FUJITSU Software
PRIMECLUSTER HA Server
4.5A00

Installation Guide

Oracle Solaris

Preface

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Revision History

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The note of the basic software patch have been modified.	2.1.1 2.2.1	J2S2-1667-01ENZ0(01) J2S2-1667-01ENZ2(01)

Contents

Chapter 1 Program components

A system consists of programs, and each program is referred to as a package.
This chapter explains about the packages of which this software is composed.

1.1 Oracle Solaris 10

No.	Component	Package	Version	Function
1	Web-Based Admin View	FJSVwvcnf	4.5.0	GUI common framework, cluster management GUI
		FJSVwvbs	4.5.0	
		FJSVwvmpc	4.5.0	
		SMAWrcadm	4.5A00	
		SMAWcj2re	1.7.0	
2	Cluster Foundation (CF)	SMAWskel	4.5A00	Basic cluster services
		SMAWcf	4.5A00 4.5A00(For non-global zone)	
		SMAWsf	4.5A00	
		FSUNclnet	4.5.0 4.5.0(For non-global zone)	
		FJSVclapi	4.5.0	
		FJSVcldbm	4.5.0	
		FJSVcldev	4.5.0	
3	Cluster Configuration Backup/Restore	SMAWccbr	4.5A00	Configuration file backup and restoration
4	Netcompo BASE	FSUNnet	2.1.2	Online trace (for GLS)
5	Reliant Monitor Services (RMS)	SMAWRrms	4.5A00	Application takeover for operational continuity
		SMAWRdfw	4.3A20	
6	Wizard Tools	SMAWRhvto	4.5A00	Tool for defining RMS configuration
		SMAWRhvba	4.5A00	
		SMAWRhvdo	4.5A00	
		SMAWRhvde	4.5A00	
		FJSVhvgl	4.3.1	
		FJSVhvgd	4.3.2	
7	Global Link Services	FJSVhanet	2.10	Providing highly reliable transmission routes using a redundant network
		FJSVmpnet	2.4.1	Providing highly reliable transmission routes using multiple NICs
		FJSViomp	2.3	IOMP common framework package

No.	Component	Package	Version	Function
8	Global File Services	FJSVgfs	4.5.0	High-availability file system
		FJSVgfswv	4.5.0	
		FJSVgfsma	4.5.0	
9	Global Disk Services	FJSVsdx	4.5.0	High-availability volume manager
		FJSVsdxl	4.5.0	
		FJSVsdxwv	4.5.0	
		FJSVsdxga	4.5.0	
10	CF Add-On (CAO)	FJSVclptl	1.3.0	CF add-on package
		FJSVclapm	4.5.0	
11	RMS Add-On (RAO)	FJSVclrms	4.5.0	RMS add-on package
		FJSVclmac	4.1.4	
		FJSVclswu	4.1.4	
		FJSVclrwz	4.5.0	
		FJSVclsfw	4.5.0	
12	GUIs	FJSVwvfrm	4.5.0	CRM view, GUI for defining RMS configuration
		FJSVwvucw	4.5.0	
		FJSVwvsfw	4.5.0	

GLS: Global Link Services

1.2 Oracle Solaris 11

No.	Component	Package	Version	Function
1	Web-Based Admin View	FJSVwvcnf	4.5.0	GUI common framework, cluster management GUI
		FJSVwvbs	4.5.0	
		FJSVwvmpc	4.5.0	
		SMAWrcadm	4.5A00	
		SMAWcj2re	1.7.0	
2	Cluster Foundation (CF)	SMAWskel	4.5A00	Basic cluster services
		SMAWcf	4.5A00 4.5A00(For non-global zone)	
		SMAWsf	4.5A00	
		FSUNclnet	4.5.0 4.5.0(For non-global zone)	
		FJSVclapi	4.5.0	
		FJSVcldbm	4.5.0	
		FJSVcldev	4.5.0	
3	Cluster Configuration Backup/Restore	SMAWccbr	4.5A00	Configuration file backup and restoration

No.	Component	Package	Version	Function
4	Reliant Monitor Services (RMS)	SMAWRrms	4.5A00	Application takeover for operational continuity
		SMAWRdfw	4.3A20	
5	Wizard Tools	SMAWRhvto	4.5A00	Tool for defining RMS configuration
		SMAWRhvba	4.5A00	
		SMAWRhvdo	4.5A00	
		SMAWRhvde	4.5A00	
		FJSVhvgl	4.3.1	
		FJSVhvgd	4.3.2	
6	Global Link Services	FJSVhanet	2.10	Providing highly reliable transmission routes using a redundant network
		FJSVrvnet	1.2	Providing highly reliable transmission routes using a virtualized NIC
		FJSViomp	2.3	IOMP common framework package
7	Global Disk Services	FJSVsdx	4.5.0	High-availability volume manager
		FJSVsdxl	4.5.0	
		FJSVsdxwv	4.5.0	
		FJSVsdxga	4.5.0	
8	CF Add-On (CAO)	FJSVclptl	1.3.0	CF add-on package
		FJSVclapm	4.5.0	
9	RMS Add-On (RAO)	FJSVclrms	4.5.0	RMS add-on package
		FJSVclswu	4.1.4	
		FJSVclrwz	4.5.0	
		FJSVclsfw	4.5.0	
10	GUIs	FJSVwvfrm	4.5.0	CRM view, GUI for defining RMS configuration
		FJSVwvucw	4.5.0	
		FJSVwvsfw	4.5.0	

1.3 Oracle Solaris 8 Containers(OSLC)

No.	Component	Package	Version	Function
1	Web-Based Admin View	FJSVwvcnf	4.1.1	GUI common framework, cluster management GUI
		FJSVwvbs	4.1.2	
		FJSVwvmpc	4.1.3	
		SMAWrcadm	4.1A30	
		SMAWrcaja	4.1.3	
		SMAWcj2re	1.4.2_03	
2	Cluster Foundation (CF)	SMAWskel	2.0A00	Basic cluster services
		SMAWcf	4.2A01	

No.	Component	Package	Version	Function
		FJSVclapi	4.1.3	
		FJSVcldbm	4.1.3	
3	Reliant Monitor Services (RMS)	SMAWRrms	4.1A30	Application takeover for operational continuity
		SMAWRdfw	4.1A30	
4	Wizard Tools	SMAWRhvto	4.1A30	Tool for defining RMS configuration
		SMAWRhvba	4.1A30	
		SMAWRhvdo	4.1A30	
		SMAWRhvde	4.1A30	
		FJSVhvgl	4.1.2	
		FJSVhvgd	4.1.3	
5	Global Link Services	FJSVhanet	2.6	Providing highly reliable transmission routes using a redundant network
6	CF Add-On (CAO)	FJSVclapm	4.1.1	CF add-on package
7	RMS Add-On (RAO)	FJSVclrms	4.1.3	RMS add-on package
		FJSVclrwz	4.1.3	
		FJSVclsfw	4.1.2	
8	GUIs	FJSVwvfrm	4.1.2	CRM view, GUI for defining RMS configuration
		FJSVwvucw	4.1.3	
		FJSVwvsfw	4.1.2	

1.4 Oracle Solaris 9 Containers(OSLC)

No.	Component	Package	Version	Function
1	Web-Based Admin View	FJSVwvcnf	4.1.1	GUI common framework, cluster management GUI
		FJSVwvbs	4.1.2	
		FJSVwvmpc	4.2.0	
		SMAWrcadm	4.2A00	
		SMAWrcaja	4.2.0	
		SMAWcj2re	1.4.2_10	
2	Cluster Foundation (CF)	SMAWskel	2.0A03	Basic cluster services
		SMAWcf	4.2A01	
		FJSVclapi	4.1.3	
		FJSVcldbm	4.1.3	
3	Reliant Monitor Services (RMS)	SMAWRrms	4.2A00	Application takeover for operational continuity
		SMAWRdfw	4.2A00	
4	Wizard Tools	SMAWRhvto	4.2A00	Tool for defining RMS configuration
		SMAWRhvba	4.2A00	
		SMAWRhvdo	4.2A00	
		SMAWRhvde	4.2A00	

No.	Component	Package	Version	Function
		FJSVhvgl	4.1.2	
		FJSVhvgd	4.1.3	
5	Global Link Services	FJSVhanet	2.6	Providing highly reliable transmission routes using a redundant network
6	CF Add-On (CAO)	FJSVclapm	4.1.1	CF add-on package
7	RMS Add-On (RAO)	FJSVclrms	4.1.3	RMS add-on package
		FJSVclrwz	4.1.3	
		FJSVclsfw	4.1.2	
8	GUIs	FJSVwvfrm	4.1.2	CRM view, GUI for defining RMS configuration
		FJSVwvucw	4.1.3	
		FJSVwvsfw	4.1.2	

1.5 Tool

No.	Component	Package	Version	Function
1	System Information Output Tool	FJSVsnap	2.8(*1)	Tool for collecting troubleshooting information
			2.5(*2)	

(*1) Solaris 10 or later
(*2) Solaris 8 Containers(OSLC) / Solaris 9 Containers(OSLC)

No.	Tool name	Version	Function	Notes
1	PRIMECLUSTER environment check tool	V1.7.3	A utility for checking the integrity of PRIMECLUSTER configuration with the system configuration such as OS settings after setting up RIMECLUSTER.	This tool is collected under "<DVDROM_DIR>/ Tool/clchkcluster". <DVDROM_DIR> is the mount point of DVD.

For information on usage of PRIMECLUSTER environment checking tool, refer to the README under the collected directory.

Chapter 2 Operation environment

This chapter explains the operation environment of this software.
Before you install this software, your system must meet the following prerequisites.

1. Cluster node

   This software must be installed and a cluster system is configured on a cluster node.

2. Cluster management server

   A cluster management server manages cluster operation and features web server functions.
   A cluster management server is Web-Based Admin View server. Web-Based Admin View is a common base to utilize GUI (operation management view).
   This enables the administrator to operate all monitored nodes only by accessing to the management server.
   The management server is necessary to duplicate. The server can be as a cluster node.
   When Web-Based Admin View is configured in the three-tier model, a cluster management server is required.
   When Web-Based Admin View is configured in the two-tier model, a cluster node is used instead of a cluster management server.
   For information about the Web-Based Admin View operating models, see Section "Determining the Web-Based Admin View Operation Mode" of the "PRIMECLUSTER Installation and Administration Guide".

