
Supported models	PW-T, PW-K, PW-U, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P
Supported Enhanced Support Facility	Enhanced Support Facility 2.2 or later
Log file name	Default setting /var/opt/SUNWvts/logs/ sunvts.info (Up to 1 MB) sunvts.info.backup (Up to 1 MB) sunvts.error (Up to 1 MB) sunvts.error.backup (Up to 1 MB) vtsk.err (Up to 1 MB) vtsk.err.backup (Up to 1 MB)
File capacity	0 byte to 6 MB (up to 1 MB each)
Log file name	Option setting /var/opt/SUNWvts/logs/ sunvts.info (Up to 5 MB) sunvts.info.backup (Up to 5 MB) sunvts.error (Up to 5 MB) sunvts.error.backup (Up to 5 MB) vtsk.err (Up to 5 MB) vtsk.err.backup (Up to 5 MB)
File capacity	0 byte to 30 MB (up to 5 MB each)
Allocation timing	Detection of an error while FJVTS is running
Need for periodic deletion	No
Remarks	When the maximum log file capacity is exceeded, a backup file is allocated for cyclic operation.

SunVTS,FJVTS (SunVTS4.0 or earlier)

Component	SunVTS, FJVTS
Package name	SUNWvts, SUNWvtsmn, SUNWvtsx, FJSVvts
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T, PW-K, PW-U, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later
Log file name	/var/opt/SUNWvts/logs/ sunvts.info (Up to 2 MB) sunvts.err (Up to 2 MB)
File capacity	0 byte to 4 MB (up to 2 MB each)
Allocation timing	sunvts.info is allocated when SunVTS/FJVTS starts or ends. sunvts.err is allocated when an error is detected while SunVTS/FJVTS is running.
Need for periodic deletion	No
Remarks	

- No.8: Web-Based Admin View/WWW Server for Admin View

Component	Web-Based Admin View / WWW Server for Admin View	
Package name	FJSVwvbs	
Supported Solaris OS	Solaris2.6 OS or later	
Supported models	PW-T, PW-U, GP-S, PW-K, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P	
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later	
Log file name	File name (under /var/opt/FJSVwvbs/logs)	Default setting
	/node/ vmlog	(Size 200 KB)
	/node/ vmlog.old	(Size 200 KB)
	/node/ wvConnection*.log	(Size 200 KB) × 5 files
	/node/ wvTrace*.log	(Size 200 KB) × 5 files
	/server/ vmlog	(Size 200 KB)
	/server/ vmlog.old	(Size 200 KB)
	/server/ wvConnection*.log	(Size 200 KB) × 5 files
	/server/ wvLogin*.log	(Size 100 KB) × 2 files
	/server/ wvOperation*.log	(Size 100 KB) × 2 files
	/server/ wvTrace*.log	(Size 200 KB) × 5 files
	(The following files are allocated if SafeCLUSTER is installed.)	
	/node/ wvClEventd.log	(Size 100 KB)
	/node/ wvClEventd.log.old	(Size 100 KB)
	/node/ wvCladmin*.log	(Size 100 KB) × 2 files
	/server/ wvCladminCl*.log	(Size 200 KB) × 5 files
	/server/ wvCladminMsg*.log	(Size 100 KB) × 2 files
	/server/ wvCladminNodeBind*.log	(Size 200 KB) × 5 files
	/server/ wvMaadmin*.log	(Size 100 KB) × 2 files
	A number from 0 to n is assigned to * in order.	
	Example: /server/wvTrace0.log (Size 200 KB)	
	/server/wvTrace1.log (Size 200 KB)	
File capacity	8000 KB in total (fixed)	
Allocation timing	After system start (/etc/rc2.d/K80FJSVwvbs) update at start time	
Need for periodic deletion	No	
Remarks	Changing the maximum number of data items to be logged: Select [Common] → [Set Operating Environment] → [System Environment] tab from the Web-Based Admin View window, and change the size and the number of data items to be logged.	

Log file name	File name (under /var/opt/FJSVwvbs/logs)	Maximum setting
	/node/ Vmlog	(Size 200 KB)
	/node/ vmlog.old	(Size 200 KB)
	/node/ wvConnection*.log	(Size 200 KB) × 5 files
	/node/ wvTrace*.log	(Size 1000 KB) × 10 files
	/server/ vmlog	(Size 200 KB)
	/server/ vmlog.old	(Size 200 KB)
	/server/ wvConnection*.log	(Size 200 KB) × 5 files
	/server/ wvLogin*.log	(Size 500 KB) × 10 files
	/server/ wvOperation*.log	(Size 500 KB) × 10 files
	/server/ wvTrace*.log	(Size 1000 KB) × 10 files
	(The following files are allocated if SafeCLUSTER is installed.)	
	/node/ wvCIEventd.log	(Size 100 KB)
	/node/ wvCIEventd.log.old	(Size 100 KB)
	/node/ wvCladmin*.log	(Size 500 KB) × 10 files
	/server/ wvCladminCl*.log	(Size 1000 KB) × 10 files
	/server/ wvCladminMsg*.log	(Size 500 KB) × 10 files
	/server/ wvCladminNodeBind*.log	(Size 1000 KB) × 10 files
	/server/ wvMaadmin*.log	(Size 500 KB) × 10 files
	A number from 0 to n is assigned to * in order. Example: /server/wvTrace0.log (Size 200 KB) /server/wvTrace1.log (Size 200 KB)	
File capacity	68000 KB in total (fixed)	
Allocation timing	After system start (/etc/rc2.d/K80FJSVwvbs) update at start time	
Need for periodic deletion	No	
Remarks	Changing the maximum number of data items to be logged: Select [Common] → [Set Operating Environment] → [System Environment] tab from the Web-Based Admin View window, and change the size and the number of data items to be logged.	

- No.9: Machine Administration

Component	Machine Administration
Package name	FJSVmadm
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T, PW-U, PW-K, PW-P, PW-CM, PW-CL, LE
Supported Enhanced Support Facility	Basic Software Extension 1.0
Log file name	/var/opt/FJSVmadm/evh/evh_log
File capacity	0 byte to 500 KB x 2 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/madmtrcbase
File capacity	0 byte to 512 KB x 2 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	

Component	Machine Administration
Package name	FJSVmasv
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T, PW-U, PW-K, PW-P, PW-CM, PW-CL
Supported Enhanced Support Facility	Basic Software Extension 1.0
Log file name	/var/opt/FJSVmadm/log/“hostname“
File capacity	0 byte to 48 KB x 2 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	

Component	Machine Administration
Package name	FJSVmand, FJSVsmnd, FJSVamle
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T, PW-U, LE
Supported Enhanced Support Facility	Basic Software Extension 1.0
Log file name	/var/opt/FJSVmadm/log/evmonlog
File capacity	0 byte to 512 KB x 2 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/madmtrc
File capacity	0 byte to 64 KB x 3 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/madmlog
File capacity	0 byte to 64 KB x 3 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	

Component	Machine Administration
Package name	FJSVkmnd
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-K
Supported Enhanced Support Facility	Enhanced Support Facility 1.4
Log file name	/var/opt/FJSVmadm/log/evmonlog
File capacity	0 byte to 512 KB x 2 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/madmtrc
File capacity	0 byte to 64 KB x 3 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/madmlog
File capacity	0 byte to 64 KB x 3 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/cmddeslog
File capacity	0 byte to 512 KB x 2 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/evsndlog
File capacity	0 byte to 512 KB x 2 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	

Component	Machine Administration
Package name	FJSVcmd
Supported Solaris OS	Solaris 8 OS or later
Supported models	PW-CM, PW-CL
Supported Enhanced Support Facility	Enhanced Support Facility 2.0
Log file name	/var/opt/FJSVmadm/log/evmonlog
File capacity	0 byte to 512 KB x 2 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/madmtrc
File capacity	0 byte to 64 KB x 3 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/madmlog
File capacity	0 byte to 64 KB x 3 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/trace/infotrace
File capacity	0 byte to 512 KB x 5 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/PN00/*
File capacity	200MByte or less
Allocation timing	Occurrence of an error
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/cmdeslog
File capacity	0 byte to 512 KB x 2 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/evsndlog
File capacity	0 byte to 512 KB x 2 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	

Component	Machine Administration
Package name	FJSVpmnd
Supported Solaris OS	Solaris 8 OS or later
Supported models	PW-P
Supported Enhanced Support Facility	Enhanced Support Facility 2.3
Log file name	/var/opt/FJSVmadm/log/evmonlog
File capacity	0 byte to 512 KB x 2 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/madmtrc
File capacity	0 byte to 64 KB x 3 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/madmlog
File capacity	0 byte to 64 KB x 3 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/trace/cmdtrace
File capacity	0 byte to 512 KB x 3 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/trace/matrace
File capacity	0 byte to 512 KB x 3 files
Allocation timing	Start of the maintenance
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/PN00/*
File capacity	200MByte or less
Allocation timing	Occurrence of an error
Need for periodic deletion	No
Remarks	

Component	Machine Administration
Package name	FJSVamadm
Supported Solaris OS	Solaris 10 OS
Supported models	CW
Supported Enhanced Support Facility	Enhanced Support Facility 3.0 or later
Log file name	/var/opt/FJSVmadm/evh/evh_log
File capacity	0 byte to 500 KB x 2 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/evmonlog
File capacity	0 byte to 512 KB x 2 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/trace/cmdtrace
File capacity	0 byte to 512 KB x 3 files
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	
Log file name	/var/opt/FJSVmadm/log/trace/matrace
File capacity	0 byte to 512 KB x 3 files
Allocation timing	Start of the maintenance
Need for periodic deletion	No
Remarks	



- No.10: Remote Support

Component	Remote Support (REMCS)
Package name	FJSVrmaos
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T, PW-U, PW-CM, PW-CMZ, PW-P
Supported Enhanced Support Facility	Enhanced Support Facility 1.4 or later
Log file name	<p>/var/opt/FJSVrmaos/tmp2/*.trc</p> <p>*.trc takes two forms:</p> <p>xxxxnnn-mm.trc</p> <p>xxxx: Character string consisting of 3 to 10 characters</p> <p>nnn: Numeral (0 to 4294967295)</p> <p>mm: Numeral (0 to 4294967295)</p> <p>xxxx.trc</p> <p>xxxx: Character string consisting of 3 to 19 alphanumeric characters</p>
File capacity	<p>0 byte to 90 KB (Remote maintenance is not used.)</p> <p>0 byte to 900 KB (Remote maintenance is used.)</p>
Allocation timing	Start of the system or communication for remote maintenance
Need for periodic deletion	No
Remarks	<p>If remote maintenance is not used, data is logged in 0 KB to 90 KB.</p> <p>If remote maintenance is used, data is logged in 0 KB to 900 KB.</p>

Component	Remote Support (REMCS)
Package name	FJSVsirms
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	Common
Supported Enhanced Support Facility	Enhanced Support Facility 1.5 or later
Log file name	<p>/var/opt/FJSVsirms/log / route.log (Up to 500 KB)</p> <p>route.bak (Up to 500 KB)</p> <p>sirms.log (Up to 500 KB)</p> <p>sirms.bak (Up to 500 KB)</p> <p>Err.log (Up to 500 KB)</p> <p>Err.bak (Up to 500 KB)</p>
File capacity	0 byte to 3000 KB (up to 500 KB each)
Allocation timing	<p>Installation of Enhanced Support Facility</p> <p>Logging starts immediately after the system starts after Enhanced Support Facility (FJSVsirms package) is installed.</p>
Need for periodic deletion	No
Remarks	When either log file exceeds 500 KB, a .BAK file is created for cyclic operation.

Component	Remote Support (REMCS)
Package name	FJSVmarm
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T, PW-U
Supported Enhanced Support Facility	Enhanced Support Facility 1.5 or later
Log file name	/var/opt/FJSVmadm/log/madmtrc
File capacity	0 byte to 64 KB
Allocation timing	Start of the system
Need for periodic deletion	No
Remarks	

Component	Remote Support (REMCS)
Package name	FJSVrlib
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T, PW-U, PW-CM, PW-CMZ, PW-P, LE
Supported Enhanced Support Facility	Enhanced Support facility 1.5 or later
Log file name	/var/opt/FJSVrlib/log/ rmslog.dft (Up to 1 MB) rmslog.bak (Up to 1 MB)
File capacity	0 byte to 2 MB (up to 1 MB each)
Allocation timing	Use of REMCS Agent
Need for periodic deletion	No
Remarks	REMCS library trace data is collected for logging. When the file capacity is exceeded, a .back file is created for cyclic operation.
Log file name	/var/opt/FJSVrlib/log/remescom.log
File capacity	0 byte to 100 KB
Allocation timing	Communication of REMCS Agent
Need for periodic deletion	No
Remarks	REMCS Agent communication records are collected for logging.