2.1 Cluster node operating environment

This section explains operating environment of cluster node.

2.1.1 Software environment

1. Required basic software

   To use this software, install either of the following basic softwares.

No.	Basic Software	Remark
1	Oracle Solaris 10 (8/11 or later)	When installing Oracle Solaris 10, select the software group that includes Developer System Support.
2	Oracle Solaris 11	Please confirm that the solaris-large-server package group is installed. FJSVrvnet requires Oracle Solaris 11.1 or later.

   Note

   If you use Global Disk Services (hereinafter GDS) for system disk mirroring in a ZFS boot environment, refer to "System Disk Mirroring in a ZFS Boot Environment" of "A.2 Important Points" in "PRIMECLUSTER Global Disk Services Configuration and Administration Guide" for notes on OS installation.

2. Required software

   To use this software, the following software products are required.

No.	Software	Package	Version and/or level	Remark
1	Windows(R) 7, Windows(R) 8.1, Windows(R) 10			To use as a client of Web-Based Admin View, one of them is required.

No.	Software	Package	Version and/or level	Remark
2	Java Runtime Environment		8 Update 101 or later	Required to use as a client of Web-Based Admin View. The use of the latest version is recommended.
3	Microsoft Internet Explorer		11	To start the Web-Based Admin View client from web browser, one of them is required.
	Microsoft Edge			
4	Oracle Solaris 8			Required to use Oracle Solaris 8 Containers (OSLC).
5	Oracle Solaris 9			Required to use Oracle Solaris 9 Containers (OSLC).

3. Exclusive software

None.

4. Required patches

To use this software, the following patch is required.

No.	Software	ID/PTF	Remark
1	Enhanced Support Facility	915163-01 or later	For Oracle Solaris10, the necessary patch for the FJSVsnap package.
2		T007654SP-04	For Oracle Solaris11.2, the necessary patch for the FJSVsnap package.
3	Oracle Solaris 11.2	SRU14111 or later	
4	Oracle Solaris 11.2 Oracle Solaris 11.3	SRU16091 or later	When GDS or the shared disk connection confirmation function is used in Oracle Solaris Kernel Zones built on a guest domain in Oracle VM Servers for SPARC environment, this SRU is required on the guest domain.

GDS: Global Disk Services

To use this software on the non-global zone of the OSLC environment, the following patches are required.

No.	Software	ID/PTF	Remark
1	PRIMECLUSTER(TM) HA Server	901167-07 or later	Required to use Oracle Solaris 8 Containers (OSLC). The patch "901167-07" is included in the "/Solaris8/patch" of the DVD media of this product.

No.	Software	ID/PTF	Remark
2	PRIMECLUSTER(TM) HA Server	901172-34 or later	Required to use Oracle Solaris 8 Containers (OSLC). The patch "901172-34" is included in the "/Solaris8/patch" of the DVD media of this product.
3	PRIMECLUSTER(TM) HA Server	901173-24 or later	Required to use Oracle Solaris 8 Containers (OSLC). The patch "901173-24" isincluded in the "/Solaris8/patch" of the DVD media of this product.
4	PRIMECLUSTER(TM) HA Server	913855-05 or later	Required to use Oracle Solaris 8 Containers (OSLC). The patch "913855-05" is included in the "/Solaris8/patch" of the DVD media of this product.
5	PRIMECLUSTER(TM) HA Server	914111-03 or later	Required to use Oracle Solaris 8 Containers (OSLC). The patch "914111-03" is included in the "/Solaris8/patch" of the DVD media of this product.
6	PRIMECLUSTER(TM) HA Server	914112-10 or later	Required to use Oracle Solaris 8 Containers (OSLC). The patch "914112-10" is included in the "/Solaris8/patch" of the DVD media of this product.
7	PRIMECLUSTER(TM) HA Server	914346-01 or later	Required to use Oracle Solaris 8 Containers (OSLC). The patch "914346-01" is included in the "/Solaris8/patch" of the DVD media of this product.
8	PRIMECLUSTER(TM) HA Server	914351-02 or later	Required to use Oracle Solaris 8 Containers (OSLC). The patch "914351-02" is included in the "/Solaris8/patch" of the DVD media of this product.
9	PRIMECLUSTER(TM) HA Server	914530-01	Required to use Oracle Solaris 8 Containers (OSLC). The patch "914530-01" is included in the "/Solaris8/patch" of the DVD media of this product.
10	PRIMECLUSTER(TM) HA Server	915102-01 or later	Required to use Oracle Solaris 8 Containers (OSLC). The patch "915102-01" is included in the "/Solaris8/patch" of the DVD media of this product.
11	PRIMECLUSTER(TM) HA Server	901196-35 or later	Required to use Oracle Solaris 9 Containers (OSLC). The patch "901196-35" is included in the "/Solaris9/patch" of the DVD media of this product.
12	PRIMECLUSTER(TM) HA Server	901215-04 or later	Required to use Oracle Solaris 9 Containers (OSLC).

No.	Software	ID/PTF	Remark
			The patch "901215-04" is included in the "/Solaris9/patch" of the DVD media of this product.
13	PRIMECLUSTER(TM) HA Server	901217-29 or later	Required to use Oracle Solaris 9 Containers (OSLC). The patch "901217-29" is included in the "/Solaris9/patch" of the DVD media of this product.
14	PRIMECLUSTER(TM) HA Server	901254-02 or later	Required to use Oracle Solaris 9 Containers (OSLC). The patch "901254-02" is included in the "/Solaris9/patch" of the DVD media of this product.
15	PRIMECLUSTER(TM) HA Server	913855-05 or later	Required to use Oracle Solaris 9 Containers (OSLC). The patch "913855-05" is included in the "/Solaris9/patch" of the DVD media of this product.
16	PRIMECLUSTER(TM) HA Server	914111-03 or later	Required to use Oracle Solaris 9 Containers (OSLC). The patch "914111-03" is included in the "/Solaris9/patch" of the DVD media of this product.
17	PRIMECLUSTER(TM) HA Server	914112-10 or later	Required to use Oracle Solaris 9 Containers (OSLC). The patch "914112-10" is included in the "/Solaris9/patch" of the DVD media of this product.
18	PRIMECLUSTER(TM) HA Server	914346-01 or later	Required to use Oracle Solaris 9 Containers (OSLC). The patch "914346-01" is included in the "/Solaris9/patch" of the DVD media of this product.
19	PRIMECLUSTER(TM) HA Server	914351-02 or later	Required to use Oracle Solaris 9 Containers (OSLC). The patch "914351-02" is included in the "/Solaris9/patch" of the DVD media of this product.
20	PRIMECLUSTER(TM) HA Server	901215-04 or later	Required to use Oracle Solaris 9 Containers (OSLC). The patch "901215-04" is included in the "/Solaris9/patch" of the DVD media of this product.
21	PRIMECLUSTER(TM) HA Server	914530-02 or later	Required to use Oracle Solaris 9 Containers (OSLC). The patch "914530-02" is included in the "/Solaris9/patch" of the DVD media of this product.
22	PRIMECLUSTER(TM) HA Server	915102-01 or later	Required to use Oracle Solaris 9 Containers (OSLC). The patch "915102-01" is included

No.	Software	ID/PTF	Remark
			in the "/Solaris9/patch" of the DVD media of this product.

 Note

Please check the support status from PRIMECLUSTER product information before applying the basic software patch(es).

2.1.2 Hardware environment

The following hardware requirements must be satisfied to operate this software.

1. Memory

   512MB or more of memory is required.

2. Related hardware

   It is hardware that relates to this software.

No.	Machine	Model	Remark
1	Personal Computer	FM-V, etc	

2.1.3 Static disk resources

The disk space requirements for this software are shown below.

2.1.3.1 Required disk space

The following table lists the disk space requirements for installing this software. If necessary, expand the size of the relevant file systems.

- Solaris 10

No.	Directory	Disk space (in MB)	Remark
1	/	8.0	
2	/etc	17.0	
3	/usr	25.0	
4	/var	9.0	
5	/home	0	
6	/opt	291.0	

- Solaris 11

No.	Directory	Disk space (in MB)	Remark
1	/	7.0	
2	/etc	17.0	
3	/usr	10.0	
4	/var	5.0	
5	/home	0	
6	/opt	265.0	

- Solaris 8 Containers(OSLC) / Solaris 9 Containers(OSLC)

No.	Directory	Disk space (in MB)	Remark
1	/	1.0	
2	/usr	1.0	
3	/var	15.0	
4	/home	0	
5	/opt	125.0	

2.1.3.2 Required work area

None.

2.1.4 Dynamic disk resources

The dynamic disk space requirements for this software are shown below.

2.1.4.1 Required disk space

When this software is operated in the following environment, the additional disk space shown below is required for each directory as well as the disk space required for installing this software as described in "2.1.3 Static disk resources". If free space is insufficient, expand the size of the relevant file system.

- Solaris 10 or later

No.	Directory	Disk space (in MB)	Operation
1	/var	29.0	When cluster initial settings are done.
	/opt	1.0	
2	/var	29.0	When RMS is operating.
	/opt	1.0	
3	/var	50.0	When a system disk is mirrored on GDS.
4	/	0.1	When GFS shared file systems are activated regardless of the number of GFS shared file systems.
	/var	10.0	
5	/var	24.5	When one GFS shared file system is activated. If multiple file systems are activated, 24.5 MB is required for each file system.

GDS: Global Disk Services
GFS: Global File Services

- Solaris 8 Containers(OSLC) / Solaris 9 Containers(OSLC)

No.	Directory	Disk space (in MB)	Operation
1	/var	14.0	When cluster initial settings are done.
	/opt	1.0	
2	/var	14.0	When RMS is operating.
	/opt	1.0	

2.1.5 Required memory

The following table shows the memory required when this software is operated in the following environment.

- Solaris 10 or later

No.	Memory (in MB)	Operation
1	300.0	When cluster initial settings are done.
2	100.0	When RMS is operating.
3	190.0	When a system disk is mirrored on GDS.
4	15.1	When GFS settings are done.
5	70.0	When one GFS shared file system is activated. If multiple file systems are activated, 70.0 MB is required for each file system.

GDS: Global Disk Services
GFS: Global File Services

- Solaris 8 Containers(OSLC) / Solaris 9 Containers(OSLC)

No.	Memory (in MB)	Operation
1	35.0	When cluster initial settings are done.
2	45.0	When RMS is operating.

2.2 Cluster management server operating environment

This section explains operating environment of cluster management server.

2.2.1 Software environment

1. Required basic software

    To use this software, install either of the following basic softwares.

No.	Basic Software	Remark
1	Oracle Solaris 10 (8/11 or later)	When installing Oracle Solaris 10, select the software group that includes Developer System Support.
2	Oracle Solaris 11	Please confirm that the solaris-large-server package group is installed.

2. Required software

    To use this software, the following software products are required.

No.	Software	Package	Version and/or level	Remark
1	Windows(R) 7, Windows(R) 8.1, Windows(R) 10			To use as a client of Web-Based Admin View, one of them is required.
2	Java Runtime Environment		8 Update 101 or later	Required to use as a client of Web-Based Admin View. The use of

No.	Software	Package	Version and/or level	Remark
				the latest version is recommended.
3	Microsoft Internet Explorer		11	To start the Web-Based Admin View client from web browser, one of them is required.
	Microsoft Edge			

3. Exclusive software

None.

4. Required patches

To use this software, the following patch is required.

No.	Software	ID/PTF	Remark
1	Enhanced Support Facility	915163-01 or later	For Oracle Solaris10, the necessary patch for the FJSVsnap package.
2		T007654SP-04	For Oracle Solaris11.2, the necessary patch for the FJSVsnap package.

Note

Please check the support status from PRIMECLUSTER product information before applying the basic software patch(es).

2.2.2 Hardware environment

The following hardware requirements must be satisfied to operate this software.

1. Memory

512MB or more of memory is required.

2. Related hardware

It is hardware that relates to this software.

No.	Machine	Model	Remark
1	Personal Computer	FM-V, etc	

2.2.3 Static disk resources

The disk space requirements for this software are shown below.

2.2.3.1 Required disk space

The following table lists the disk space requirements for installing this software. If necessary, expand the size of the relevant file systems.

- Solaris 10

No.	Directory	Disk space (in MB)	Remark
1	/	1.0	

No.	Directory	Disk space (in MB)	Remark
2	/usr	0.2	
3	/var	5.0	
4	/home	0	
5	/opt	222.0	

- Solaris 11

No.	Directory	Disk space (in MB)	Remark
1	/	0.3	
2	/usr	0.2	
3	/var	3.0	
4	/home	0	
5	/opt	209.0	

2.2.3.2 Required work area

None.

2.2.4 Dynamic disk resources

The dynamic disk space requirements for this software are shown below.

2.2.4.1 Required disk space

When this software is operated in the following environment, the additional disk space shown below is required for each directory as well as the disk space required for installing this software as described in "2.2.3 Static disk resources". If free space is insufficient, expand the size of the relevant file system.

No.	Directory	Disk space (in MB)	Operation
1	/var	50.0	Required for operating Web-Based Admin View(Cluster operation management view, GDS operation management view and GFS operation management view).

GDS: Global Disk Services
GFS: Global File Services

2.2.5 Required memory

The following table shows the memory required when this software is operated in the following environment.

No.	Memory (in MB)	Operation
1	300.0	When operating the management server in the three-tier architecture.

Chapter 3 Installation

This chapter explains the installation of this software.

3.1 Installation on cluster nodes

This section explains installation on cluster nodes.

See
....

If you use Oracle Solaris Legacy Containers (OSLC), to install this software, see "Using PRIMECLUSTER in Oracle Solaris Zones Environments" in the "Installation and Administration Guide".
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3.1.1 Preparations

1. Time required

   It takes approximately 15 minutes to install this software.

2. Installation of Oracle Solaris 11 packages

   If you use Oracle Solaris 11, install the following packages from Oracle Solaris 11 Package Repository. For information about installing packages from Oracle Solaris 11 Package Repository, see OS manual.

   - group/system/solaris-large-server

   - shell/ksh88

   - text/locale

3. System environment check

   1. Check the available disk space for installing this software. For information on the disk space requirements, see "2.1.3 Static disk resources". If the disk space is not enough, reconfigure the disk partition.

   2. If you use Oracle Solaris 11 or later, to install this software, it is necessary to modify the IP address of the admin LAN for Web-Based Admin View and its corresponding host name, and the host name corresponding to "127.0.0.1","::1".

      1. Login to the system and become a root user.

      ```
      % su <Return>
      Password:password <Return>
      #
      ```

      2. Delete the host name allocated to "127.0.0.1" and "::1" using vi(1) and allocate it to the IP address of the admin LAN.

      Before change)

      ```
      #
      # Copyright 2009 Sun Microsystems, Inc.   All rights reserved.
      # Use is subject to license terms.
      #
      # Internet host table
      #
      ::1 host-name localhost
      127.0.0.1 host-name localhost loghost
      ```

      After change)

      ```
      #
      # Copyright 2009 Sun Microsystems, Inc.   All rights reserved.
      # Use is subject to license terms.
      #
      ```

```
# Internet host table
#
::1 localhost
127.0.0.1 localhost loghost
IP-Address host-name
```

Note

....

If you use Oracle Solaris 11, make sure that NWAM (Network Auto-Magic) is disabled.

When NWAM is enabled, PRIMECLUSTER cannot work normally.

For details of changing NWAM setting, see the Solaris documentation.

If you use Oracle Solaris 11 or later, the loopback address is assigned for host name of the host in the /etc/hosts file by default. In this case, PRIMECLUSTER cannot work properly. Before you install the PRIMECLUSTER, make sure to configure the /etc/hosts file described above.

....

3.1.2 Installation

3.1.2.1 Installation to physical environment / global zone / domain / kernel zone

Note

....

The PRIMECLUSTER version should be 4.3A40 or later for the global zone, the guest domain or the control domain on which the Kernel Zone works.

If it is older than 4.3A40, refer to "Appendix B Upgrading from old versions" to upgrade the PRIMECLUSTER version.

....

1. Insert DVD of this software into the DVD drive.

2. Login to the system and become a root user.

```
% su <Return>
Password:password <Return>
#
```

3. The system is changed to the OpenBoot environment.

```
# /usr/sbin/shutdown -y -g0 -i0 <Return>
```

4. Start the system in single user mode.

```
{0} ok boot -s <Return>
```

5. Mount necessary file systems.

```
# /usr/sbin/zfs mount -a <Return>
```

When installing in the UFS file system directory, please execute the following command.

```
# /usr/sbin/mountall -l <Return>
```

6. Mount the DVD.

```
# mkdir -p /cdrom/cdrom0 <Return> (*1)
# /usr/sbin/mount -F hsfs -o ro /dev/dsk/c0t4d0s2 /cdrom/cdrom0 <Return> (*2)
```

(*1) Checks if "/cdrom/cdrom0" exists and creates accordingly.

(*2) Since the underlined device name is different according to the machine environment, please confirm it.

7. Check if the FJSVsnap 2.8 version or later is installed.

```
# pkginfo -l FJSVsnap.\* <Return>
```

If the command indicates that the FJSVsnap version is old, uninstall all the FJSVsnap packages from the system.

```
# pkgrm FJSVsnap <Return>
```

If the older FJSVsnap versions are removed, or no FJSVsnap versions are installed, install the FJSVsnap packages by executing the pkgadd(1M) command.

```
# pkgadd -d /cdrom/cdrom0/Tool/Pkgs FJSVsnap <Return>
```

8. Check if the FJSViomp 2.3 version or later is installed.

```
# pkginfo -l FJSViomp.\* <Return>
```

If the command indicates the FJSViomp version 2.2 or earlier, uninstall all the FJSViomp packages from the system.

```
# pkgrm FJSViomp <Return>
```

If the older FJSViomp versions are removed, or no FJSViomp versions are installed, install the FJSViomp package by executing the pkgadd(1M) command.

```
# pkgadd -d /cdrom/cdrom0/Tool/Pkgs FJSViomp <Return>
```

9. Execute the installation script.

```
# cd /cdrom/cdrom0/Tool <Return>
# ./cluster_install -e HA <Return>

Installing package <SMAWcj2re> ...finished.
Installing package <FJSVwvcnf> ...finished.
         :
         :

The installation was finished successfully.
#
```

Check if "The installation was finished successfully" is displayed.

Note

The following messages may be output to the console or the log file of syslogd during installation.
(1) SDX:sdxservd: HALT: cannot open driver administrative file, errno=2
(2) SDX:sdxservd: HALT: main: internal error, child process terminated. exit code=0x200

If only the message (1) is output, or the message (2) is output after the message (1) has been output, the system is not affected by these error messages. No workarounds are necessary. In other cases, contact field engineers.

10. Unmount the DVD, and eject DVD.

```
# cd / <Return>
# /usr/sbin/umount /cdrom/cdrom0 <Return>
```

11. Execute the shutdown(1M) command to reboot the system.

```
# /usr/sbin/shutdown -y -g0 -i6 <Return>
```

3.1.2.2 Installation to non-global zone

1. Insert DVD of this software into the DVD drive.

2. Login to the global zone and become a root user.

```
% su <Return>
Password:password <Return>
#
```

3. Boot the non-global zone in single user mode from the global zone.

```
# zoneadm -z zone-a boot -s <Return>
```

"*zone-a*" is the name of the non-global zone into which this software is going to be installed. This name will change depending on the system configuration. In the following examples, the name of the non-global zone will be "*zone-a*".