Component	Remote Support (REMCS)
Package name	FJSVrrda
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T, PW-U, PW-CM, PW-CMZ, PW-P
Supported Enhanced Support Facility	Enhanced Support Facility 1.4 or later
Log file name	/opt/FJSVrrda/lib/trace.log
File capacity	0 byte to 5 MB
Allocation timing	Operation for firmware distribution
Need for periodic deletion	No
Remarks	

- No.11: Automatic Power Control

Component	Automatic Power Control
Package name	FJSVapcs
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T, PW-K, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later
Log file name	/var/opt/FJSVapcs/ apcstrc apcstrc.old apcstrc.err apcstrc.errold apcslog apcslog.old
File capacity	0 byte to 840 KB
Allocation timing	Node activation, node power-off, operation of automatic power control, power-on, or power-off according to the automatic power control schedule
Need for periodic deletion	No
Remarks	

- No.12: Server Default Configuration

Component	Server Default Configuration
Package name	FJSVssf
Supported Solaris OS	Solaris 7 OS or later
Supported models	PW-U, PW-T, PW-K, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P, CW, LE
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later
Log file name	/var/opt/FJSVssf/tcptrace/ lim-err (Up to 500 KB) lim-err.old (Up to 500 KB)
File capacity	0 byte to 1000 KB (up to 500 KB each)
Allocation timing	Detection of abnormal disconnection of TCP
Need for periodic deletion	No
Remarks	When the maximum file capacity is exceeded, an .old file is created for cyclic operation.

Component	Server Default Configuration
Package name	FJSVwarn.us
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T, PW-K, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P
Supported Enhanced Support Facility	Enhanced Support Facility 1.4 or later
Log file name	The FJSVwarn.us package creates no specific log file.
File capacity	No
Allocation timing	Detection of CPU error
Need for periodic deletion	No
Remarks	When a CPU error is detected, error information is output to the console message log file "/var/adm/messages."

- No.13: No log file is generated for System Data Output Tool (component).

- No.14: License Manager

Component	License Manager
Package name	FSUNlic
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	Common
Supported Enhanced Support Facility	Basic Software Extension 1.0 to 1.2 Enhanced Support Facility 1.3 to 2.6
Log file name	/var/opt/FSUNlicense/ log (Up to 512 KB ) log.old (Up to 512 KB )
File capacity	0 byte to 512 KB (up to 512 KB each)
Allocation timing	Start of license manager
Need for periodic deletion	No
Remarks	When the maximum file capacity is exceeded, an .old file is created for cyclic operation.

- No.15: No log file is generated for Crash Dump Assistant (component).
- No.16: No log file is generated for Auto Dump Analyze Tool (component).
- No.17: No log file is generated for Drivers for High Reliability (component).
- No.18: No log file is generated for CPU Performance Counter (component).

- No.19: CPU Patrol Diagnosis

Component	CPU Patrol Diagnosis
Package name	FJSVcpupd
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T, PW-K, PW-CM, PW-CL
Supported Enhanced Support Facility	Enhanced Support Facility 1.8 or later
Log file name	/var/opt/FJSVcpupd/log/ fjptlerr.log (Up to 64 KB ) fjptlerr.log.old (Up to 64 KB ) CPU* (* is a CPU number) (Up to 22 KB ) * The maximum number of CPUs is 128, and up to 128 files are created. 128 files: 22 KB in total
File capacity	0 byte to 150 KB
Allocation timing	Start or stop of CPU patrol diagnosis (FJSVcpupd) or detection of a CPU error
Need for periodic deletion	No
Remarks	When the maximum file capacity is exceeded, an .old file is created for cyclic operation.

- No.20: No log file is generated for G-LAN Error Notification (component).

- No.21: No log file is generated for G-LAN MTU Setting (component).

- No.22: No log file is generated for HCP Information Management (component).

- No.23: System Parameter Diagnosis

Component	System Parameter Diagnosis
Package name	FJSVparam
Supported Solaris OS	Solaris 8 OS or later
Supported models	PW-T, PW-U, PW-K, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P, CW, LE
Supported Enhanced Support Facility	Enhanced Support Facility 2.4 or later
Log file name	/var/opt/FJSVparam/log/ fjsvparam.0 (Up to about 512 KB) fjsvparam.1 (Up to about 512 KB)
File capacity	0 byte to about 1024 KB (up to about 512 KB each)
Allocation timing	Start or stop of system operation, or execution of the fjprmchk or fjprmset command
Need for periodic deletion	No
Remarks	If 512 KB are exceeded when the command starts, a fjsvparam.1 file is created for cyclic operation.
Log file name	/var/opt/FJSVparam/log/boot_ok.[0-9] (Up to about 50 KB each)
File capacity	0 byte to about 500 KB
Allocation timing	Start or stop of system operation
Need for periodic deletion	No
Remarks	If the backup data in the /etc/system file differs from the previous backup, the data is backed up.
Log file name	/var/opt/FJSVparam/log/per_mod.[0-9] (Up to about 50 KB each)
File capacity	0 byte to about 500 KB
Allocation timing	Start or stop of system operation
Need for periodic deletion	No
Remarks	When the /etc/system file is modified with a backup requested, the file prior to modification is backed up.



## 7. System Files Changed by Enhanced Support Facility

This section explains the files that may be changed, and the rc scripts that are added, by Enhanced Support Facility.

For more information about the system files that are changed, refer to the respective installation guide.

### 7.1. Files that are changed or added by Enhanced Support Facility

1) Files that may be changed

- /etc/syslog.conf
- /etc/services
- /etc/system
- /etc/default/sys-suspend
- /etc/default/solregis
- /etc/inet/inetd.conf
- /etc/inet/services\*
- /etc/devlink.tab
- /etc/group
- /var/spool/cron/crontabs/adm
- /var/spool/cron/crontabs/root
- /etc/saf/zsmon/\_pmtab (PRIMEPOWER800/1000/1500/2000/2500)
- /etc/iu.ap (PRIMEPOWER800/1000/1500/2000/2500)

2) Files (rc scripts\*) that are added

- /etc/init.d/FJSVlogadm
- /etc/init.d/FJSVdmpadm
- /etc/init.d/FJSVdmpsnap
- /etc/init.d/FJSVevhand
- /etc/init.d/FJSVinetinit
- /etc/init.d/FJSVlogclear
- /etc/init.d/FJSVmadm
- /etc/init.d/FJSVmand
- /etc/init.d/FJSVmarm
- /etc/init.d/FJSVparam
- /etc/init.d/FJSVscf
- /etc/init.d/FJSVscfdaemon.rcS
- /etc/init.d/FJSVscfsc
- /etc/init.d/FJSVsirmsctl
- /etc/init.d/FJSVwarn
- /etc/init.d/FSUNlicense
- /etc/init.d/FJSVwvbs
- /etc/init.d/FJSVwvcnf
- /etc/init.d/FJSVcmm
- /etc/init.d/FJSVcmm2
- /etc/init.d/FJSVpmm
- /etc/init.d/FJSVpmm2

rc script: Initialization at reboot, and processing for starting daemons

## 7.2. Details of the Files Changed by Enhanced Support Facility

- Changes in /etc/syslog.conf setting file

Component	Machine Administration
Package name	FJSVmand FJSVkmnd FJSVpmnd FJSVamle FJSVamadm FJSVsmnd
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T, PW-U, PW-K, PW-P, LE, CW
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later
Reason for change	Settings are changed so that a message on the same level as the message output to /var/adm/messages is output to another file in order to enable monitoring of syslog messages.
Change	# FJSVmadm : This is a setting of Machine Administration. # FJSVmadm : Don't delete the following lines. # FJSVmadm : Because the message cannot be observed. *.err;kern.debug;daemon.notice /var/opt/FJSVmadm/evh/evh_pipe
Remarks	The following line is added by esfadd and deleted by esfrm.

Component	Machine Administration
Package name	FJSVcmnd
Supported Solaris OS	Solaris 8 OS or later
Supported models	PW-CM, PW-CMZ, PW-CL, PW-CLZ
Supported Enhanced Support Facility	Enhanced Support Facility 2.0 or later
Reason for change	Settings are changed so that a message on the same level as the message output to /var/adm/messages is output to another file in order to enable monitoring of syslog messages.
Change	*.err;kern.debug;daemon.notice /var/opt/FJSVmadm/evh/evh_pipe user.err /var/opt/FJSVmadm/log/trace/messages
Remarks	

Component	Remote Support (REMCS)
Package name	FJSVragt
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T, PW-U, PW-CM, PW-CMZ, PW-P
Supported Enhanced Support Facility	Enhanced Support Facility 2.1 or later
Reason for change	To monitor syslog messages when the management server is connected
Change	##* err;kern.debug;auth.notice /var/opt/FJSVragt/fifo/slg (The added definition is handled as a comment.)
Remarks	The definition is added during FJSVragt package installation.



- Changes in /the etc/services setting file

Component	Remote support (REMCS)
Package name	FJSVragt
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T, PW-U, PW-CM, PW-CMZ, PW-P
Supported Enhanced Support Facility	Enhanced Support Facility 1.4 or later
Reason for change	To define the number of the port to be used when the management server is connected
Change	rmopagt 2924/tcp rmopagt 2924/udp
Remarks	The relevant port number is used only when the management server is connected.

- Changes in the /etc/system setting file

Component	SCF Driver
Package name	FJSVscd
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later
Reason for change	To enable the SCF driver before opening it
Change	forceload: drv/FJSVscf
Remarks	

Component	SCF Driver
Package name	FJSVscd2, FJSVscd3, FJSVpscd
Supported Solaris OS	Solaris 8 OS or later
Supported models	PW-K, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P
Supported Enhanced Support Facility	Enhanced Support Facility 2.5 or later
Reason for change	To enable the SCF driver before opening it
Change	forceload: drv/FJSVscfX
Remarks	

Component	Server Default Configuration
Package name	FJSVssf
Supported Solaris OS	Solaris 7 OS or later
Supported models	PW-T, PW-K, PW-U, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P, CW, LE
Supported Enhanced Support Facility	Enhanced Support Facility 1.3 or later
Reason for change	To enable the trace information collection function to improve system maintainability
Change	* Begin FJSVssf (do not edit) set ftrace_atboot = 1 set kmem_flags = 0x100 set kmem_lite_maxalign = 8192 * End FJSVssf (do not edit)
Remarks	

Component	Server Default Configuration
Package name	FJSVpnl.us
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-K, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P
Supported Enhanced Support Facility	Enhanced Support Facility 1.4 or later
Reason for change	To enable the partition dump collection function
Change	* Begin _PKGINST_ (do not edit) forceload: drv/FJSVpanel * End _PKGINST_ (do not edit)
Remarks	

Component	Drivers for High Reliability
Package name	FJSVsef, FJSVse 1.x
Supported Solaris OS	FJSVsef : Solaris 2.6 OS FJSVse 1.x: Solaris 7 OS
Supported models	PW-K
Supported Enhanced Support Facility	FJSVsef : Enhanced Support Facility 1.5 or later FJSVse 1.x : Enhanced Support Facility 1.4 or later
Reason for change	To load the driver of the serial port used for a console quickly after the system starts
Change	The following line is added during installation: Forceload: drv/se
Remarks	Processing at package deletion The above line is deleted during uninstallation.

Component	Drivers for High Reliability
Package name	FJSVse 2.0 or later (PW-K), FJSVsec (PW-CL, PW-CLZ)
Supported Solaris OS	FJSVse 2.0 or later (PW-K): Solaris 8 OS or later FJSVsec: Solaris 8 OS or later
Supported models	PW-K, PW-CL, PW-CLZ
Supported Enhanced Support Facility	FJSVse 2.0 or later: Enhanced Support Facility 1.4 or later FJSVsec: Enhanced Support Facility 2.3 or later
Reason for change	To load the driver quickly after the system starts, to duplicate the serial port used for a console
Change	The following two lines are added during installation: forceload: drv/se forceload: drv/fjmse
Remarks	The above two lines are deleted during uninstallation.