4. Login to the non-global zone.

```
# zlogin zone-a <RETURN>
```

5. Check if the FJSVsnap 2.8 version or later is installed.

```
# pkginfo -l FJSVsnap.\* <Return>
```

If the command indicates that the FJSVsnap version is old, uninstall all the FJSVsnap packages from the system.

```
# pkgrm FJSVsnap <Return>
```

If the older FJSVsnap versions are removed, or no FJSVsnap versions are installed, install the FJSVsnap packages by executing the pkgadd(1M) command.
To access the media of this software from a non-global zone, mount the media on a non-global zone or copy the DVD data to the non-global zone. In the following example, the directory of the DVD in the non-global zone is /cdrom/cdrom0.

```
# pkgadd -d /cdrom/cdrom0/Tool/Pkgs FJSVsnap <Return>
```

6. Exit the non-global zone.

```
# exit <Return>
```

7. Mount the DVD on the global zone.

```
# mkdir -p /cdrom/cdrom0 <Return> (*1)
# /usr/sbin/mount -F hsfs -o ro /dev/dsk/c0t4d0s2 /cdrom/cdrom0 <Return> (*2)
```

(*1) Checks if "/cdrom/cdrom0" exists and creates accordingly.
(*2) Since the underlined device name is different according to the machine environment, please confirm it.

8. Execute the installation script from the global zone.

```
# cd /cdrom/cdrom0/Tool <Return>
# ./cluster_install -e HA -z zone-a <Return>

Checking <zone-a> for installing PRIMECLUSTER ...finished.
Preparing for installing PRIMECLUSTER into <zone-a> ...finished.
Installing PRIMECLUSTER into <zone-a>  ...
Installing package <SMAWcj2re> ...finished.
        :
        :
The installation was finished successfully.
Executing post-install process on <zone-a> ...finished.
------Installation result------
zone-a:succeeded

Please restart zone-a.
The installation was finished successfully.
#
```

Check if "*zonename*:succeeded" is displayed in the "Installation result" field.

9. Reboot the non-global zone from the global zone.

```
# zlogin zone-a /usr/sbin/shutdown -y -g0 -i6 <Return>
```

3.1.3 Environment configurations

1. Adjust the kernel parameters

   Before working on the environment configuration, it is necessary to adjust the kernel parameters according to the PRIMECLUSTER system configuration. Estimate the required parameter values and enable them in the "/etc/system file" on all the nodes, referring to Section "Checking and Setting the Kernel Parameters" of the "PRIMECLUSTER Installation and Administration Guide".
   The other kernel parameters needs the default values.

2. Setting the I/O fencing function of GDS

   When using the I/O fencing function in Oracle VM Server for SPARC environment, set up the I/O fencing function of GDS. Add the following line into the /etc/opt/FJSVsdx/sdx.cf file of the guest domains in which PRIMECLUSTER was installed.

```
SDX_VM_IO_FENCE=on
```

🔲 Note

When not using the I/O fencing function, do not set this parameter.

3. Reboot the system

   Reboot the system to enable the settings for part 1 and 2.

4. Change the Global Link Services (hereinafter GLS) configuration file

   Check SMF service of GLS has been started using the following steps.

```
# svcs -a | grep fjsvhanet  <Return>
disabled HH:MM:SS svc:/network/fjsvhanet:default
disabled HH:MM:SS svc:/network/fjsvhanet-poll:default
```

   1. If SMF service of GLS is "disbale", start SMF service using the following steps.

```
# svcadm enable /network/fjsvhanet  <Return>
# svcadm enable /network/fjsvhanet-poll  <Return>
```

   2. If start an SMF service in the above, Check SMF service of GLS is "online".

```
# svcs -a | grep fjsvhanet  <Return>
online HH:MM:SS svc:/network/fjsvhanet:default
online HH:MM:SS svc:/network/fjsvhanet-poll:default
```

5. Editing .profile

   In Oracle Solaris 11, add the following line in /root/.profile (.profile file for the root user). Please perform this procedure on all of the Oracle Solaris 11 environment (include the global zone, non-global zone, the control domain, the guest domain, the I/O root domain, and the I/O domain) in which this software was installed.

```
PATH=${PATH}:/opt/SMAW/bin:/opt/SMAW/sbin ; export PATH
```

For the subsequent environment settings, refer to the following sections in the "PRIMECLUSTER Installation and Administration Guide".

- "Preparations for Starting the Web-Based Admin View Screen"
- "Building a Cluster"
- "Building Cluster Applications"

3.2 Installation on cluster management server

This section explains installation on cluster management server.

If you want to operate Web-Based Admin View in the three tier model, install a cluster management server.

For information about the Web-Based Admin View operating mode, refer to Section "Determining the Web-Based Admin View Operation Mode", in the "PRIMECLUSTER Installation and Administration Guide".

3.2.1 Preparations

1. Time required

    It takes approximately 15 minutes to install this software.

2. Installation of Oracle Solaris 11 packages

    If you use Oracle Solaris 11, to install the following packages from Oracle Solaris 11 Package Repository. For information about installing packages from Oracle Solaris 11 Package Repository, see OS manual.

    - group/system/solaris-large-server

    - text/locale

3. System environment check

    1. Check the available disk space for installing this software. For information on the disk space requirements, see "2.2.3 Static disk resources". If the disk space is not enough, reconfigure the disk partition.

    2. If you use Oracle Solaris 11 or later, to install this software, it is necessary to modify the IP address of the admin LAN for Web-Based Admin View and its corresponding host name, and the host name corresponding to "127.0.0.1","::1".

        1. Login to the system and become a root user.

```
% su <Return>
Password:password <Return>
#
```

        2. Delete the host name allocated to "127.0.0.1" and "::1" using vi(1) and allocate it to the IP address of the admin LAN.

Before change)

```
#
# Copyright 2009 Sun Microsystems, Inc.  All rights reserved.
# Use is subject to license terms.
#
# Internet host table
#
::1 host-name localhost
127.0.0.1 host-name localhost loghost
```

After change)

```
#
# Copyright 2009 Sun Microsystems, Inc.  All rights reserved.
# Use is subject to license terms.
#
# Internet host table
#
::1 localhost
127.0.0.1 localhost loghost
IP-Address host-name
```

📕 **Note**

・・・

If you use Oracle Solaris 11 or later, the loopback address is assigned for host name of the host in the /etc/hosts file by default. In this case, PRIMECLUSTER cannot work properly. Before you install the PRIMECLUSTER, make sure to configure the /etc/hosts file described above.

・・・

3.2.2 Installation

1. Insert DVD of this software into the DVD drive.

2. Login to the system and become a root user.

```
% su <Return>
Password:password <Return>
#
```

3. The system is changed to the OpenBoot environment.

```
# /usr/sbin/shutdown -y -g0 -i0 <Return>
```

4. Start the system in single user mode.

```
{0} ok boot -s <Return>
```

5. Mount necessary file systems.

```
# /usr/sbin/zfs mount -a <Return>
```

When installing in the UFS file system directory, please execute the following command.

```
# /usr/sbin/mountall -l <Return>
```

6. Mount the DVD.

```
# mkdir -p /cdrom/cdrom0 <Return> (*1)
# /usr/sbin/mount -F hsfs -o ro /dev/dsk/c0t4d0s2 /cdrom/cdrom0 <Return> (*2)
```

(*1) Checks if "/cdrom/cdrom0" exists and creates accordingly.
(*2) Since the underlined device name is different according to the machine environment, please confirm it.

7. Check if the FJSVsnap 2.8 version or later is installed.

```
# pkginfo -l FJSVsnap.\* <Return>
```

If the command indicates that the FJSVsnap version is old, uninstall all the FJSVsnap packages from the system.

```
# pkgrm FJSVsnap <Return>
```

If the older FJSVsnap versions are removed, or no FJSVsnap versions are installed, install the FJSVsnap packages by executing the pkgadd(1M) command.

```
# pkgadd -d /cdrom/cdrom0/Tool/Pkgs FJSVsnap <Return>
```

8. Execute the installation script.

```
# cd /cdrom/cdrom0/Tool <Return>
# ./cluster_install -e HA-M <Return>

Installing package <SMAWcj2re> ...finished.
Installing package <FJSVwvcnf> ...finished.
        :
        :
```

```
The installation was finished successfully.
#
```

Check if "The installation was finished successfully" is displayed.

9. Unmount the DVD, and eject DVD.

```
# cd / <Return>
# /usr/sbin/umount /cdrom/cdrom0 <Return>
```

10. Execute the shutdown(1M) command to reboot the system.

```
# /usr/sbin/shutdown -y -g0 -i6 <Return>
```

3.2.3 Environment configurations

For the Web-Based Admin View settings, refer to Section "Preparations for Starting the Web-Based Admin View Screen", in the "PRIMECLUSTER Installation and Administration Guide".

Chapter 4 Uninstallation

This chapter explains the uninstallation of this software.

4.1 Uninstallation on cluster nodes

This section explains uninstallation on cluster nodes.

Uninstall this software from non-global zones prior to uninstallation on the global zone if this software is installed on non-global zones.

📑 See
....
If you use Oracle Solaris Legacy Containers (OSLC), to uninstall this software, see "Using PRIMECLUSTER in Oracle Solaris Zones Environments" in the "Installation and Administration Guide".
....

4.1.1 Preparations

Before uninstalling, if you are applying patch for PRIMECLUSTER by UpdateSite format, remove them by UpdateAdvisor (middleware). For details, see help information on UpdateAdvisor(middleware) and the update information file of the patch.

4.1.2 Uninstallation from non-global zone

1. Insert DVD of this software into the DVD drive.

2. Login to the global zone and become a root user.

```
% su <Return>
Password:password <Return>
#
```

3. Boot the non-global zone in single user mode from the global zone.

```
# zoneadm -z zone-a boot -s <Return>
```

"*zone-a*" is the name of the non-global zone which this software is going to be uninstalled. This name will change depending on the system configuration. In the following examples, the name of the non-global zone will be "*zone-a*".

4. Mount the DVD on the global zone.

```
# mkdir -p /cdrom/cdrom0 <Return> (*1)
# /usr/sbin/mount -F hsfs -o ro /dev/dsk/c0t4d0s2 /cdrom/cdrom0 <Return> (*2)
```

(*1) Checks if "/cdrom/cdrom0" exists and creates accordingly.
(*2) Since the underlined device name is different according to the machine environment, please confirm it.

5. Execute the uninstallation script cluster_uninstall.

```
# cd /cdrom/cdrom0/Tool <Return>
# ./cluster_uninstall -z zone-a <Return>
Are you sure to remove PRIMECLUSTER software packages from <zone-a>?(y,n) y <Return>

        :
        :


Uninstallation was successful.
Executing post-uninstall process on <zone-a> ...finished.

------Uninstallation result------
zone-a:succeeded
#
```

Check if "*zonename*:succeeded" is displayed in "Uninstallation result" field.

📔 **Note**

- Uninstallation script may fail in Oracle Solaris 10 due to a bug of iSCSI patch.
  The bug is included in the following patches.

  (1) 141878-09 to 141878-12, and

  (2) 143645-11 to 143645-14

  To solve the problem, please apply an iSCSI patch 143645-15 or later or enable the SMF service of iSCSI initiator.

  Example: Enabling the SMF service of iSCSI initiator

```
# svcadm enable -r svc:/network/iscsi/initiator:default
```

6. In GLS Redundant Line Control Function, when using the user command execution function and script files remains, the directory under /etc/opt/FJSVhanet is not deleted. Delete this directory after saving or deleting script files.

```
# zlogin zone-a <Return>
# /usr/bin/rm -r /etc/opt/FJSVhanet <Return>
```

7. Uninstall FJSVsnap package. This package is also shared with the other product. If the following product is installed, you cannot uninstall this package.

   - Enhanced Support Facility (ESF)

   Login to non-global zone and the Execute the pkgrm(1M) command to remove it.

```
# zlogin zone-a <Return>
# pkgrm FJSVsnap <Return>
```

📔 **Note**

If both a global zone and non-global zone are on the Oracle Solaris 10 environment, you cannot uninstall FJSVsnap package from the non-global zone with pkgrm(1M) command. FJSVsnap package on the non-global zone will automatically be uninstalled when you execute the pkgrm(1M) command on the global zone.

8. Unmount the DVD, and eject DVD.

```
# cd / <Return>
# /usr/sbin/umount /cdrom/cdrom0 <Return>
```

4.1.3 Uninstallation from physical environment / global zone / domain / kernel zone

If GDS is used, it is necessary to delete the GDS configuration settings and then delete this software. For more information, refer to the "PRIMECLUSTER Global Disk Services Configuration and Administration Guide".

If the virtual NIC mode of GLS is used, it is necessary to delete the GLS configuration settings and then delete this software. For more information, refer to the "Deleting a virtual NIC" on "PRIMECLUSTER Global Link Services Configuration and Administration Guide Redundant Line Control Function for Virtual NIC Mode".

1. Insert DVD of this software into the DVD drive.

2. Login to the system and become a root user.

```
% su <Return>
Password:password <Return>
#
```

3. The system is changed to the OpenBoot environment.

```
# /usr/sbin/shutdown -y -g0 -i0 <Return>
```

4. Start the system in single user mode.

```
{0} ok boot -s <Return>
```

5. Mount necessary file systems.

```
# /usr/sbin/zfs mount -a <Return>
```

When uninstalling in the UFS file system directory, please execute the following command.

```
# /usr/sbin/mountall -l <Return>
```

6. Mount the DVD.

```
# mkdir -p /cdrom/cdrom0 <Return> (*1)
# /usr/sbin/mount -F hsfs -o ro /dev/dsk/c0t4d0s2 /cdrom/cdrom0 <Return> (*2)
```

(*1) Checks if "/cdrom/cdrom0" exists and creates accordingly.
(*2) Since the underlined device name is different according to the machine environment, please confirm it.

7. Execute the uninstallation script.

```
# cd /cdrom/cdrom0/Tool <Return>
# ./cluster_uninstall <Return>
Are you sure to remove PRIMECLUSTER software packages from the global zone?(y,n) y <Return>


        :
        :


Uninstallation was successful.
#
```

Check if "Uninstallation was successful" is displayed.

8. Execute the uninstallation script.

```
# cd /cdrom/cdrom0/Tool <Return>
# ./clesf_uninstall <Return>
Are you sure to remove PRIMECLUSTER software packages from the global zone?(y,n) y <Return>


        :
        :


Uninstallation was successful.
#
```

Check if "Uninstallation was successful" is displayed.

📒 Note
....

- The uninstallation script deletes FSUNnet and FJSViomp all together. Note that these packages are used for the other products. If the following products are installed, you must not use this script.

    - Netcompo series software products

    - ETURNUS multi path driver (MPD)

- Uninstallation script may fail in Oracle Solaris 10 due to a bug of iSCSI patch.
  The bug is included in the following patches.

  (1) 141878-09 to 141878-12, and

  (2) 143645-11 to 143645-14

  To solve the problem, please apply an iSCSI patch 143645-15 or later or enable the SMF service of iSCSI initiator.

  Example: Enabling the SMF service of iSCSI initiator

```
# svcadm enable -r svc:/network/iscsi/initiator:default
```

9. In GLS Redundant Line Control Function, when using the user command execution function and script files remains, the directory under /etc/opt/FJSVhanet is not deleted. Delete this directory after saving or deleting script files.

```
# /usr/bin/rm -r /etc/opt/FJSVhanet <Return>
```

10. Uninstall FJSVsnap package. This package is also shared with the other product. If the following product is installed, you cannot uninstall this package.

   - Enhanced Support Facility (ESF)

   Execute the pkgrm(1M) command to remove it.

```
# pkgrm FJSVsnap <Return>
```

11. Unmount the DVD, and eject DVD.

```
# cd / <Return>
# /usr/sbin/umount /cdrom/cdrom0 <Return>
```

12. Execute the shutdown(1M) command to reboot the system.

```
# /usr/sbin/shutdown -y -g0 -i6 <Return>
```

4.2 Uninstallation on cluster management server

This section explains uninstallation on cluster management server.

4.2.1 Preparations

Before uninstalling, if you are applying patch for PRIMECLUSTER by UpdateSite format, remove them by UpdateAdvisor (middleware). For details, see help information on UpdateAdvisor(middleware) and the update information file of the patch.

4.2.2 Uninstallation

1. Insert DVD of this software into the DVD drive.

2. Login to the system and become a root user.

```
% su <Return>
Password:password <Return>
#
```

3. The system is changed to the OpenBoot environment.

```
# /usr/sbin/shutdown -y -g0 -i0 <Return>
```

4. Start the system in single user mode.

```
{0} ok boot -s <Return>
```

5. Mount necessary file systems.

```
# /usr/sbin/zfs mount -a <Return>
```

When uninstalling in the UFS file system directory, please execute the following command.

```
# /usr/sbin/mountall -l <Return>
```

6. Mount the DVD.

```
# mkdir -p /cdrom/cdrom0 <Return> (*1)
# /usr/sbin/mount -F hsfs -o ro /dev/dsk/c0t4d0s2 /cdrom/cdrom0 <Return> (*2)
```

(*1) Checks if "/cdrom/cdrom0" exists and creates accordingly.
(*2) Since the underlined device name is different according to the machine environment, please confirm it.

7. Execute the uninstallation script.

```
# cd /cdrom/cdrom0/Tool <Return>
# ./cluster_uninstall <Return>
Are you sure to remove PRIMECLUSTER software packages from the global zone?(y,n) y <Return>


        :
        :

Uninstallation was successful.
#
```

Check if "Uninstallation was successful" is displayed.

8. Uninstall FJSVsnap package. This package is also shared with the other product. If the following product is installed, you cannot uninstall this package.

   - Enhanced Support Facility (ESF)

Execute the pkgrm(1M) command to remove it.

```
# pkgrm FJSVsnap <Return>
```

9. Unmount the DVD, and eject DVD.

```
# cd / <Return>
# /usr/sbin/umount /cdrom/cdrom0 <Return>
```

10. Execute the shutdown(1M) command to reboot the system.

```
# /usr/sbin/shutdown -y -g0 -i6 <Return>
```

Appendix A Messages

This chapter explains the messages displayed by installer.

A.1 Error Messages

ERROR: \<pathname\>: no such file

Description

The file \<pathname\> doesn't exist in the current working directory.

Workaround

Set the correct working directory then execute cluster_install again.

ERROR: cluster_install can only be run from global zone.

Description

cluster_install can only be run from global zone.

Workaround

Execute cluster_install on global zone.

ERROR: Entry of *sysnode* already exists in /etc/hostname.*XX*.

Description

Entry of *sysnode* already exists in /etc/hostname.*XX*. *XX* shows interface name.

Workaround

Remove the file /etc/hostname.*XX* then execute cluster_install again.

ERROR: Failed to add device *device* to \<zonename\>.

Description

The addition of the *device* to *zonename* failed.

Workaround

Remove the cause of the failure of the addition of the *device* to *zonename*, then execute cluster_install again

ERROR: Failed to confirm the return value of cluster_install on \<zonename\>.

Description

Failed to confirm the return value of cluster_install on \<*zonename*\>.

Workaround

Put down the message then contact your field engineers.

ERROR: Failed to copy *XX* to *YY*.

Description

Failed to copy *XX* to *YY*.

Workaround

Remove the cause of the problem then execute cluster_install again.

ERROR: Failed to create file /etc/PCL-release/*XX*.

Description

Creation of a file in /etc/PCL-release/*XX* failed. *XX* shows the abbreviation of the product name.

Workaround

Remove the cause of the problem then execute cluster_install again.

ERROR: Failed to create *XX*.

Description

Creation of *XX* failed. *XX* shows file name or directory name.

Workaround

Remove the cause of the problem then execute cluster_install again.

ERROR: Failed to entry 127.0.0.*X* to /etc/inet/hosts on <*zonename*>.

Description

Failed to entry 127.0.0.X to /etc/inet/hosts on <*zonename*>.

Workaround

Put down the message then contact your field engineers.

ERROR: Failed to execute "*command*".

Description

Failed to execute "*command*".

Workaround

Remove the cause of the problem then execute cluster_install again.

ERROR: Failed to install FJQSS<Information Collection Tool>

Description

Installation of FJQSS failed.

Workaround

Collect the following information then contact your Fujitsu system engineers.
・/var/tmp/fjqssinstaller.log

ERROR: Failed to remove directory /etc/PCL-release

Description

Removal of a directory /etc/PCL-release failed.

Workaround

Remove the cause of the problem then execute cluster_uninstall again.

ERROR: Failed to remove file /etc/PCL-release/*XX*

Description

Removal of a file /etc/PCL-release/*XX* failed. *XX* shows the abbreviation of the product name.

Workaround

Remove the cause of the problem then execute cluster_uninstall again.