Component	System Parameter Diagnosis
Package name	FJSVparam
Supported Solaris OS	Solaris 8 OS or later
Supported models	PW-T, PW-U, PW-K, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P, CW, LE
Supported Enhanced Support Facility	Enhanced Support Facility 2.4 or later
Reason for change	The system parameters are diagnosed and “/etc/system” is changed if an inappropriate description is detected.
Change	- Parameter “RT:rt_maxpri” is changed to a comment. - If the value of “semsys:seminfo_semume” or “semsys:seminfo_semmnu” is not adequate, it is corrected.
Remarks	

- Changes in the /etc/default/sys-suspend setting file

Component	Server Default Configuration
Package name	FJSVdef
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	Common
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later
Reason for change	To disable the power-off function implemented by pressing the power key on the keyboard, in the GUI environment
Change	PERMS=- # Add by FJSVdef “PERMS” is changed from “console-owner” to “-.”
Remarks	

- Changes in the /etc/default/solregis setting file

Component	Server Default Configuration
Package name	FJSVdef
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	Common
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later
Reason for change	To suppress the starting of the Solaris user registration program (solregs). (PRIMEPOWER, GP7000F only)
Change	DISABLE=1
Remarks	

- Changes in the /etc/inet/inetd.conf setting file

Component	SunVTS, FJVTS
Package name	SUNWvts
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T, PW-K, PW-U, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later
Reason for change	The setting for enabling the remote host to remotely execute SunVTS/FJVTS during installation of this package is added to the above file.
Change	<p>For Solaris 2.6 OS:  536870916/1 dgram rpc/udp wait root  /opt/SUNWvts/bin/vtsk /opt/SUNWvts/bin/vtsk</p> <p>For Solaris 7 OS / Solaris 8 OS:  # SunVTS Daemon  536870916/1 dgram rpc/udp wait root  /opt/SUNWvts/bin/sunvts /opt/SUNWvts/bin/sunvts -g</p> <p>For Solaris 9 OS:  # SunVTS Daemon  100153/1 dgram rpc/udp wait root  /opt/SUNWvts/bin/sunvts /opt/SUNWvts/bin/sunvts -g</p>
Remarks	<ul style="list-style-type: none"> <li>- Each of the above statements is used to enable the remote host to remotely execute SunVTS, FJVTS.</li> <li>- The corresponding statements can be deleted from inetd.conf if the remote execution function is not used.</li> <li>- Password certification is required for remote execution.</li> </ul>

- Changes in the /etc/inet/services definition file

Component	Web-Based Admin View / WWW Server for Admin View
Package name	FJSVwvcnf
Supported Solaris OS	Solaris2.6 OS or later
Supported models	Common
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later
Reason for change	Definition of a TCP port: The number of the port used by Web-Based Admin View / WWW Server for Admin View for communication is defined.
Change	fjwv-h 8081/tcp # FJSVwvcnf Web Port
Remarks	The following command can be used to change the port number: /etc/opt/FJSVwvbs/etc/bin/wvSetport fjwv-h=<port number>

Component	Web-Based Admin View / WWW Server for Admin View
Package name	FJSVwvbs
Supported Solaris OS	Solaris2.6 OS or later
Supported models	Common
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later
Reason for change	Definition of a TCP/UDP port: The number of the port used by Web-Based Admin View for communication is defined.
Change	fjwv_g 9396/udp # FJSVwvbs group RMI fjwv_n 9397/tcp # FJSVwvbs node RMI fjwv_s 9398/tcp # FJSVwvbs server RMI fjwv_c 9399/tcp # FJSVwvbs client RMI
Remarks	The following command can be used to change the port number(s): /etc/opt/FJSVwvbs/etc/bin/wvSetport { fjwv_c=<port number>   fjwv_n=<port number>   fjwv_s=<port number>   fjwv_g=<port number> }

#### - Ports used by Web-Based Admin View / WWW Server for Admin View

If the use of the above ports needs to be suppressed for Enhanced Support Facility for security requirements, refer to the following action and notes provided in the *Installation Guide*.

----- Extracted from the Installation Guide -----

WWW Server for Admin View and Web-Based Admin View automatically use network ports (8081, 9397, 9398, and 9399 by default) when the system boots. To suppress this operation for enhancing security, enter the following command and then reboot the system.

```
# /etc/opt/FJSVwvbs/etc/bin/wvrcscript uninstall
```

This action prevents WWW Server for Admin View and Web-Based Admin View from being started automatically. It also prevents the following functions and products from being operated from the Web. Use the GUI functions for such operations.

- Machine Administration
- Multipath Disk Control
- SafeDISK and SafeDISK/Global
- SafeCLUSTER
- SafeFILE/Global and SafeFILE/Global POWER Edition
- PRIMECLUSTER

To enable automatic restart, enter the following command and then reboot the system.

```
# /etc/opt/FJSVwvbs/etc/bin/wvrscript install
```

- Changes in the /etc/devlink.tab definition file

Component	SCF Driver												
Package name	FJSVscd												
Supported Solaris OS	Solaris 2.6 OS or later												
Supported models	PW-T												
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later												
Reason for change	To add SCF driver entries												
Change	<table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">type=ddi_pseudo;name=PFU,scf;minor=pwrctl</td> <td>FJSVhwr/pwrctl</td> </tr> <tr> <td>type=ddi_pseudo;name=PFU,scf;minor=rasctl</td> <td>FJSVhwr/rasctl</td> </tr> <tr> <td>type=ddi_pseudo;name=PFU,scf;minor=rcictl</td> <td>FJSVhwr/rcictl</td> </tr> <tr> <td>type=ddi_pseudo;name=PFU,faultled;minor=fled</td> <td>FJSVhwr/fled</td> </tr> <tr> <td>type=ddi_pseudo;name=PFU,watchdog-log;minor=PFU,watchdog-log</td> <td>FJSVhwr/watchdoglog</td> </tr> <tr> <td>type=ddi_pseudo;name=FJSVsflcd;minor=0</td> <td>FJSVhwr/sflcd\N0</td> </tr> </table>	type=ddi_pseudo;name=PFU,scf;minor=pwrctl	FJSVhwr/pwrctl	type=ddi_pseudo;name=PFU,scf;minor=rasctl	FJSVhwr/rasctl	type=ddi_pseudo;name=PFU,scf;minor=rcictl	FJSVhwr/rcictl	type=ddi_pseudo;name=PFU,faultled;minor=fled	FJSVhwr/fled	type=ddi_pseudo;name=PFU,watchdog-log;minor=PFU,watchdog-log	FJSVhwr/watchdoglog	type=ddi_pseudo;name=FJSVsflcd;minor=0	FJSVhwr/sflcd\N0
type=ddi_pseudo;name=PFU,scf;minor=pwrctl	FJSVhwr/pwrctl												
type=ddi_pseudo;name=PFU,scf;minor=rasctl	FJSVhwr/rasctl												
type=ddi_pseudo;name=PFU,scf;minor=rcictl	FJSVhwr/rcictl												
type=ddi_pseudo;name=PFU,faultled;minor=fled	FJSVhwr/fled												
type=ddi_pseudo;name=PFU,watchdog-log;minor=PFU,watchdog-log	FJSVhwr/watchdoglog												
type=ddi_pseudo;name=FJSVsflcd;minor=0	FJSVhwr/sflcd\N0												
Remarks													

Component	SCF Driver												
Package name	FJSVlscd												
Supported Solaris OS	Solaris 8 OS or later												
Supported models	PW-U												
Supported Enhanced Support Facility	Enhanced Support Facility 1.7 or later												
Reason for change	To add SCF driver entries												
	<table style="width: 100%; border: none;"> <tr> <td style="width: 60%;">Type=ddi_pseudo;name=PFU,scf;minor=pwrctl</td> <td>FJSVhwr/pwrctl</td> </tr> <tr> <td>Type=ddi_pseudo;name=PFU,scf;minor=rasctl</td> <td>FJSVhwr/rasctl</td> </tr> <tr> <td>Type=ddi_pseudo;name=PFU,scf;minor=rcictl</td> <td>FJSVhwr/rcictl</td> </tr> <tr> <td>Type=ddi_pseudo;name=PFU,faultled;minor=fled</td> <td>FJSVhwr/fled</td> </tr> <tr> <td>Type=ddi_pseudo;name=PFU,watchdog-log;minor=PFU,watchdog-log</td> <td>FJSVhwr/watchdoglog</td> </tr> <tr> <td>Type=ddi_pseudo;name=FJSVsflcd;minor=0</td> <td>FJSVhwr/sflcd\N0</td> </tr> </table>	Type=ddi_pseudo;name=PFU,scf;minor=pwrctl	FJSVhwr/pwrctl	Type=ddi_pseudo;name=PFU,scf;minor=rasctl	FJSVhwr/rasctl	Type=ddi_pseudo;name=PFU,scf;minor=rcictl	FJSVhwr/rcictl	Type=ddi_pseudo;name=PFU,faultled;minor=fled	FJSVhwr/fled	Type=ddi_pseudo;name=PFU,watchdog-log;minor=PFU,watchdog-log	FJSVhwr/watchdoglog	Type=ddi_pseudo;name=FJSVsflcd;minor=0	FJSVhwr/sflcd\N0
Type=ddi_pseudo;name=PFU,scf;minor=pwrctl	FJSVhwr/pwrctl												
Type=ddi_pseudo;name=PFU,scf;minor=rasctl	FJSVhwr/rasctl												
Type=ddi_pseudo;name=PFU,scf;minor=rcictl	FJSVhwr/rcictl												
Type=ddi_pseudo;name=PFU,faultled;minor=fled	FJSVhwr/fled												
Type=ddi_pseudo;name=PFU,watchdog-log;minor=PFU,watchdog-log	FJSVhwr/watchdoglog												
Type=ddi_pseudo;name=FJSVsflcd;minor=0	FJSVhwr/sflcd\N0												
Remarks													



Component	SCF Driver	
Package name	FJSVscd3	
Supported Solaris OS	Solaris 8 OS or later	
Supported models	PW-CM, PW-CMZ, PW-CL, PW-CLZ	
Supported Enhanced Support Facility	Enhanced Support Facility 2.0 or later	
Reason for change	To add SCF driver entries	
Change	type=ddi_pseudo;name=FJSV,scfc type=ddi_pseudo;name=FJSVscf3;minor=mscf type=ddi_pseudo;name=FJSVscf3;minor=mscf0 type=ddi_pseudo;name=FJSVscf3;minor=pwrctl type=ddi_pseudo;name=FJSVscf3;minor=pwrctl2 type=ddi_pseudo;name=FJSVscf3;minor=rasctl type=ddi_pseudo;name=FJSVscf3;minor=rasctl2 type=ddi_pseudo;name=FJSVscf3;minor=rcictl type=ddi_pseudo;name=FJSVscf3;minor=rcictl2 type=ddi_pseudo;name=FJSVscf3;minor=fled type=ddi_pseudo;name=FJSVsflcd;minor=0	FJSVhwr\M0 FJSVhwr\fiomp\M0 FJSVhwr\fiomp\M0 FJSVhwr\M0 FJSVhwr\M0 FJSVhwr\M0 FJSVhwr\M0 FJSVhwr\M0 FJSVhwr\M0 FJSVhwr\M0 FJSVhwr\M0 FJSVhwr\sflcd\N0
Remarks		

Component	SCF Driver	
Package name	FJSVpscd	
Supported Solaris OS	Solaris 8 OS or later	
Supported models	PW-P	
Supported Enhanced Support Facility	Enhanced Support Facility 2.3 or later	
Reason for change	To add SCF driver entries	
Change	type=ddi_pseudo;name=FJSV,scfc type=ddi_pseudo;name=FJSVscf3;minor=mscf type=ddi_pseudo;name=FJSVscf3;minor=mscf0 type=ddi_pseudo;name=FJSVscf3;minor=pwrctl type=ddi_pseudo;name=FJSVscf3;minor=pwrctl2 type=ddi_pseudo;name=FJSVscf3;minor=rasctl type=ddi_pseudo;name=FJSVscf3;minor=rasctl2 type=ddi_pseudo;name=FJSVscf3;minor=rcictl type=ddi_pseudo;name=FJSVscf3;minor=rcictl2 type=ddi_pseudo;name=FJSVscf3;minor=fled type=ddi_pseudo;name=FJSVsflcd;minor=0	FJSVhwr\M0 FJSVhwr\fiomp\M0 FJSVhwr\fiomp\M0 FJSVhwr\M0 FJSVhwr\M0 FJSVhwr\M0 FJSVhwr\M0 FJSVhwr\M0 FJSVhwr\M0 FJSVhwr\M0 FJSVhwr\M0 FJSVhwr\sflcd\N0
Remarks		



Component	SCF/SCSI fault LED support option	
Package name	FJSVscfsc	
Supported Solaris OS	Solaris 10 OS or later	
Supported models	CW	
Supported Enhanced Support Facility	Enhanced Support Facility 3.0 or later	
Reason for change	To add SCF driver entries	
Change	type=ddi_pseudo;name=scfd;minor=pwrctl	FJSVhwr^M0
	type=ddi_pseudo;name=scfd;minor=rcictl	FJSVhwr^M0
	type=ddi_pseudo;name=scfd;minor=rasctl	FJSVhwr^M0
	type=ddi_pseudo;name=FJSVsflcd;minor=0	FJSVhwr/sflcd^N0
Remarks		

Component	Drivers for High Reliability	
Package name	FJSVse 2.0 or later (PW-K), FJSVsec (PW-CL, PW-CLZ)	
Supported Solaris OS	FJSVse 2.0 or later (PW-K): Solaris 8 OS or later FJSVsec: Solaris 8 OS or later	
Supported models	PW-K, PW-CL, PW-CLZ	
Supported Enhanced Support Facility	FJSVse 2.0 or later: Enhanced Support Facility 1.4 or later FJSVsec: Enhanced Support Facility 2.3 or later	
Change	The following lines are added during installation: type=ddi_pseudo;name=fjmse;minor=a FJSVhwr/mse^M0 type=ddi_pseudo;name=fjmse;minor=mse FJSVhwr/fiomp^M0 type=ddi_pseudo;name=clone;minor=mse0 FJSVhwr/fiomp^M0	
Remarks		

- Changes in the /etc/group definition file

Component	Web-Based Admin View / WWW Server for Admin View	
Package name	FJSVwvbs	
Supported Solaris OS	Solaris2.6 OS or later	
Supported models	Common	
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later	
Reason for change	Definition of user group: A user group that can operate every operation management product running on Web-Based Admin View is defined.	
Change	wvroot.:100:	
Remarks		

- Changes in the /var/spool/cron/crontabs/adm definition file

Component	Server Default Configuration
Package name	FJSVdef
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	Common
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later
Reason for change	To check for excessive log file length and periodically perform log rotation
Change	# Copyright (c) FUJITSU LIMITED 1999 # @(#)adm 1.1 99/02/10 30 3 * * * 0 /opt/FJSVdef/sbin/chkslog WTMP
Remarks	