ERROR: Failed to remove *XX*.

Description

Removal of *XX* failed. *XX* shows file name or directory name.

Workaround

Remove the cause of the problem then execute cluster_install again.

ERROR: Failed to setup Cluster Foundation on *<zonename>*.

Description

Failed to setup Cluster Foundation on *<zonename>*.

Workaround

Put down the message then contact your field engineers.

ERROR: Installation was failed.

Description

The product installation failed.

Workaround

Refer to the following log files to investigate the cause of the installation failure:
/var/sadm/install/logs/cluster_install
After that, remove all the packages referring to "Chapter 4 Uninstallation", and execute the "cluster_install" command again.

ERROR: network service is disabled.

Description

Network service is disabled.
This message is output only in Oracle Solaris 11 or later operating environment.

Workaround

Enable network service then execute cluster_install again.

ERROR: NWAM(Network Auto-Magic) is enabled.

Description

NWAM is enabled.
This message is output only in Oracle Solaris 11 operating environment.

Workaround

Disable NWAM then execute cluster_install again.

ERROR: *option* is not supported on non-global zone.

Description

option is not supported on non-global zone.

Workaround

Correct the option then execute cluster_install again.

ERROR: Result of "/usr/bin/svcs -l svc:/network/physical:*XX*" does not include "enabled" field.

Description

Result of "/usr/bin/svcs -l svc:/network/physical:*XX*" does not include "enabled" field. *XX* shows "default" or "nwam".

Workaround

Put down the message then contact your field engineers.

ERROR: Run-level must be the single-user-state.

Description

Run-level is not the single-user-state.

Workaround

Change the run level to the single-user state then execute cluster_uninstall again.

ERROR: shell/ksh88 is not installed.

Description

shell/ksh88 is not installed.
This message is output only in Oracle Solaris 11 operating environment.

Workaround

Install shell/ksh88 then execute cluster_install again.
Refer to OS manual.

ERROR: *sysnode* already entried with following IP(s) to /etc/inet/hosts on *<zonename>*.

Description

sysnode already entried with following IP(s) to /etc/inet/hosts on *<zonename>*.

Workaround

Remove the entry of *sysnode* then execute cluster_install again.

ERROR: system/xopen/xcu4 is not installed.

Description

system/xopen/xcu4 is not installed.

This message is output only in Oracle Solaris 11 or later operating environment.

Workaround

Install system/xopen/xcu4 then execute cluster_install again.

Refer to OS manual.

ERROR: The PRIMECLUSTER software packages cannot be removed because GDS class(es) exist. Please remove the GDS class(es) and execute cluster_uninstall again.

Description

GDS class(es) exist.

Workaround

1. Check whether there are GDS classes using the sdxinfo command. If any, delete the classes. For the class deletion method, see the "PRIMECLUSTER Global Disk Services Configuration and Administration Guide".

2. Check the file in the /etc/opt/FJSVsdx/sysdb.d directory using the ls(1) command. If there are other files than class.db, delete the files by executing the rm(1) command.

3. Check the file in the /dev/sfdsk directory using the ls(1) command. If there are other files or directories than _adm, _diag, _sysadm, and _sysdiag, delete the files and the directories.

4. Execute cluster_uninstall again.

ERROR: This installation is running now.

Description

The "cluster_install" command is running for another process.

Workaround

Wait until the command is done, and execute it again.

ERROR: This software does not support the current Oracle Solaris OS version.

Description

The Oracle Solaris OS version of the machine isn't supported.

Workaround

The "cluster_install" command can only be used on machines with Oracle Solaris 10 or later.

ERROR: This software needs *<sparc>* architecture.

Description

The CPU type of the machine is not sparc.

Workaround

The "cluster_install" command can only be used on sparc machines.

ERROR: This software needs Oracle Solaris 10 or later.

Description

The OS version of the machine is earlier than Oracle Solaris 10.

Workaround

The "cluster_install" command can only be used on machines with Oracle Solaris 10 or higher.

ERROR: To use this installer you must be the root user.

Description

The user authority is not root.

Workaround

Execute the "cluster_install" command using a root user access privilege.

ERROR: *zonename* is not running.

Description

zonename is not running.

Workaround

Start *zonename* then execute cluster_install again.

ERROR: Zonepath *zonepath* is not available.

Description

Zonepath *zonepath* is not available.

Workaround

Setup the zonepath correctly then execute cluster_install again.

Please see the following log file.
/var/sadm/install/logs/cluster_install

Description

See the /var/sadm/install/logs/cluster_install log file.

Workaround

Remove the cause of the error referring to the log file then execute the command again.

Please see the following log file.
/var/sadm/install/logs/cluster_uninstall

Description

See the /var/sadm/install/logs/cluster_uninstall log file.

Workaround

Remove the cause of the error referring to the log file then execute cluster_uninstall again.

PRIMECLUSTER software packages were not installed in this system.

Description

PRIMECLUSTER software packages were not installed in this system.

Workaround

None.

Uninstallation was failed.

Description

Uninstallation was failed.

Workaround

Remove the cause of the error referring to the log file or error message then execute cluster_uninstall again.

WARNING: Failed to remove device *device name* from *<zonename>*. It should be removed later.

Description

Failed to remove *device name* from *<zonename>*.

Workaround

By using zonecfg(1M) command remove *device name* from *<zonename>* after uninstallation process.

Warning: The package <FJSViomp> has not been installed.

Description

The FJSViomp package has not been installed.

Workaround

After the installation with the "cluster_install" command is complete, install the FJSViomp package using the pkgadd(1M) command.

Warning: The package <FJSVsnap> has not been installed.

Description

The FJSVsnap package has not been installed.

Workaround

After the installation with the "cluster_install" command is complete, install the FJSVsnap package using the pkgadd(1M) command.

Appendix B Upgrading from old versions

This chapter explains how to upgrade from old versions.
Back up the entire system on all the nodes that require upgrading.

B.1 Upgrading cluster nodes

This section explains upgrading cluster nodes.

When this software is installed in non-global zones, upgrade the non-global zones software first.

🗃 See
....
If you use Oracle Solaris Legacy Containers (OSLC), to upgrade cluster nodes, see "Using PRIMECLUSTER in Oracle Solaris Zones Environments" in the "PRIMECLUSTER Installation and Administration Guide".
....

B.1.1 Upgrading a non-global zone from PRIMECLUSTER HA Server 4.3A10 or later

After uninstalling the previous version of this software from the non-global zone, install the new version of the software.

After installation, it is necessary to construct the non-global zone cluster. As necessary, make a backup of the previous version and perform a restore after installing the new version. For details on backup or restoring, see "Backing Up and Restoring a PRIMECLUSTER System" in the "PRIMECLUSTER Installation and Administration Guide".

B.1.2 Upgrading a physical environment / global zone / domain from PRIMECLUSTER HA Server 4.2A00 or later

Explains Upgrading a physical environment from PRIMECLUSTER HA Server 4.2A00 and upgrading a physical environment / global zone / domain from PRIMECLUSTER HA Server 4.3A10 or later.

1. Check the RMS Configuration name.

    ```
    # hvdisp -a | grep Configuration <Return>
    Configuration: /opt/SMAW/SMAWRrms/build/<configname>.us
    ```

2. Stop RMS if you are using it.

    ```
    # hvshut -a <Return>
    ```

3. Depending on the configuration, delete the virtual switches.
    In the case of the following configuration, delete the virtual switches.

    -   In Oracle Solaris 11 or later, and

    -   Redundant Line Control Function for Virtual NIC Mode is used, and

    -   The virtual NICs is connected to the virtual switches in the control domains.

        Make sure to shut down all guest domains and unbind the resources before remove the virtual switches.

        Example: In the control domain do the following

        ```
        # ldm stop-domain ldom1 <Return>
        # ldm unbind-domain ldom1 <Return>
        # ldm remove-vsw primary-vsw0 <Return>
        ```

        For more information, refer to the "Oracle VM Server for SPARC Reference Manual".

4. Check to which type the target system corresponds.

   - Type A
     4.3A40 on SPARC M10.

   - Type B
     4.3A20 on SPARC M10, and corresponds to either the following.

       - Creating script file in /etc/rc2.d directory, which started snmptrapd daemon with special listening port.

       - Setting special listening port at /etc/net-snmp/snmp/snmptrapd.conf . (Solaris 11)

   - Type C
     4.3A20 on SPARC M10, but does not correspond to condition of Type B.

   - Type D
     excluding SPARC M10.

   a. If system is Type A, record the port number of "sftrap" in "/etc/inet/services".

   b. If system is Type B, record the listening port number by referring to the following files.

       - The script file in /etc/rc2.d directory, which started snmptrapd daemon with special listening port.

       - /etc/net-snmp/snmp/snmptrapd.conf (Solaris 11)

   c. If system is Type C, change setting of SNMP agent in XSCF.
      Execute the setsnmp command to set up traps.

```
XSCF> setsnmp remtraphost -t v2 -s FJSVcldev [IP address of the administrative LAN] <Return>
XSCF> setsnmp remtraphost -t v2 -s FJSVcldev [IP address of the asynchronous monitoring sub-
LAN] <Return>
XSCF> setsnmp addtraphost -t v2 -s FJSVcldev -p 9385 [IP address of the administrative LAN]
<Return>
XSCF> setsnmp addtraphost -t v2 -s FJSVcldev -p 9385 [IP address of the asynchronous
monitoring sub-LAN] <Return>
```