- Changes in the /var/spool/cron/crontabs/root definition file

Component	SCF Driver
Package name	FJSVscr
Supported Solaris OS	Solaris 2.6 OS or later
Supported models	PW-T
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later
Reason for change	To check for increase in log file size and periodically perform log rotation. To make RAS control device (SCF) settings or acquire the corresponding information.
Change	# Copyright Fujitsu/PFU Limited 1997 # @(#)root 1.1 97/06/25 21:09:11 # 0 1 * * * /opt/FJSVhwr/procedure/scfdaily #
Remarks	

Component	SCF Driver
Package name	FJSVscr3
Supported Solaris OS	Solaris 8 OS or later
Supported models	PW-CM, PW-CMZ, PW-CL, PW-CLZ
Supported Enhanced Support Facility	Enhanced Support Facility 2.0 or later
Reason for change	To make RAS control device (SCF) settings or acquire the corresponding information.
Change	# Copyright Fujitsu/PFU Limited 1997 # @(#)root 1.1 97/06/25 21:09:11 # 0 1 * * * /opt/FJSVhwr/procedure/scfdaily #
Remarks	

Component	SCF Driver
Package name	FJSVpscr
Supported Solaris OS	Solaris 8 OS or later
Supported models	PW-P
Supported Enhanced Support Facility	Enhanced Support Facility 2.3 or later
Reason for change	To set the time zone in the RAS control device (SCF)
Change	# Copyright Fujitsu Limited 2002 # @(#)root 1.0 02/09/06 19:25:00 # 1 * * * * /opt/FJSVhwr/procedure/scftzone #
Remarks	

Component	Machine Administration
Package name	FJSVcmd
Supported Solaris OS	Solaris 8 OS or later
Supported models	PW-CM, PW-CMZ, PW-CL, PW-CLZ
Supported Enhanced Support Facility	Enhanced Support Facility 2.0 or later
Reason for change	To prevent increases in the size of the log file from exhausting the free space on the system volume
Change	13 2 * * 0 /opt/FJSVmadm/lib/csl.weekly #FJSVcmd 17 2 * * * /opt/FJSVmadm/lib/csl.daily #FJSVcmd
Remarks	

Component	Server Default Configuration
Package name	FJSVdef
Supported Solaris OS	Solaris 2.6 OS to Solaris 8 OS
Supported models	Common (Solaris 2.6 OS to Solaris 8 OS)
Supported Enhanced Support Facility	Basic Software Extension 1.0 or later
Reason for change	To check for excessive increases in the size of the log file and periodically perform log rotation.
Change	# Copyright (c) FUJITSU LIMITED 1999 # @(#)root 1.1 99/02/10 33 3 * * 0 /opt/FJSVdef/sbin/chkslog VOLDLOG SULOG SAFLOG ZSMONLOG SPELLHIST
Remarks	

Component	Server Default Configuration
Package name	FJSVdef
Supported Solaris OS	Solaris 9 OS
Supported models	Common (Solaris 9 OS only)
Supported Enhanced Support Facility	Enhanced Support Facility 2.2 or later
Reason for change	To check for excessive increase in the size of the log file and periodically perform log rotation
Change	# Copyright (c) FUJITSU LIMITED 2002 # @(#)root 2.0 2002/03/16 30 3 * * 0 if [ ! -f /var/adm/pacct ]; then /usr/sbin/logadm -p now /var/adm/wtmpx; fi
Remarks	

- Changes in the /etc/saf/zsmon/\_pmtab definition file

Component	Machine Administration
Package name	FJSVcmd
Supported Solaris OS	Solaris 8 OS or later
Supported models	PW-CM, PW-CMZ, PW-CL, PW-CLZ
Supported Enhanced Support Facility	Enhanced Support Facility 2.0 or later
Reason for change	To make the serial port usable for FST connections
Change	ttya:u:root:reserved:reserved:reserved:/dev/term/a:I::/usr/bin/login::9600:ldterm,tco mpat:ttya login\ : :tvi925:y:# ttyb:u:root:reserved:reserved:reserved:/dev/term/b::/usr/bin/login::9600:ldterm,tco mpat:login\ :FST port::y:#
Remarks	

Component	Drivers for High Reliability
Package name	FJSVsef, FJSVse 1.x
Supported Solaris OS	FJSVsef : Solaris 2.6 OS FJSVse 1.x: Solaris 7 OS
Supported models	PW-K
Supported Enhanced Support Facility	FJSVsef : Enhanced Support Facility 1.5 or later FJSVse 1.x : Enhanced Support Facility 1.4 or later
Reason for change	The port monitor (ttymon) need not be set because all standard serial ports are dedicated for consoles.
Change	The ttymon settings of ttya and ttyb are changed to Disable during installation. Specifically, "x" is added to the second fields of ttya and ttyb as shown below: Before change: ttya:u:root:reserved:reserved:reserved:/dev/term/a:I: /usr/bin/login::9600:ldterm,ttcompat:login\ ::tvi925:y:# ttyb:u:root:reserved:reserved:reserved:/dev/term/a:I: /usr/bin/login::9600:ldterm,ttcompat:login\ ::tvi925:y:# After change: ttya:ux:root:reserved:reserved:reserved:/dev/term/a:I: /usr/bin/login::9600:ldterm,ttcompat:login\ ::tvi925:y:# ttyb:ux:root:reserved:reserved:reserved:/dev/term/a:I: /usr/bin/login::9600:ldterm,ttcompat:login\ ::tvi925:y:#
Remarks	The ttymon settings are changed to Enable during uninstallation.

Component	Drivers for High Reliability
Package name	FJSVse 2.0 or later (PW-K), FJSVsec (PW-CL, PW-CLZ)
Supported Solaris OS	FJSVse 2.0 or later (PW-K): Solaris 8 OS or later FJSVsec: Solaris 8 OS or later
Supported models	PW-K, PW-CL, PW-CLZ
Supported Enhanced Support Facility	FJSVse 2.0 or later: Enhanced Support Facility 1.4 or later FJSVsec: Enhanced Support Facility 2.3 or later
Reason for change	The port monitor (ttymon) need not be set because all standard serial ports are dedicated for consoles.
Change	The ttymon settings of ttya and ttyb are changed to Disable during installation. Specifically, "x" is added to the second fields of ttya and ttyb as shown below. Before change: ttya:u:root:reserved:reserved:reserved:/dev/term/a:I: /usr/bin/login::9600:ldterm,ttcompat:login\ ::tvi925:y:# ttyb:u:root:reserved:reserved:reserved:/dev/term/a:I: /usr/bin/login::9600:ldterm,ttcompat:login\ ::tvi925:y:# After change: ttya:ux:root:reserved:reserved:reserved:/dev/term/a:I: /usr/bin/login::9600:ldterm,ttcompat:login\ ::tvi925:y:# ttyb:ux:root:reserved:reserved:reserved:/dev/term/a:I: /usr/bin/login::9600:ldterm,ttcompat:login\ ::tvi925:y:#
Remarks	The ttymon settings are changed to Enable during uninstallation.

- Changes in the /etc/iu.ap definition file

Component	Drivers for High Reliability
Package name	FJSVse 2.0 or later (PW-K), FJSVsec (PW-CL, PW-CLZ)
Supported Solaris OS	FJSVse 2.0 or later (PW-K): Solaris 8 OS or later FJSVsec: Solaris 8 OS or later
Supported models	PW-K, PW-CL, PW-CLZ
Supported Enhanced Support Facility	FJSVse 2.0 or later: Enhanced Support Facility 1.4 or later FJSVsec: Enhanced Support Facility 2.3 or later
Reason for change	To change the auto push settings of ldterm(7M) and ttcompat(7M) when configuring a duplicate console
Change	The following changes are made during installation: - For FJSVse 2.0 or later fjmse 0 0 ldterm ttcompat ← Add se 0 255 ldterm ttcompat → Delete se 131072 131327 ldterm ttcompat ↓ Changed to the following: se 131076 131327 ldterm ttcompat  - For FJSVsec fjmse 0 0 ldterm ttcompat ← Add se 8192 8394 ldterm ttcompat ← Add se 139264 139464 ldterm ttcompat ← Add
Remarks	The above changes are canceled during uninstallation.

## 8. How to set the cron used in Enhanced Support Facility

This section explains how Enhanced Support Facility uses the crontab(1) and the at(1) in default configuration. In addition, impact by halt of function is also explained.

### 8.1. crontab (1)

a) Additional setting to the crontab(1) for “ root”

- scfdaily

0 1 * * * /opt/FJSVhwr/procedure/scfdaily
---

Component	SCF driver
Package name	FJSVscu.us, FJSVscu3
Support Solaris OS	Solaris 2.6 OS or later
Support models	PW-T, PW-CM, PW-CMZ, PW-CL, PW-CLZ
Support Enhanced Support Facility	Basic Software Extension 1.0 or later
Function	<p>Sets information and synchronize time to the RAS-control device (SCF). And, gets error-log information from it. For details of synchronize time, refer to Section 1.3.2.2, "System time, "in the <i>User's Guide for System Control Facility (SCF) Driver</i>. In addition, synchronize time processes as follows by each model.</p> <p>For PW-T: - If the system time is set to "System standard clock," the OS time is synchronized with RAS control device(SCF) at 1:00 am of every day. - If the setting of the system time is "SCF high-resolution clock," the SCF time synchronizes to OS at 1:00 am of every day.</p> <p>For PW-CM, PW-CMZ: The OS time is synchronized with RAS control device(SCF) at 1:00 am of every day.</p> <p>For PW-CL, PW-CLZ: Synchronize time is not processed.</p>
Suppressible	No
Effect of suppression	<p>It affects hardware maintenance due to the reason that you are unable to acquire error-log information included in the SCF-control device (SCF). In addition, hardware maintenance becomes difficult due to inconsistent logged time between OS and RAS control device (SCF).</p>

- scftzone

1 \* \* \* \* /opt/FJSVhwr/procedure/scftzone

Component	SCF driver
Package name	FJSVpsc
Support Solaris OS	Solaris 8 OS or later
Support models	PW-P
Support Enhanced Support Facility	Enhanced Support Facility 2.3 or later
Function	Sets timezone to the RAS-control device (SCF).
Suppressible	No
Effect of suppression	Hardware maintenance becomes difficult due to inconsistent logged time between OS and RAS control device (SCF).

- csl.weekly

13 2 \* \* /opt/FJSVmadm/lib/csl.weekly

Component	Machine administration
Package name	FJSVcmd
Support Solaris OS	Solaris 8 OS or later
Support models	PW-CM, PW-CMZ, PW-CL, PW-CLZ
Support Enhanced Support Facility	Enhanced Support Facility 2.0 or later
Function	Prevents a system volume from being overloaded by log file expansion.
Suppressible	Yes
Effect of suppression	The system stops monitoring increasing logfiles. In a system that requires a sophisticated security, it is needed to build a similar feature uniquely without relying on this component.

- csl.daily

17 2 \* \* /opt/FJSVmadm/lib/csl.daily

Component	Machine administration
Package name	FJSVcmd
Support Solaris OS	Solaris 8 OS or later
Support models	PW-CM, PW-CMZ, PW-CL, PW-CLZ
Support Enhanced Support Facility	Enhanced Support Facility 2.0 or later
Function	Prevents a system volume from being overloaded by log file expansion.
Suppressible	Yes
Effect of suppression	The system stops monitoring increasing logfiles. In a system that requires a sophisticated security, it is needed to build a similar feature uniquely without relying on this component.



- chkslog

```
33 3 * * 0 /opt/FJSVdef/sbin/chkslog VOLDLOG SULONG ...
```

Component	Server Default Configuration
Package name	FJSVdef
Support Solaris OS	Solaris 2.6 OS, Solaris 7 OS, Solaris 8 OS
Support models	Common to all types
Support Enhanced Support Facility	Basic Software Extension 1.1 or later
Function	Prevents a system volume from being overloaded by log file expansion.
Suppressible	Yes
Effect of suppression	The system stops monitoring increasing logfiles. In a system that requires a sophisticated security, it is needed to build a similar feature uniquely without relying on this component.
Miscellaneous	This has been released since Basic Software Extension 1.1 and support Solaris 2.6 OS, Solaris 7 OS, and Solaris 8 OS.

- logadm

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

Component	Server Default Configuration
Package name	FJSVdef
Support Solaris OS	Solaris 9 OS
Support models	Common to all types
Support Enhanced Support Facility	Enhanced Support Facility 2.2 or later
Function	Prevents a system volume from being overloaded by log file expansion.
Suppressible	Yes
Effect of suppression	The system stops monitoring increasing logfiles. In a system that requires a sophisticated security, it is needed to build a similar feature uniquely without relying on this component.
Miscellaneous	This has been released since Enhanced Support Facility 2.2 and supports Solaris 9 OS.

b) Additional setting to the crontab(1) for “ adm ”

- chkslog

```
30 3 * * 0 /opt/FJSVdef/sbin/chkslog WTMP
```

The same as the chkslog for “ root” described above.

## 8.2. at (1)

a) Additional setting to the at(1) for “root”

- Automatic Power Control (APCS) (FJSVapcs)

```
cd /opt/FJSVapcs/sbin
umask 22
/opt/FJSVapcs/sbin/schedset .....
```

Component	Automatic Power Control (APCS)
Package name	FJSVapcs
Support Solaris OS	Solaris 2.6 OS or later
Support models	Common to all types
Support Enhanced Support Facility	Basic Software Extension 1.0 or later
Function	An electric power is turned on or off automatically. The scripts shown above are registered when a schedule for the Automatic Power Control starts.
Suppressible	No, if the APCS is used
Effect of suppression	You are unable to use the APCS.
Miscellaneous	The way of realizing the Automatic-Power-Control function without the cron has been released since Enhanced Support Facility 1.6. The daemon particular to the APCS is started at booting. It is set with the apeschmod command whether the cron is used or not.

## 9. /etc/dfs/dfstab used in Enhanced Support Facility

For PW-K, the following definition is added to “/etc/dfs/dfstab” during installation:

```
share -F nfs -o ro=<system-console-host-name>,root=<system-console-host-  
name> /var/opt/FJSVdmp/dashare
```

```
/usr/sbin/share -F nfs -o ro=< system-console-host-name >,anon=0 -d  
'FJSVmadm' /var/opt/FJSVmadm/export #FJSVmadm
```

To set the security mode to NFS according to security requirements, arrange the name service so that the domain name can be obtained from the operating system on the system console or the partition. Then, change the “/etc/dfs/dfstab” file as follows:

```
share -F nfs -o secure,ro=< system-console-host-name >,root=< system-  
console-host-name >,anon=0 /var/opt/FJSVdmp/dashare
```

```
/usr/sbin/share -F nfs -o secure,ro=< system-console-host-name >,anon=0 -d  
'FJSVmadm' /var/opt/FJSVmadm/export #FJSVmadm
```

Note that the above FJSVdmp-related definition must be changed again if fjdmpadm of the crash dump assistant (FJSVdmp) is executed or the system console name is changed.

## 10. Firewall/Gateway

The Enhanced Support Facility is designed on the premise that it is used in such environments as an intranet, the Internet, or a DMZ. There are, however, some notes and restrictions for the following components.

### 10.1. Restrictions

- Web-Based Admin view

- (a) The component is made on the premise that it has access to hosts in an intranet environment.
- (b) It is not able to access hosts going over a firewall when it is used within an intranet. Clients connected to the Internet are unable to access to servers placed in an intranet and vice versa.
- (c) When it is used in either the Internet or a DMZ, you should not start the Web-Based AdminView except in the case that security is maintained by other means. The way of stopping it and an effect are described in the *Installation Guide*. Please refer to “- Changes in the /etc/inet/services definition file” in Section 7.2, “Details of the Files Changed by Enhanced Support Facility,” in this document together with the *Installation Guide*.

- FLEXlm

- (a) Having accesses to hosts crossing a firewall is not allowed.
- (b) You should use it within the range of each area when it is used in the Internet or a DMZ. You should operate the FLEXlm daemon in the same host in which a client application runs.

### 10.2. Attentions

- Machine Administration (only for PW-K, PW-CL and PW-CLZ)

In accordance with the specifications of PW-K, PW-CL, and PW-CLZ, a system console can be connected only by using the LAN in the same segment.

- Remote Support (REMCS) (Only for LE, PW-T, PW-K, PW-CM, PW-CMZ, PW-P, PW-CL, PW-CLZ and PW-U)

To communicate with the Fujitsu support center, both the http and the SMTP protocols must be used for transmissions via the Internet from a server on which Enhanced Support Facility is installed.

(a) Protocol : SMTP

Function	Reports trouble messages to Fujitsu support center
Message direction	From a server in which the Enhanced Support Facility is installed to Fujitsu support center
Encryption	Used
IP address translation	No problems (because of the SMTP protocol)
Gateway server	An existing SMTP server is allowed to use
Firewall policy	Conforms to a policy of E-Mail (SMTP)

(b)Protocol : http

Function	Downloads firmware from Fujitsu support center.
Transmission direction	From a server in which the Enhanced Support Facility is installed to Fujitsu support center
Encryption	None
IP address translation	No problems (because of the http protocol)
Gateway server	An existing http server is allowed to use
Firewall policy	Conforms to a policy of WWW.

## **11. Solaris™ OS packages needed at Enhanced Support Facility installation**

Solaris OS enables you to select the following software groups for installation. However, the Enhanced Support Facility should be installed on Solaris OS by Entire Distribution or Entire Distribution plus OEM Support in order to avoid problems during installation of the applications.

Various functions are limited when using it in the environments other than those recommended. You can perform troubleshooting only when you have full knowledge on the security of the Solaris™ Operating System and enough skill in troubleshooting by yourself.

- Core System Support

This software group includes the minimum software required for starting and executing Solaris OS operations on the system.

- End User System Support

In addition to the software in Core System Support, this software group includes software recommended for the end user.

- Developer System Support

In addition to the software in End User System Support, this group includes the software development library, include file, manual page, and programming tool.

- Entire Distribution

This software group includes all released Solaris OS software.

- Entire Distribution plus OEM Support

In addition to the software in Entire Distribution, this software group includes software for supporting extended hardware.

For Solaris 9 OS and earlier, the 64-bit support packages are not included in Core System Support as standard software. They are included as standard software in End User System Support and the associated larger software groups.

To perform 64-bit operations with Core System Support, you must add the 64-bit packages included in End User System Support from the customize screen during installation.

For use of the Enhanced Support Facility, this chapter describes the Solaris OS packages that must be additionally installed when Core System Support or End User System Support is installed. This chapter only mentions the 64-bit support packages.

Notes:

- Enhanced Support Facility with Core System Support is not certified on all kinds of environment and all kind of combination of packages. Due to applied patches or specific operating environment you may face trivial problems, even if it's not fatal problems such as a system failure or damage to user files.  
If you face problem, please install appropriate packages.
  
- Solaris 10 OS supports a new software group called Reduced Networking Software group. When this group is used, only CORE component group of Enhanced Support Facility can be installed. Solaris packages additionally required by each package in the CORE component group are the same as the packages required when Core System Support is used (see the below chart). In addition, the installer (esfadd) of Enhanced Support Facility requires the SUNWlibC package.  
Remote Support and the notification function of Machine Administration cannot be used with the Reduced Networking Software group.
  
- If Core System Support is selected, the SUNWhmd package is not selected as the standard one, and no network can be used. To use a network, add SUNWhmd from the customize screen during installation, or install SUNWhmd later.  
If SUNWhmd is installed during installation, it is included in the SunFastEthernet / FastWideSCSI-2 Adapter Drivers cluster. (This is not a note for the Enhanced Support Facility.)
  
- The PW-K, PW-CL, and PW-CLZ require xntpd for operation.  
Therefore, the SUNWntpr and SUNWntpu packages must be installed.  
These packages are selected as the standard packages not for Core System Support but for End User System Support and the associated larger software groups. (This is not a note for the Enhanced Support Facility.)

Additional Solaris OS packages required for the 64-bit package included in Core System Support and End User System Support.

No	Components	Abbreviation	Package name	Additional Solaris OS packages required when Core System Support or End User System Support is installed
1	Enhanced Support Facility information management	Common to all types	FJSVbse	None
2	DR Command	PW-K PW-CLZ	FJSVdrcmd	None
3	NGDR Command	PW-K PW-CLZ	FJSVdr	None
4	IKPDR Command	CW	FJSVdropl	None



No	Components	Abbreviation	Package name	Additional Solaris OS packages required when Core System Support or End User System Support is installed
5	SCF driver	PW-T	FJSVscdx.us FJSVscd.us FJSVscr.us FJSVscu.us FJSVscuja	<p>For all version of Solaris OS</p> <ul style="list-style-type: none"> <li>- SUNWdtbas (End User)</li> <li>- SUNWtltk (End User)</li> <li>- SUNWxwice (End User)</li> <li>- SUNWxwftnt (End User)</li> <li>- SUNWmfrun (End User)</li> <li>- SUNWxwplt (End User)</li> <li>- SUNWxwcft (End User)</li> <li>- SUNWxwopt (End User)</li> <li>- SUNWxi18n (End User)</li> <li>- SUNWxwrtl (End User)</li> </ul> <p>For Solaris 7 OS, Solaris 8 OS, Solaris 9 OS</p> <ul style="list-style-type: none"> <li>- SUNWxilrl (End User)</li> <li>- SUNWxildh (End User)</li> <li>- SUNWxilow (End User)</li> </ul> <p>For Solaris 7 OS, Solaris 8 OS, Solaris 9 OS, Solaris 10 OS</p> <ul style="list-style-type: none"> <li>- SUNWctpls (End User)</li> </ul> <p>For Solaris 2.6 OS, Solaris 7 OS, Solaris 9 OS, Solaris 10 OS</p> <ul style="list-style-type: none"> <li>- SUNWjxplt (End User)</li> <li>- SUNWjxcft (End User)</li> </ul> <p>For Solaris 8 OS only</p> <ul style="list-style-type: none"> <li>- SUNWjexpl (End User)</li> </ul> <p>For Solaris 9 OS, Solaris 10 OS</p> <ul style="list-style-type: none"> <li>- SUNWlccom (End User)</li> <li>- SUNWeurf (End User)</li> <li>- SUNWxwacx (End User)</li> <li>- SUNWi2rf (End User)</li> <li>- SUNWi4rf (End User)</li> <li>- SUNWi5rf (End User)</li> <li>- SUNWi7rf (End User)</li> <li>- SUNWi8rf (End User)</li> <li>- SUNWi9rf (End User)</li> <li>- SUNWi15rf (End User)</li> <li>- SUNWarrf (End User)</li> <li>- SUNWkxmft (End User)</li> <li>- SUNWcxmft (End User)</li> <li>- SUNW5xmft (End User)</li> <li>- SUNWtxfnt (End User)</li> <li>- SUNWeuodf (End User)</li> <li>- SUNWjxmft (End User)</li> <li>- SUNWcpp (End User)</li> </ul> <p>For Solaris 10 OS only</p> <ul style="list-style-type: none"> <li>- SUNWdtdmr (End User)</li> <li>- SUNWjmfrn (End User)</li> <li>- SUNWi13rf (End User)</li> <li>- SUNWjos (End User)</li> <li>- SUNWxim (End User)</li> </ul>
		PW-K	FJSVscd1 FJSVscr1 FJSVscu1 FJSVscuj1 FJSVscd2 FJSVscr2 FJSVscu2 FJSVscuj2 FJSViomp	

No	Components	Abbreviation	Package name	Additional Solaris OS packages required when Core System Support or End User System Support is installed
5	SCF driver	PW-CM PW-CMZ PW-CL PW-CLZ	FJSVscd3 FJSVscr3 FJSVscu3 FJSVscuj3 FJSViomp	None
		PW-U	FJSVlscdx FJSVlscd FJSVlscr FJSVlscu FJSVlscuj	None
		PW-P	FJSVpscd FJSVpscr FJSVpscu FJSVpscuj FJSViomp	None
6	SCF/SCSI Fault LED support option	CW	FJSVscfsc	None
7	SunVTS, FJVTS	PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P	SUNWvts SUNWvtsmn SUNWvtsx FJSVvts	<p>For all version of Solaris OS</p> <ul style="list-style-type: none"> <li>- SUNWxwplt (End User)</li> <li>- SUNWxwfmt (End User)</li> <li>- SUNWxwice (End User)</li> <li>- SUNWipe (End User)</li> <li>- SUNWxwcf (End User)</li> </ul> <p>For Solaris 2.6 OS, Solaris 7 OS, Solaris 8 OS</p> <ul style="list-style-type: none"> <li>- SUNWbtool (Developer)</li> <li>- SUNWdoc (End User)</li> <li>- SUNWolrte (End User)</li> <li>- SUNWoldst (End User)</li> <li>- SUNWtltk (End User)</li> <li>- SUNWtoo (End User)</li> <li>- SUNWxilrl (End User)</li> <li>- SUNWxilow (End User)</li> <li>- SUNWxwopt (End User)</li> <li>- SUNWdtbas (End User)</li> <li>- SUNWmfrun (End User)</li> <li>- SUNWaudio (End User)</li> <li>- SUNWdtdmn (End User)</li> <li>- SUNWdtdte (End User)</li> </ul> <p>For Solaris 7 OS, Solaris 8 OS</p> <ul style="list-style-type: none"> <li>- SUNWctpls (End User)</li> <li>- SUNWxildh (End User)</li> </ul> <p>For Solaris 8 OS, Solaris 9 OS</p> <ul style="list-style-type: none"> <li>- SUNWlibCx (End User)</li> </ul> <p>For Solaris 9 OS, Solaris 10 OS</p> <ul style="list-style-type: none"> <li>- SUNWdoc (End User)</li> </ul>