Example)

```
XSCF on node1
  XSCF> setsnmp remtraphost -t v2 -s FJSVcldev [IP address of the administrative LAN for
node1] <Return>
  XSCF> setsnmp remtraphost -t v2 -s FJSVcldev [IP address of the asynchronous monitoring
sub-LAN for node1] <Return>
  XSCF> setsnmp remtraphost -t v2 -s FJSVcldev [IP address of the administrative LAN for
node2] <Return>
  XSCF> setsnmp remtraphost -t v2 -s FJSVcldev [IP address of the asynchronous monitoring
sub-LAN for node2] <Return>
  XSCF> setsnmp addtraphost -t v2 -s FJSVcldev -p 9385 [IP address of the administrative LAN
for node1] <Return>
  XSCF> setsnmp addtraphost -t v2 -s FJSVcldev -p 9385 [IP address of the asynchronous
monitoring sub-LAN for node1] <Return>
  XSCF> setsnmp addtraphost -t v2 -s FJSVcldev -p 9385 [IP address of the administrative LAN
for node2] <Return>
  XSCF> setsnmp addtraphost -t v2 -s FJSVcldev -p 9385 [IP address of the asynchronous
monitoring sub-LAN for node2] <Return>

XSCF on node2
  XSCF> setsnmp remtraphost -t v2 -s FJSVcldev [IP address of the administrative LAN for
node1] <Return>
  XSCF> setsnmp remtraphost -t v2 -s FJSVcldev [IP address of the asynchronous monitoring
sub-LAN for node1] <Return>
  XSCF> setsnmp remtraphost -t v2 -s FJSVcldev [IP address of the administrative LAN for
node2] <Return>
  XSCF> setsnmp remtraphost -t v2 -s FJSVcldev [IP address of the asynchronous monitoring
sub-LAN for node2] <Return>
```

```
  XSCF> setsnmp addtraphost -t v2 -s FJSVcldev -p 9385 [IP address of the administrative LAN
for node1] <Return>
  XSCF> setsnmp addtraphost -t v2 -s FJSVcldev -p 9385 [IP address of the asynchronous
monitoring sub-LAN for node1] <Return>
  XSCF> setsnmp addtraphost -t v2 -s FJSVcldev -p 9385 [IP address of the administrative LAN
for node2] <Return>
  XSCF> setsnmp addtraphost -t v2 -s FJSVcldev -p 9385 [IP address of the asynchronous
monitoring sub-LAN for node2] <Return>
```

5. The system is changed to the OpenBoot environment.

```
# /usr/sbin/shutdown -y -g0 -i0 <Return>
```

6. Use the following steps on each node for upgrading.

   1. Insert DVD of this software into the DVD drive.

   2. Start the system in single user mode.

   ```
   {0} ok boot -s <Return>
   ```

   3. Mount necessary file systems.

   ```
   # /usr/sbin/zfs mount -a <Return>
   ```

   When installing in the UFS file system directory, please execute the following command.

   ```
   # /usr/sbin/mountall -l <Return>
   ```

   4. Mount the DVD.

   ```
   # mkdir -p /cdrom/cdrom0 <Return> (*1)
   # /usr/sbin/mount -F hsfs -o ro /dev/dsk/c0t4d0s2 /cdrom/cdrom0 <Return> (*2)
   ```

   (*1) Checks if "/cdrom/cdrom0" exists and creates accordingly.
   (*2) Since the underlined device name is different according to the machine environment, please confirm it.

   5. Create a directory to back up the configuration file using the following commands. In this example, the "/var/tmp/backup" directory is used.

   ```
   # cd /var/tmp <Return>
   # mkdir backup <Return>
   ```

   6. Back up the PRIMECLUSTER operating environment.

   ```
   # cp -p /usr/opt/reliant/etc/hvipalias /var/tmp/backup <Return>
   # cp -p /var/opt/FJSVclapm/etc/Tuning_Param /var/tmp/backup <Return>
   # cp -p /opt/FJSVcldbm/data/DB/ApiAdjustTbl.CLDB /var/tmp/backup <Return>
   # cp -p /etc/opt/FJSVcluster/etc/rmcip.conf /var/tmp/backup <Return>
   # /opt/FJSVwvbs/etc/bin/wvSetport fjwv_c > /var/tmp/backup/fjwv_c <Return>
   ```

   Check whether the backup file is created.

   ```
   # ls -l /var/tmp/backup <Return>
   ```

   7. Backup the GLS operating environment.

   If you are using GLS Redundant Line Control Function, back up the configuration file using the following command. The backup file name is "hanet*YYYYMMDD*.bk". *YYYYMMDD* indicates when the command is executed.

   ```
   # /opt/FJSVhanet/usr/sbin/hanetbackup -d /var/tmp/backup <Return>
   ```

   In Oracle Solaris 11, if you are using GLS Redundant Line Control Function for Virtual NIC Mode, back up the configuration file using the following command.

```
# cp -p /etc/opt/FJSVrvnet/config/fjsvrvnet.xml /var/tmp/backup/fjsvrvnet.xml <Return>
```

In Oracle Solaris 10, if you are using GLS Multipath Function, back up the configuration file using the following commands.

```
# cd /etc/opt/FJSVmpnet <Return>
# tar cvf - conf | compress > /var/tmp/backup/mpnetfile.tar.Z <Return>
```

Check whether the backup file is created.

```
# ls -l /var/tmp/backup <Return>
```

8. Remove the package by executing the following command.

```
# cd /cdrom/cdrom0/Tool <Return>
# ./upgrade_uninstall <Return>

Are you sure to remove PRIMECLUSTER software packages from the global zone?(y,n) y <Return>
     :
     :
Uninstallation was successful.
#
```

Check if "Uninstallation was successful" is displayed.

9. Delete the files by using the following steps when upgrading from PRIMECLUSTER HA Server 4.2A00.

```
# cd /etc/init.d <Return>
# rm fjsvgfs <Return>
# rm sfcfsrm <Return>
# rm sfcinit <Return>

# cd /etc/rc0.d <Return>
# rm K00FJSVwvbs <Return>
# rm K00FJSVwvcnf <Return>
# rm K41sfcfsrm <Return>
# rm K62clrmgr <Return>
# rm K63clctrl <Return>
# rm K68CL20dbm <Return>
# rm K68clprmd <Return>
# rm K71clapi <Return>
# rm K72clrms <Return>

# cd /etc/rc1.d <Return>
# rm K41sfcfsrm <Return>
# rm K62clrmgr <Return>
# rm K63clctrl <Return>
# rm K69CL20dbm <Return>
# rm K71clapi <Return>
# rm K72clrms <Return>

# cd /etc/rc2.d <Return>
# rm S07clapi <Return>
# rm S08clrms <Return>
# rm S65CL10dbm <Return>
# rm S66clrmgr <Return>
# rm S68clrwz <Return>
# rm S71clctrl <Return>
# rm S76clprmd <Return>
# rm S80FJSVwvbs <Return>
# rm S81sfcfsrm <Return>

# cd /etc/rc3.d <Return>
```

```
# rm S32clautoconfig <Return>
# rm S98clwaitprobe <Return>
# rm S99FJSVwvcnf <Return>
# rm S99FJSVgfs <Return>

# cd /etc/rcS.d <Return>
# rm K41sfcfsrm <Return>
# rm S76sfcinit <Return>

# cd /opt/SMAW/SMAWcf/dep/start.d <Return>
# rm S81sfcfs <Return>

# cd /opt/SMAW/SMAWcf/dep/stop.d <Return>
# rm K41sfcfs <Return>
```

10. Reboot the system.

```
# /usr/sbin/shutdown -y -g0 -i0 <Return>
```

Note:The following message appears during system shutdown. This will not disrupt the ongoing operation.

```
ld.so.1: sfclog: fatal: libcf.so: open failed: No such file or directory
ld.so.1: /etc/opt/FJSVcluster/FJSVcldbm/system/CCMstop: fatal:
libcf.so: open failed: No such file or directory
```

11. Start the system in single user mode.

```
{0} ok boot -s <Return>
```

12. Mount necessary file systems.

```
# /usr/sbin/zfs mount -a <Return>
```

When installing in the UFS file system directory, please execute the following command.

```
# /usr/sbin/mountall -l <Return>
```

13. Mount the DVD.

```
# mkdir -p /cdrom/cdrom0 <Return> (*1)
# /usr/sbin/mount -F hsfs -o ro /dev/dsk/c0t4d0s2 /cdrom/cdrom0 <Return> (*2)
```

(*1) Checks if "/cdrom/cdrom0" exists and creates accordingly.
(*2) Since the underlined device name is different according to the machine environment, please confirm it.

14. Check if the FJSVsnap 2.8 version or later is installed.

```
# pkginfo -l FJSVsnap. \* <Return>
```

If the command indicates that the FJSVsnap version is old, uninstall all the FJSVsnap packages from the system.

```
# pkgrm FJSVsnap <Return>
```

If the older FJSVsnap versions are removed, or no FJSVsnap versions are installed, install the FJSVsnap packages by executing the pkgadd(1M) command.

```
# pkgadd -d /cdrom/cdrom0/Tool/Pkgs FJSVsnap <Return>
```

15. Check if the FJSViomp 2.3 version or later is installed.

```
# pkginfo -l FJSViomp.\* <Return>
```

If the command indicates the FJSViomp version 2.2 or earlier, uninstall all the FJSViomp packages from the system.

```
# pkgrm FJSViomp <Return>
```

If the older FJSViomp versions are removed, or no FJSViomp versions are installed, install the FJSViomp package by executing the pkgadd(1M) command.

```
# pkgadd -d /cdrom/cdrom0/Tool/Pkgs FJSViomp <Return>
```

16. Execute the installation script.

```
# cd /cdrom/cdrom0/Tool <Return>
# ./cluster_install -e HA <Return>

        :
        :


The installation was finished successfully.
#
```

Check if "The installation was finished successfully" is displayed.

17. Unmount the DVD, and eject DVD.

```
# cd / <Return>
# /usr/sbin/umount /cdrom/cdrom0 <Return>
```

18. Restore the GLS operating environment.
    If you are using GLS Redundant Line Control Function, restore the file using the following command.

```
# /opt/FJSVhanet/usr/sbin/hanetrestore -f /var/tmp/backup/<backup_file_name> <Return>
```

The backup file name is "hanetYYYYMMDD.bk".