No	Components	Abbreviation	Package name	Additional Solaris OS packages required when Core System Support or End User System Support is installed, and impacts if the required packages are not installed
7	SunVTS, FJVTS	PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P	SUNWvts SUNWvtsmn SUNWvtsx FJSVvts	<p>For Solaris 8 OS only</p> <ul style="list-style-type: none"> <li>- SUNWocf (End User)</li> <li>- SUNWj2rt (End User)</li> <li>- SUNWocfr (End User)</li> <li>- SUNWmp (End User)</li> <li>- SUNWlpmsg (End User)</li> <li>- SUNWpcr (End User)</li> <li>- SUNWpcu (End User)</li> <li>- SUNWppm (End User)</li> <li>- SUNWpsf (End User)</li> <li>- SUNWpsr (End User)</li> <li>- SUNWpsu (End User)</li> <li>- SUNWipcx (End User)</li> </ul> <p>For Solaris 9 OS only</p> <ul style="list-style-type: none"> <li>- SUNWcpp (End User)</li> <li>- SUNWzlib (End User)</li> <li>- SUNWlxml (End User)</li> <li>- SUNWlxmlx (End User)</li> <li>- SUNWzlibx (End User)</li> <li>- SUNWgss (End User)</li> <li>- SUNWgssc (End User)</li> <li>- SUNWgssx (End User)</li> <li>- SUNWfns (End User)</li> <li>- SUNWfnsc (End User)</li> <li>- SUNWpcp (Developer)</li> <li>- SUNWpcpu (Developer)</li> <li>- FJSVcpc (Developer)</li> <li>- SUNWxwplx (End User)</li> <li>- SUNWxwicx (End User)</li> </ul> <p>For Solaris 10 OS only</p> <ul style="list-style-type: none"> <li>- SUNWxwplr (End User)</li> <li>- SUNWxwrtl (End User)</li> <li>- SUNWcpc (End User)</li> <li>- SUNWcpcu (End User)</li> <li>- FJSVcpcu (End User)</li> </ul>
8	Web-Based Admin View/ WWW Server for Admin View	PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVwvcnf FJSVwvbs	<p>For all version of Solaris OS</p> <ul style="list-style-type: none"> <li>- SUNWdtbas (End User)</li> <li>- SUNWmfrun (End User)</li> <li>- SUNWtltk (End User)</li> <li>- SUNWxwice (End User)</li> <li>- SUNWxwplt (End User)</li> <li>- SUNWxwcft (End User)</li> <li>- SUNWxwopt (End User)</li> <li>- SUNWxwfnt (End User)</li> <li>- SUNWxilrl (End User)</li> <li>- SUNWxilow (End User)</li> <li>- SUNWxildh (End User)</li> <li>- SUNWxwrtl (End User)</li> <li>- SUNWscpu (End User)</li> <li>- SUNWtoo (End User)</li> </ul>

No	Components	Abbreviation	Package name	Additional Solaris OS packages required when Core System Support or End User System Support is installed, and impacts if the required packages are not installed	
8	Web-Based Admin View/ WWW Server for Admin View	PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVwvcnf FJSVwvbs	For Solaris 7 OS, Solaris 8 OS, Solaris 9 OS, Solaris 10 OS - SUNWctpls (End User)  For Solaris 2.6 OS, Solaris 7 OS, Solaris 8 OS - SUNWjvjit (End User) - SUNWjvrt (End User)  For Solaris 9 OS, Solaris 10 OS - SUNWscpr (End User) - SUNWcpp (End User) - SUNWzlib (End User) - SUNWj3irt (End User) - SUNWj3rt (End User)  Please see note 1.	
9	Machine Administration	PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVmasv FJSVmaom	FJSVmasv, FJSVmadm, FJSVmand, FJSVkmnd, and FJSVcmnd require the following packages (for each Solaris OS version).  - SUNWadmc (End User) - SUNWadmfw (End User)  Please see note 2.	
		PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P LE	FJSVmadm		
		PW-T PW-U	FJSVmand		
		PW-K	FJSVkmnd FJSVkmsv FJSVkmom		
		PW-CM PW-CMZ PW-CL PW-CLZ	FJSVcmnd		
		PW-P	FJSVpmnd		
		LE	FJSVamle		None
		CW	FJSVamadm FJSVamcl		None

No	Components	Abbreviation	Package name	Additional Solaris OS packages required when Core System Support or End User System Support is installed, and impacts if the required packages are not installed		
10	Remote Support	PW-T PW-U PW-CM PW-CMZ PW-P LE	FJSVrlib FJSVragt FJSVrmaos	None		
		PW-T PW-U	FJSVmarm	None		
		PW-K	FJSVkmrm	None		
		PW-CM PW-CMZ	FJSVcmrm	None		
		PW-CL PW-CLZ	FJSVcmrm2	None		
		PW-P	FJSVpmrm	None		
		PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P LE	FJSVrrda FJSVracm	None		
		Common to all types	FJSVsirms	None		
		LE	FJSVlmrm	None		
		CW	FJSVammr	None		
		11	Automatic Power Control	PW-T PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P CW	FJSVapcs	None
				PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVapcwv	None

No	Components	Abbreviation	Package name	Additional Solaris OS packages required when Core System Support or End User System Support is installed, and impacts if the required packages are not installed
12	Server Default Configuration	Common to all types	FJSVdef	<p>For Enhanced Support Facility 2.0 and later: The following are necessary in Solaris 2.6 OS, Solaris 7 OS, and Solaris 8 OS.</p> <ul style="list-style-type: none"> <li>- SUNWpmowr (Developer)</li> </ul> <p>Please see note 3.</p> <p>For Enhanced Support Facility 2.2 and later: The following are necessary in Solaris 9 OS, and Solaris 10 OS.</p> <ul style="list-style-type: none"> <li>- SUNWpmowr (Developer)</li> </ul> <p>Please see note 3.</p> <ul style="list-style-type: none"> <li>- SUNWvolu (End User)</li> </ul> <p>Please see note 4.</p>
		PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P LE CW	FJSVssf	None
		PW-T PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVwarn.us	None
		PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVpnlx.us FJSVpnl.us	None

No	Components	Abbreviation	Package name	Additional Solaris OS packages required when Core System Support or End User System Support is installed
13	System Data Output Tool	Common to all types	FJSVsnap	For Enhanced Support Facility 1.6 and earlier: - SUNWxcu4 (End User) - SUNWscpu (End User) Please see note 5.  For Enhanced Support Facility 1.7 and later: None
14	License Manager	PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FSUNlic	None
15	Crash Dump Assistant	Common to all types	FJSVdmp	None
16	Auto Dump Analyze Tool	Common to all types	FJSVana	- SUNWtoo (End User) Please see note 6.
17	Drivers for high-reliability	PW-K	FJSVse (Solaris 7 OS or later) FJSVsef (Solaris 2.6 OS)	None
		PW-CL PW-CLZ	FJSVsec (Solaris 8 OS or later)	
18	CPU Performance Counter	PW-T PW-K PW-CM PW-CMZ	FJSVcpc	None
19	CPU Patrol Diagnosis	PW-T PW-K PW-CL PW-CM	FJSVcpupd	None
20	G-LAN error notification	PW-T PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVgidad	None
21	G-LAN MTU setting	PW-T PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVgidr	None
22	HCP information management	PW-P	FJSVhcp	None

No	Components	Abbreviation	Package name	Additional Solaris OS packages required when Core System Support or End User System Support is installed, and impacts if the required packages are not installed
23	System Parameter Diagnosis	PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P LE CW	FJSVparam	None
24	Tape Driver Configuration Tool	Common to all types	FJSVdcnf	None
25	Patch Information Collect Command	Common to all types	FJSVpmgc	None

Note:

1. If you don't add a necessary package and no Java operating environment is installed, you are unable to use Web-Based Admin View.
2. If you don't add a necessary package, an error occurs when displaying the package version information (patch information).
3. If you don't add a necessary package, the following message is displayed when you reboot the system after executing the `esfadd` command. But you can safely ignore this message.

```
Can't open /etc/default/sys-suspend
```
4. If you don't add a necessary package, the following message is displayed at system booting, but it does not influence the system.

```
logadm: Warning:/var/adm/vold.log: No such file or directory
```

If you don't want to display the above message, please comment out or delete the following entry from the `/etc/logadm.conf` file.

```
/var/adm/vold.log -s 256k -t /var/adm/vold.log.old # FJSVdef
```
5. If you don't add a necessary package, execution error messages are output, and you are unable to collect data.
6. If you don't add a necessary package, the `cocore` script does not operate normally.



## 12. An installation specifying the component group of Enhanced Support Facility and an individual installation

The Enhanced Support Facility is designed on the premise that all of its packages prepared for an object system are installed.

A minimum level of security is kept in the Enhanced Support Facility 1.5. However, there are those who want to install only the minimum number of packages to establish a high-level security system. Two or more installation patterns of the package defined in the component group are offered in Enhanced Support Facility 2.3 or newer to meet such a demand. The package installed by specifying the component group which matches it to the requirement for the system when installing it can be limited.

This section explains about how to install Enhanced Support Facility by specifying the component group and how to install each package of it individually. Also some notes on the latter installation is given here.

Accordingly, there are neither restrictions nor notices in particular when packages of Enhanced Support Facility are individually installed.

Notes:

- When the installation which specifies the component group is done, a part of component offered as a function of this software is not installed. Therefore, a part of user command and an online manual cannot be used.
- The perfect verification of individual installation is not done. Some combinations in arbitrary environments and combinations are not tested. Due to applied patches or specific operating environments, you may face trivial problems even if it's not fatal problems such as a system failure or damage to user files.  
If you face problem, please install appropriate packages.
- Fujitsu cannot assure that you can install partial package of Enhanced Support Facility. Fujitsu strongly recommends that only an engineer, who has a full range of knowledge on security matters with regard to Solaris OS and is able to troubleshoot on his/her own, must do this installation.

No	Components	Abbreviation	Package name	- Installation - Effects without an installation
1	Enhanced Support Facility information management	Common to all types	FJSVbse	- Mandatory - Fail to install or delete the Enhanced Support Facility
2	DR Command	PW-K PW-CLZ	FJSVdremd	- Not required - You are unable to use Dynamic Reconfiguration

No	Components	Abbreviation	Package name	
3	NGDR Command	PW-K PW-CLZ	FJSVdr	- Installation - Effects without an installation - Not required - You are unable to use Dynamic Reconfiguration
4	IKPDR Command	CW	FJSVdropl	- Not required - You are unable to use Dynamic Reconfiguration
5	SCF driver	PW-T	FJSVscdx.us FJSVscd.us FJSVscr.us FJSVscu.us FJSVscuja	- Mandatory - You have a serious effect so that you are unable to use the features which are offered by RAS-Control-Device (SCF).
		PW-K	FJSVscd1 FJSVscr1 FJSVscu1 FJSVscuj1	
			FJSVscd2 FJSVscr2 FJSVscu2 FJSVscuj2 FJSViomp	
		PW-CM PW-CMZ PW-CL PW-CLZ	FJSVscd3 FJSVscr3 FJSVscu3 FJSVscuj3 FJSViomp	
		PW-U	FJSV1scdx FJSV1scd FJSV1scr FJSV1scu FJSV1scuj	
		PW-P	FJSVpscd FJSVpscr FJSVpscuj FJSVpscuj FJSViomp	
6	SCF/SCSI Fault LED support option	CW	FJSVscfsc	- Mandatory Cannot access the eXtended System Control Facility (XCF) and RCI (Remote Cabinet Interface) which are provided in high-end models and mid-range models of SPARC Enterprise Server. In addition, SCSI disk drive hot swapping function of Machine Administration doesn't work.
7	SunVTS, FJVTS	PW-T PW-K PW-U PW-CM PW-CMZ PL-CL PW-P	FJSVvts FJSVvtsmn FJSVvtsx FJSVvts	- Recommended. - You are unable to perform installation adjustments and periodic maintenance.
8	Web-Based Admin View / WWW Server for Admin View	Common to all types	FJSVwvcnf FJSVwvbs (GUI)	- Not required - You are unable to operate Machine Administration, SynfinityDISK, SynfinityCluster and so on in GUI-mode. (operable in CUI-mode) You are not allowed to install FJSVmasv (FJSVkmsv), FJSVapcwv unless you install the packages shown in the left column.

No	Components	Abbreviation	Package name			
9	Machine Administration	Common to all types	FJsvmasv (GUI)	- Installation - Effects without an installation  - Not required - Menu operation is unavailable in GUI-mode. (but operable in CUI-mode) FSVwvcnf, FJsvwvbs, and FJsvapcwv must not be installed when the packages shown in the left column are not installed. FSVwvcnf, FJsvwvbs, and FJsvapcwv must not be installed when the packages shown in the left column is not installed.		
			FJsvmaom	- Not required - You are unable to refer to the online manual through a GUI-based-menu. It is included in the Enhanced Support Facility CD.		
			FJsvmadm	- Mandatory - You are unable to perform hardware maintenance.		
		PW-T PW-U	FJsvmand	- Mandatory - You are unable to perform hardware maintenance.		
		PW-K	FJsvkmnd	- Mandatory - You are unable to perform hardware maintenance.		
			FJsvkmsv (GUI)	- Not required - Menu operation is unavailable in GUI-mode. (but operable in CUI-mode) FSVwvcnf, FJsvwvbs, and FJsvapcwv must not be installed when the packages shown in the left column are not installed. when the packages shown in the left column is not installed.		
			FJsvkmom	- Not required - You are unable to refer to the online manual through a GUI-based-menu. It is included in the Enhanced Support Facility CD.		
		PW-CM PW-CMZ PW-CL PW-CLZ	FJsvcmnd	- Mandatory. - You are unable to perform hardware maintenance.		
		PW-P	FJsvpmnd	- Mandatory - You are unable to perform hardware maintenance.		
		LE	FJsvamle	- Mandatory - You are unable to perform hardware maintenance.		
		CW	FJsvamadm FJsvamcl	- Mandatory - You are unable to perform hardware maintenance.		
		10	Remote Support	PW-T PW-U PW-CM PW-CMZ PW-P	FJsvrlib FJsvragt FJsvrmaos	- Recommended - You are unable to make use of Support Desk services, such as a remote report and firmware downloading.
				PW-T PW-U	FJsvmarm	
				PW-CM PW-CMZ	FJsvcmrm	
PW-CL PW-CLZ	FJsvcmrm2					
PW-K	FJsvkmrm					
PW-P	FJsvpmrm					
LE	FJsvlmrm					
CW	FJsvamrm					
Common to all types	FJsvrrda FJsvracm FJsvsirms					

No	Components	Abbreviation	Package name	
11	Automatic Power Control	PW-K PW-T PW-CM PW-CMZ	FJSVapcs	- Installation - Effects without an installation - Not required - You are unable to use the Automatic Power Control features.
		Common to all types	FJSVapcwv (GUI)	- Not required. - You are unable to use the Automatic Power Control features through the Web-Based Admin View (GUI). (Operable with a command)
12	Server Default Configuration	Common to all types	FJSVdef	- Not required - The log-clear, etc. does not function.
		PW-T PW-K PW-U PW-CM PW-CMZ PW-CL PW-CLZ PW-P CW LE	FJSVssf	- Recommended - You may find a difficulty in software troubleshooting due to because the function of acquiring the information necessary for troubleshooting does not work.
		PW-T PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVwarn.us	- Recommended - You may find a difficulty in hardware maintenance due to because the function of monitoring the hardware failures such as an intermittent ECC-bit-error on memories or caches does not work.
		PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVpnlx.us FJSVpnl.us	- Mandatory (only for PW-K PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P) - You may find a difficulty in software troubleshooting due to because you are unable to get the “crash-dump” information when a system gets hung.
13	System Data Output Tool	Common to all types	FJSVsnap	- Recommended. - You may find a difficulty in software troubleshooting because you are unable to collect the system information required for troubleshooting at a time.
14	License Manager	Common to all types	FSUNlic	- Not required - You are unable to make use of license manager.
15	Crash Dump Assistant	PW-T PW-K PW-CM PW-CMZ PW-U	FJSVdmp	- Recommended. - You may find a difficulty in software troubleshooting since the system information is not automatically collected with the fjsnap command after a system panic.
16	Auto Dump Analyze Tool	Common to all types	FJSVana	- Recommended. - You cannot automatically analyze crash dump file at system reboot after a system crash.

No	Components	Abbreviation	Package name	
				- Installation - Effects without an installation
17	Drivers for high-reliability	PW-K	FJSVsef (Solaris 2.6 OS)	- Mandatory (Solaris 8 OS or earlier) - Normal and accurate system operation is not assured.
			FJSVse (Solaris 7 OS or later)	- Not required (Solaris 9 OS or later) - Redundant console path configuration cannot be used. And the DR of the SB connected to the console is disabled. When this package is removed, suppress the following script.
		PW-CL PW-CLZ	FJSVsec (Solaris 8 OS or later)	- /etc/rc2.d/S91FJSVconspath (From Enhanced Support Facility 1.7 to 2.2) - /etc/rc2.d/S90FJSVconspath (Enhanced Support Facility 2.3 or later)
18	CPU Performance Counter	PW-T PW-K PW-CM PW-CMZ	FJSVcpc	- Not required - You are unable to make use of CPU performance Counter. (Solaris 8 OS 7/01 or earlier version)
19	CPU Patrol Diagnosis	PW-T PW-K PW-CL PW-CM	FJSVcpupd	- Recommended. - You are unable to make use of CPU patrol diagnosis function.
20	G-LAN error notification	PW-T PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVgidad	- Mandatory. - You cannot enable the G-LAN error notification.
21	G-LAN MTU setting	PW-T PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P	FJSVgidr	- Mandatory. - When using G-LAN on JumboFrame, you cannot change the MTU (Maximum Transmission Unit) value.
22	HCP information management	PW-P	FJSVhcp	- Mandatory. - You cannot perform the firmware update by using Enhanced Support Facility.
23	System Parameter Diagnosis	PW-T PW-U PW-K PW-CM PW-CMZ PW-CL PW-CLZ PW-P CW LE	FJSVparam	- Mandatory. - You cannot diagnose system parameters.
24	Tape Driver Configuration Tool	Common to all type	FJSVdcnf	- Recommended. - The driver's definition of a tape device is not given automatically, so you need to give it manually.
25	Patch Information Collect Command	Common to all type	FJSVpmgc	- Recommended. - You cannot collect the Patch Information needed for patch analysis by the Patch Management Tool.

## **12.1. Installation by Component group**

### **12.2.1. component group**

The installed component is decided by specifying the component group. The following two component groups are offered in this software.

- BASIC** : Indispensable package and recommended package of the above-mentioned list  
Neither GUI system command nor an online manual is installed.  
All functions of Web-Based Admin View/WWW Server for Admin View cannot be used.
- CORE** : Only an indispensable package of the above-mentioned list.  
Only a at least necessary for work the main body device component is installed.

Refer to Section 6.4, “Specifying a Component Group for Installation” in the *Installation Guide* for the package applied in each main body device and Solaris OS, the installation method, and notes.

## **12.2. About an individual installation**

### **12.2.1. Packages required**

- a. The following component packages are indispensable to install for hardware maintenance.
  - SCF driver
  - Machine Administration
  
- b. The following is a mandatory component package for software maintenance.
  - FJSVpnl/FJSVpnlx (for PW-K, PW-CM, PW-CMZ, PW-CL, PW-CLZ, and PW-P)
  
- c. The Solaris OS and the Enhanced Support Facility do not necessarily require the following package. The following component package accompanies the products if it is required.
  - License Manager (FSUNlic)
  
- d. Both FJSVapcwv and FJSVmasv, which use the Web-Based Admin View (FJSVwvcnf,FJSVwvbs), have noticeable relations in the order of their installation.
  - You should install neither FJSVmasv nor FJSVapcwv when you use the Web-Based Admin view.
  - You should install the packages in the following order when you use the Machine Administration in GUI and the Automatic Power-Control in GUI.
    - (1) FJSVwvcnf                      first

- (2) FJSVwvbs
- (3) FJSVmasv(FJSVkmsv)
- (4) FJSVapcwv           last

- e. The following packages are for Enhanced Support Facility 1.6 and earlier versions, but they are not required:
- FSUNnet, FJSVhmc, FJSVglm

### **12.2.2. How to install specific packages**

- (a) Install the software by following the procedure given in Refer to Chapter 5, “Installation” in the *Installation Guide*.
- (b) Out of the packages mentioned in Chapter 1, “Program Components” in the *Installation Guide*, select the packages to be deleted.
- (c) Move to a directory which contains packages of Enhanced Support Facility arranged for your platform and Solaris OS release. The directory exists within Enhanced Support Facility CD-ROM.

The directory name is different depending on the revision of Enhanced Support Facility, type of platform and revision of Solaris OS. Refer to the table in Appendix A, “Command Reference,” in the *Installation Guide* to find an appropriate directory name.

Example 1) For Enhanced Support Facility 2.2, PW-CM and Solaris 8 OS

```
# cd <mount_point>/Platform/C_M/8
```

Example 2) For Enhanced Support Facility 2.0, PW-T and Solaris 2.6 OS

```
# cd <mount_point>/Platform/T/2.6
```

- (d) Refer to the “.eorder” file in the current directory defined in step (c). Delete the packages selected in step (b) in reverse order of the sequence defined in the “.eorder” file.

Example 3) For Enhanced Support Facility 2.2, PW-CM and Solaris 8 OS

If you delete the FJSVapcs, FJSVapcwv, FJSVdef, and FSUNlic packages, delete them in the following sequence:

- 1st. FSUNlic
- 2nd. FJSVdef
- 3rd. FJSVapcwv

#### 4th. FJSVapcs

Specify them as follows:

```
# pkgrm FSUNlic
# pkgrm FJSVdef
# pkgrm FJSVapcwv
# pkgrm FJSVapcs
```

Notes:

- Parts of packages have a correlation to one another. Thus, you cannot always delete the packages that you want to delete. See Chapter 11, “Solaris™ OS packages needed at Enhanced Support Facility installation” for information on the correlation.
- Do not delete the FJSVbse package.
- Refer to the “.border” file if you cannot find the “.eorder” file. Either the “.eorder” or the “.border” file always exists in the directory of the Enhanced Support Facility packages.
- Do not create any program that expects “.eorder” as a file name or some specific its contents because they are subject to change in the future releases of the Enhanced Support Facility.

### **12.2.3. Notices after an installation**

(a) At the time of deleting the Enhanced Support Facility

You can use the `esfrm` command to delete the Enhanced Support Facility even when part of Enhanced Support Facility packages are installed in above-mentioned way.

(b) At the time of upgrading Enhanced Support Facility

Upgrading means the case such as upgrading the Enhanced Support Facility from a release number 1.7 to 1.8 with the `esfadd` command.

The Enhanced Support Facility can be updated with the `esfadd` command even after some packages are deleted. Deleted packages are installed during this update. Therefore, you may have to delete them again depending on your need.

(c) At the time of applying patches

You can apply patches in the same way as you perform the regular installation.



## **13. Enhanced Support Facility packages using ActiveX**

The following packages in Enhanced Support Facility use ActiveX.

- Machine Administration
  - FJSVmasv , FJSVmaom , FJSVkmsv , FJSVkmom
- Web-Based Admin View / WWW Server for Admin View
  - FJSVwvbs , FJSVwvcnf
- Auto Power Control System
  - FJSVapcww

These packages do not contain any documents or instructions which require the security level of browser to be lowered.

## 14. Enhanced Support Facility packages using Java™.

The following components in Enhanced Support Facility use Java™. Refer to the following for the system requirements.

- Web-Based Admin View / WWW Server for Admin View
  - Java™ platform bundled in Solaris 2.6 OS
  - Java™ platform bundled in Solaris 7 OS
  - Java™ platform bundled in Solaris 8 OS
  - Java™ platform bundled in Solaris 9 OS
  - Java™ platform obtained from the web site of Sun Microsystems, Inc.
    - 1) Enhanced Support Facility 2.1 and earlier support the latest revision of Java™ Development Kit 1.1.8.
    - 2) Enhanced Support Facility 2.2 and later support the latest revision of Java™ Development Kit 1.1.8, the latest revision of Java™ 2 SDK, Standard Edition 1.2.2, and the latest revision of Java™ 2 Runtime Environment, Standard Edition, Version 1.2.2.

## 15. Diagnosis of the system setting file

Enhanced Support Facility detects and reports system settings that have a high possibility of being changed by the system administrator and that disturb normal operation of the Solaris OS.

In addition, if improper settings are detected, Enhanced Support Facility outputs the messages, and some tunable parameters may be modified.

- Change the following parameter depending on its value

- semsys:seminfo\_semume

- semsys:seminfo\_semmnu

- Delete the following parameter if it is set

- rt\_maxpri

Furthermore, when you boot or shut down the Solaris OS, Enhanced Support Facility checks the parameters automatically.

If the /etc/system file has been changed, Enhanced Support Facility backs up the /etc/system file.

For more information about this function, see the *System Parameter Diagnosis User's Guide*.

## **16. About the setting of the kernel parameter “noexec\_user\_stack”**

There are no packages in Enhanced Support Facility that are affected by the setting of the kernel parameter “noexec\_user\_stack.”

## 17. Configuration examples for the Internet or a DMZ environment

Here describes the example of an ordinary setting needed to install the Enhanced Support Facility in a system which is either connected to the Internet or placed in a DMZ.

a) In order to use the Enhanced Support Facility, you should install the Solaris OS, with at least, SUNWbtool in addition to selecting “End User System Support.”

b) You should remove packages as few as possible after installation of Enhanced Support Facility with using `esfadd`.

In addition, Enhanced Support Facility 1.5 or later release should be installed. If you cannot install it due to any reason, you should apply a patch “R00081” or later.

c) The use of “Web-Based Admin View” is not recommended on this environment. For more detail, please refer to the *Installation Guide* and Chapter 7, “System Files Changed by Enhanced Support Facility” in this document.

d) Delete the definition for remote execution added into “`/etc/inet/inetd.conf`” for SunVTS and FJVTs. For more information, see Chapter 7, “System Files Changed by Enhanced Support Facility” in this document.

e) You should suppress the log-clear feature included in the Server Default Configuration. You should delete the “`/etc/rc2.d/S99FJSVlogclear`” file and a definition for the `chkslog` added to the crontabs for “root” and “adm”. You should refer to both Chapter 4, “rc scripts and daemon used in Enhanced Support Facility” and Chapter 8, “How to set the cron used in Enhanced Support Facility” in this document.

## 18. Countermeasures against problems detected by the security check tool.

This chapter explains countermeasures against problems by using the System Scanner tool, the security check tool released from Security Systems, Inc.

### 18.1. For Basic Software Extension 1.0 to Enhanced Support Facility 1.4

A problem detected by the System Scanner tool indicates that the owner must not be “bin” but “root.” This issue assumes a case in which “bin” authority is taken away because of another hole in security. Solaris OS also has the same issues. Therefore, no patch is provided for this issue.

The system administrator should change the owner from “bin” to “root” by executing the chown command if necessary.

The target files are listed below. No malfunction occurs even if the owner is changed manually. The owner has been changed to “root” from “bin” for the Enhanced Support Facility 1.5 and later versions.

File name	Components
/opt/FJSVdef/sbin/chkslog	Server Default Configuration
/opt/FJSVhwr/procedure/scfdaily	SCF driver
/sbin/FJSVhwr/daemon/pwrctrl	SCF driver
/etc/init.d/FJSVscfdaemon.rcS	SCF driver
/etc/init.d/FJSVscf	SCF driver

(Change method: **chown root:sys** file-name)

A problem detected by the System Scanner tool indicates that the group write permissions of the directories /usr/bin, /usr/sbin and /sbin, which are described in PATH variables used in rc procedure, are set. However, this is an issue for Solaris OS and not for the Enhanced Support Facility because Solaris owns these directories. Therefore, no patches are provided for the Enhanced Support Facility.

The indicated files are listed below. Delete the group write permission of the directories /usr/bin, /usr/sbin, and /sbin by executing the chmod command if needed. But, as described above, owner of these directories is Solaris OS.

Impact for Solaris OS by changing directory permission is beyond the scope of this document.

Enhanced Support Facility 1.5 and later versions are improved so that the PATH variable is not used.

File name	Components
/etc/rc2.d/S88FSUNlicense	FLEXlm License Manager
/etc/rc1.d/K57FSUNlicense	FLEXlm License Manager
/etc/rc0.d/K57FSUNlicense	FLEXlm License Manager

## 18.2. For Enhanced Support Facility 1.5

The set user ID (SUID) attribute is assigned for the following commands because of requirements for command operations. These commands are designed so that no security problems occur.

You can remove the SUID manually by executing the `chmod -s` command.

If this is done, only the administrator (root) can use the provided functions.

Note that the permission setting may be returned to the original value by applying patches or upgrade installation of Enhanced Support Facility.

File name	Components
/opt/FJSVmadm/sbin/getmodelcode	Machine Administration
/opt/FJSVmadm/sbin/excmd	Machine Administration
/usr/platform/FJSV,GPUS/sbin/prtdiag	SCF driver
/usr/platform/FJSV,GPUSK/sbin/prtdiag	SCF driver
/opt/SUNWvts/bin/vtsk	SunVTS

(Change method: `chmod -s file-name`)

## 18.3. For Enhanced Support Facility 1.6 / Enhanced Support Facility 1.7

Enhanced Support Facility 1.6 and Enhanced Support Facility 1.7 has been tested with using a security check tool, System Scanner ver. 4.0 released from Internet Security Systems, Inc.

In addition to the items described on section 16.2, there are notes as follows:

- System Scanner 4.0 issues an alarm for a daemon whose owner is "bin". Owner of such daemon is SunVTS. No action is taken against this issue because 1) real problem may occur only after an intruder intercepts the "bin" privilege with using any other security hole, and 2) owners of daemons in Solaris OS are also "bin." If you want to change the owner, please refer to Chapter 6, "/etc/inet/inetd.conf used in Enhanced Support Facility."
- System Scanner 4.0 issues an alarm to all files with the write permission for group even if the group is "sys" group. No action is taken against this issue because 1) real problem may occur only after an intruder intercepts the sys privilege with using any other security hole, and 2) files owned by Solaris OS have same permission.
- For PW-K, NFS is used for communication with a system console. System Scanner 4.0 issues an alarm to the NFS system because the "secure" option is not specified. But, system requires the LAN between PW-K and a system console is a dedicated LAN. Therefore, there must be no security problems. If you want to add "secure" option, please refer to Chapter 9, "/etc/dfs/dfstab used in Enhanced Support Facility."

- System Scanner 4.0 issues an alarm for file name starting with \$. But, in the Java specifications, name of Java file starts with \$. Therefore, further countermeasures for this issue would be excessive. So no countermeasures are provided for the Enhanced Support Facility.

### **18.4. For Enhanced Support Facility 2.0**

In Enhanced Support Facility 2.0, the set user ID (SUID) attribute is assigned for the following commands because of requirements for command operations. These commands are designed so that no security problems occur.

You can remove the SUID manually by executing the `chmod -s` command.

If this is done, only the administrator (root) can use the provided functions.

Note that the permission setting may be returned to the original value by applying patches or upgrade installation of Enhanced Support Facility.

File name	Components
/opt/FJSMadm/sbin/getmodelcode_col	Machine Administration
/usr/platform/FJSV,GPUSC-M/sbin/prtdiag	SCF driver

(Change method: `chmod -s` file-name)

### **18.5. For Enhanced Support Facility 2.2**

In Enhanced Support Facility 2.2, The set user ID (SUID) attribute is assigned for the following commands because of requirements for command operations. These commands are designed so that no security problems occur.

You can remove the SUID manually by executing the `chmod -s` command.

If this is done, only the administrator (root) can use the provided functions.

Note that the permission setting may be returned to the original value by applying patches or upgrade installation of Enhanced Support Facility.

File name	Components
/opt/FJSVhwr/sbin/fjprtdiag	SCF driver

(Change method: `chmod -s` file-name)



## 19. About the service registered in Service Management Facility of Solaris 10 OS with Enhanced Support Facility.

This chapter explains the services in Service Management Facility of Solaris 10 OS registered by Enhanced Support Facility.

svc:/system/fjsvmadm-main:default

Component	Machine Administration
Package name	FJSVamadm
Support Solaris OS	Solaris 10 OS
Support models	CW
Support Enhanced Support Facility	Enhanced Support Facility 3.0 or later
Function	Information of the Machine Administration is initialized.
Daemon started	None
Port used	None
Suppressible	No
Effect of suppression	The Machine Administration is not started.
Miscellaneous	

svc:/system/fjsvmadm-evhandsd:default

Component	Machine Administration
Package name	FJSVamadm, FJSVmadm
Support Solaris OS	Solaris 10 OS
Support models	Common to all types
Support Enhanced Support Facility	Enhanced Support Facility 2.5 or later
Function	Alerts hardware errors through monitoring syslog messages
Daemon started	evhandsd: Extracts messages to be monitored in syslog messages. evmond: Alerts an abnormality based on the messages extracted. scfdrvrcvd: Extracts messages to be monitored in SCF events. (only for PW-CM, PW-CMZ, PW-CL or PW-CLZ).
Port used	None
Suppressible	No
Effect of suppression	You may be unable to recognize hardware failures.
Miscellaneous	

svc:/system/fjsvmadm-hardmond:default

Component	Machine Administration
Package name	FJSVamadm
Support Solaris OS	Solaris 10 OS
Support models	CW
Support Enhanced Support Facility	Enhanced Support Facility 3.0 or later
Function	The daemon which monitors hardware error is started.
Daemon started	hardmond : Monitors hardware errors based on any other information than syslog messages. (ex. monitoring of disk devices)
Port used	None
Suppressible	No
Effect of suppression	Monitoring the failure of disk or extension file unit is not done. Also an alarm message may not be sent normally.
Miscellaneous	

svc:/system/fjsvmadm-hrdconf:default

Component	Machine Administration
Package name	FJSVamadm
Support Solaris OS	Solaris 10 OS
Support models	CW
Support Enhanced Support Facility	Enhanced Support Facility 3.0 or later
Function	Hardware configuration information is made.
Daemon started	None
Port used	None
Suppressible	No
Effect of suppression	Hardware configuration information is not correctly made.
Miscellaneous	

svc:/system/fjsvmadm-scfeventd:default

Component	Machine Administration
Package name	FJSVamadm
Support Solaris OS	Solaris 10 OS
Support models	CW
Support Enhanced Support Facility	Enhanced Support Facility 3.0 or later
Function	The daemon which extracts message in SCF event is started.
Daemon started	scfeventd : Extracts messages to be monitored in SCF events.
Port used	None
Suppressible	No
Effect of suppression	When DR/PHP is executed, configuration information is not automatically updated.
Miscellaneous	

svc:/system/fjsvssf-limstrerr:default

Component	Server Default Configuration
Package name	FJSVssf
Support Solaris OS	Solaris 10 OS or later
Support models	Common to all types
Support Enhanced Support Facility	Enhanced Support Facility 2.5 or later
Function	Records errors occurred on TCP/IP
Daemon started	limstrerr
Port used	None
Suppressible	Yes
Effect of suppression	You may have a difficulty in software maintenance. There is a possibility of affecting the troubleshooting concerning a problem occurred on a LAN due to the reason that a part of error information on TCP/IP is not automatically recorded.
Miscellaneous	

svc:/system/fjswarn:default

Component	Server Default Configuration
Package name	FJSVwarn
Support Solaris OS	Solaris 10 OS or later
Support models	PW-T, PW-K, PW-CM, PW-CMZ, PW-CL, PW-CLZ, PW-P
Support Enhanced Support Facility	Enhanced Support Facility 2.5 or later
Function	It monitors intermittent single-bit errors of CPU caches or memories and outputs messages into the syslog in the case of detecting a failure.
Daemon started	Syswarnd
Port used	None
Suppressible	Yes
Effect of suppression	You have a difficulty in hardware maintenance. Because no message is output even if intermittent single bit errors of cpu-caches or memories frequently occur.
Miscellaneous	

svc:/system/fjsvdmpsnap:default

Component	Crash dump assistant
Package name	FJSVdmp
Support Solaris OS	Solaris 10 OS or later
Support models	Common to all types
Support Enhanced Support Facility	Enhanced Support Facility 3.0 or later.
Function	In saving "crash dump" information after a system panic, the system information, which is output with the fjsnap command, is stored into "/var/crash".
Daemon started	None
Port used	None
Suppressible	Yes
Effect of suppression	You may have a difficulty in software maintenance. Immediately after a system panic, the system information in such a file as "/var/adm/message," which is required to analyze a panic cause, is not automatically output.
Miscellaneous	If you suppress this service, you must also suppress "svc:/system/fjsvdmpadm:default".

svc:/system/fjsvdmpadm:default

Component	Crash Dump assistant
Package name	FJSVdmp
Support Solaris OS	Solaris 10 OS or later
Support models	Common to all types
Support Enhanced Support Facility	Enhanced Support Facility 3.0 or later.
Function	The system information, which is output with the fjsnap command, is saved into “/var/crash” at the time of storing the crash-dump information after a panic.
Daemon started	None
Port used	None
Suppressible	Yes
Effect of suppression	You may have a difficulty in software maintenance. Immediately after a system panic, the system information in such a file as “/var/adm/messages,” which is required to analyze a panic cause, is not automatically output.
Miscellaneous	If you suppress this service, you must also suppress "svc:/system/fjsvdmpsnap:default".

## 20. Logical Domains.

### - Overview of Logical Domain

Logical Domain is virtualization technology provided by Sun.

Logical Domain provides the function that enables multi different operating system to run on one computer. For more information, refer to the documents issued by Sun Microsystems, Inc. “Logical Domains Administration Guide” is one of the above documents. This document explains how to harden the security of control domain by using Solaris Security Toolkit.

The following explains about the impact on Enhanced Support Facility when you perform the security setting by using `ldm_control-secure.driver` included in Solaris Security Toolkit described in “Logical Domains Administration Guide”.

### - Support Environment

Enhanced Support Facility version: Enhanced Support Facility 3.0

: Enhanced Support Facility Manuals & Patches 3.0 A30 or later

Enhanced Support Facility components affected by using LDoms manager.

Components	Behavior Overview	When workaround should be done.
1. Enhanced Support Facility 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.

For more information, refer to the following.

1. Enhanced Support Facility information management

Component	Enhanced Support Facility information management
Package name	FJSVbse
Support Solaris OS	Solaris 10 OS or later
Support models	LE (except T1000/T2000/T5140/T5240)
Support Enhanced Support Facility	Enhanced Support Facility 3.0 or later
Impact when installing Solaris Security Toolkit	Installation fails. The following message appears when installing Enhanced Support Facility. "esfadd:Error: cron is unusable. (root, adm) are not set."
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 Sun Microsystems, Inc.</p>

## 2. Machine Administration

Component	Machine Administration
Package name	FJSVamle
Support Solaris OS	Solaris 10 OS or later
Support models	LE (except T1000/T2000/T5140/T5240)
Support Enhanced Support Facility	Enhanced Support Facility 3.0 or later
Impact when installing Solaris Security Toolkit	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.  - Check whether the following is described in the /etc/syslog.conf file. If it is not described, describe it.  *.err;kern.debug;daemon.notice<tab>/var/opt/FJSVmadm/evh/evh_pipe  “<tab>” means the creation of space before and after by pressing the tab key.

## 3. Remote Support

Component	Remote Support
Package name	FJSVlmm
Support Solaris OS	Solaris 10 OS or later
Support models	LE (except T1000/T2000/T5140/T5240)
Support Enhanced Support Facility	Enhanced Support Facility 3.0 or later
Impact when installing Solaris Security Toolkit	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	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. To do that, please perform the following.  - Check whether the following is described in the /etc/syslog.conf file. If it is not described, describe it.  *.err;kern.debug;daemon.notice<tab>/var/opt/FJSVmadm/evh/evh_pipe  “<tab>” means the creation of space before and after by pressing the tab key.