In Oracle Solaris 11, if you are using GLS Redundant Line Control Function for Virtual NIC Mode, restore the configuration file using the following command.

```
# cp -p /var/tmp/backup/fjsvrvnet.xml /etc/opt/FJSVrvnet/config/fjsvrvnet.xml <Return>
```

In Oracle Solaris 10, if you are using the GLS Multipath Function, restore the file using the following commands.

```
# cd /etc/opt/FJSVmpnet <Return>
# uncompress /var/tmp/backup/mpnetfile.tar.Z <Return>
# tar xvf /var/tmp/backup/mpnetfile.tar <Return>
```

19. Restore the PRIMECLUSTER operating environment.

```
# /opt/FJSVwvbs/etc/bin/wvSetport fjwv_c=`cat /var/tmp/backup/fjwv_c` <Return>
# cp -p /var/tmp/backup/Tuning_Param /var/opt/FJSVclapm/etc <Return>
# cp -p /var/tmp/backup/hvipalias /usr/opt/reliant/etc <Return>
# cp -p /var/tmp/backup/ApiAdjustTbl.CLDB /opt/FJSVcldbm/data/DB <Return>
# cp -p /var/tmp/backup/rmcip.conf /etc/opt/FJSVcluster/etc/rmcip.conf <Return>
```

20. Add the following setting in the "/opt/SMAW/SMAWRrms/bin/hvenv.local" file to make RMS auto-startup OFF.

```
export HV_RCSTART=0
```

21. If system is Type A, edit port number of "sftrap" to confirmed for step "4. Check to which type the target system corresponds." - "a" in "/etc/inet/services".

```
before:
    sftrap          9385/udp
after:
    sftrap          <CurrentSetting>/udp
```

22. If system is Type B, change the setting using the following steps.

    1. Edit port number of "sftrap" to confirmed for step "4. Check to which type the target system corresponds." - "b" in "/etc/inet/services".

```
before:
    sftrap          9385/udp
after:
    sftrap          <CurrentSetting>/udp
```

    2. In Solaris 10, remove script file which started snmptrapd daemon with special listening port. (ex. /etc/rc2.d/S99snmptrapd)

```
# rm /etc/rc2.d/S99snmptrapd
```

    3. In Solaris 11, remove "snmpTrapdAddr" line in /etc/net-snmp/snmp/snmptrapd.conf

7. If the upgrading process above is complete on all the nodes, reboot the system by executing the shutdown(1M) command. Check that the system has been started on each node.

```
# /usr/sbin/shutdown -y -g0 -i6 <Return>
```

8. Set the GLS configuration.

    1. Check SMF service of GLS if it was started by using the following steps after OS has been started on all the nodes.

    In Solaris 10, use the following step.

```
# svcs -a | grep fjsvhanet <Return>
online HH:MM:SS svc:/network/fjsvhanet:default
online HH:MM:SS svc:/network/fjsvhanet-poll:default
```

    In Solaris 11 or later, use the following step.

```
# svcs -a | grep fjsvhanet <Return>
online HH:MM:SS svc:/network/fjsvhanet:default
online HH:MM:SS svc:/network/fjsvhanet-poll:default
# svcs -a | grep fjsvrvnet <Return>
online HH:MM:SS svc:/network/fjsvrvnet:default
```

        1. If SMF service of GLS is "disbale", start SMF service by using the following steps.

        In Solaris 10, use the following step.

```
# svcadm enable /network/fjsvhanet  <Return>
# svcadm enable /network/fjsvhanet-poll  <Return>
```

        In Solaris 11 or later, use the following step.

```
# svcadm enable /network/fjsvhanet  <Return>
# svcadm enable /network/fjsvhanet-poll  <Return>
# svcadm enable /network/fjsvrvnet <Return>
```

        2. If start an SMF service in the above, Check SMF service of GLS is "online".

        In Solaris 10, use the following step.

```
# svcs -a | grep fjsvhanet <Return>
online HH:MM:SS svc:/network/fjsvhanet:default
online HH:MM:SS svc:/network/fjsvhanet-poll:default
```

        In Solaris 11 or later, use the following step.

```
# svcs -a | grep fjsvhanet  <Return>
online HH:MM:SS svc:/network/fjsvhanet:default
online HH:MM:SS svc:/network/fjsvhanet-poll:default
```

```
# svcs -a | grep fjsvrvnet <Return>
online HH:MM:SS svc:/network/fjsvrvnet:default
```

2. In the case of the following configuration, modification of the script (service.sh) is required. Refer to "Example of configuration with GS/SURE linkage mode" of "PRIMECLUSTER Global Link Services Manual (Redundant Line Control Function)" and modify the script.

   - GS/SURE linkage mode is used, and

   - Shared-IP zone is used, and

   - Any shared-IP zone is configured to boot automatically, and

   - The script (service.sh) of the service for Redundant Line Control function of User command execution function is used.

3. If you deleted the virtual switches by the procedure of "3. Depending on the configuration, delete the virtual switches. ", recreate the virtual switches.
   After recreating the virtual switches, rebind the resources and start the guest domains.

   Example: In the control domain do the following

```
# ldm add-vsw net-dev=fjvnet0 primary-vsw0 primary <Return>
# ldm bind-domain ldom1 <Return>
# ldm start-domain ldom1 <Return>
```

   For more information, refer to the "Oracle VM Server for SPARC Reference Manual"

9. When upgrading from 4.2A00, "InitFailed" may be displayed as the initial state of the shutdown facility, or "Unknown" or "TestFailed" may be displayed as the test status. Perform the following steps.

   1. Check the status for the shutdown facility on all the nodes.

```
# /opt/SMAW/bin/sdtool -s <Return>
Cluster Host     Agent         SA State     Shut State   Test State   Init State
------------     -----         --------     ----------   ----------   ----------
node1            SA_pprcip.so  Idle         Unknown      Unknown      InitFailed
node1            SA_xscfp.so   Idle         Unknown      Unknown      InitFailed
node1            SA_rccu.so    Idle         Unknown      Unknown      InitFailed
node1            SA_pprcir.so  Idle         Unknown      Unknown      InitFailed
node1            SA_xscfr.so   Idle         Unknown      Unknown      InitFailed
node2            SA_pprcip.so  Idle         Unknown      Unknown      InitFailed
node2            SA_xscfp.so   Idle         Unknown      Unknown      InitFailed
node2            SA_rccu.so    Idle         Unknown      Unknown      InitFailed
node2            SA_pprcir.so  Idle         Unknown      Unknown      InitFailed
node2            SA_xscfr.so   Idle         Unknown      Unknown      InitFailed
```

   2. Change the login password on the console by referring to Section "Changing the User Name and Password for Controlling the console (Operation Procedure 2)" in the "PRIMECLUSTER Installation and Administration Guide".
   If the value is entered in the password field on the console, please delete the contents of the password field and enter the password again.

10. FUJITSU Cloud Service U5 environment, re-configure Shutdown Facility using the configuration wizard. Follow the steps shown below:

    1. Stop Shutdown Facility by executing the following command on all the nodes.

```
# /opt/SMAW/bin/sdtool -e <Return>
```

    2. Copy the "SA_icmp.cfg" file from any one node to all the other remote node(s).

    Example: If you copy the "SA_icmp.cfg" file using the "cfcp" command from CF node "node1" to "node2", execute the command on "node1".

```
# cfcp /etc/opt/SMAW/SMAWsf/SA_icmp.cfg node2:/etc/opt/SMAW/SMAWsf/SA_icmp.cfg <Return>
```

3. Invoke the Shutdown Facility Configuration Wizard and re-configuree Shutdown Facility. There is no need to enter the values. After you select "ICMP" on the selection screen for the shutdown agent, just click <Next> on all the screens and save the configuration.

   For details, see "Using ICMP Shutdown Agent in SPARC M10 and M12" in "PRIMECLUSTER Installation and Administration Guide".

11. If you are using RMS, execute the following command on one of the cluster nodes.

```
# hvw -xj -n <configname> -F Configuration-Activate <Return>
```

12. If you are using RMS, return the file setting to its original state on all the nodes according to the following steps.

   1. Add the following setting in the "/opt/SMAW/SMAWRrms/bin/hvenv.local" file to make RMS auto-startup ON.

```
export HV_RCSTART=1
```

   2. Start RMS.

```
# hvcm <Return>
```

Note

If you upgraded from 4.3A40 or earlier version and before upgrading you have changed the parameter of the hot spare function of GDS from default value, see the manual below, and then set and check the parameter of the hot spare function.

"PRIMECLUSTER Global Disk Services Configuration and Administration Guide"
Appendix "General Notes" - "Hot Spare" - "Note when upgraded from 4.3A40 or earlier version"

B.2 Cluster management server upgrading

This section explains upgrading cluster management server.

B.2.1 Upgrading from PRIMECLUSTER HA Server 4.2A00 or later

1. All the cluster management servers are changed to the OpenBoot environment.

```
# /usr/sbin/shutdown -y -g0 -i0 <Return>
```

2. Use the following steps on cluster management server for upgrading.

   1. Insert DVD of this software into the DVD drive.

   2. Start the system in single user mode.

```
{0} ok boot -s <Return>
```

   3. Mount necessary file systems.

```
# /usr/sbin/zfs mount -a <Return>
```

   When installing in the UFS file system directory, please execute the following command.

```
# /usr/sbin/mountall -l <Return>
```

   4. Mount the DVD.

```
# mkdir -p /cdrom/cdrom0 <Return> (*1)
# /usr/sbin/mount -F hsfs -o ro /dev/dsk/c0t4d0s2 /cdrom/cdrom0 <Return> (*2)
```

   (*1) Checks if "/cdrom/cdrom0" exists and creates accordingly.
   (*2) Since the underlined device name is different according to the machine environment, please confirm it.

5. Create a directory to back up the configuration file using the following commands. In this example, the "/var/tmp/backup" directory is used.

```
# cd /var/tmp <Return>
# mkdir backup <Return>
```

6. Back up the PRIMECLUSTER operating environment.

```
# /opt/FJSVwvbs/etc/bin/wvSetport fjwv_c > /var/tmp/backup/fjwv_c <Return>
```

Check whether the backup file is created.

```
# ls -l /var/tmp/backup <Return>
```

7. Remove the package by executing the following command.

```
# cd /cdrom/cdrom0/Tool <Return>
# ./upgrade_uninstall <Return>

Are you sure to remove PRIMECLUSTER software packages from the global zone?(y,n) y <Return>
      :
      :
Uninstallation was successful.
#
```

Check if "Uninstallation was successful" is displayed.

8. Execute the installation script.

```
# cd /cdrom/cdrom0/Tool <Return>
# ./cluster_install -e HA-M <Return>


      :
      :


The installation was finished successfully.
#
```

Check if "The installation was finished successfully" is displayed.

9. Delete the files by using the following steps when upgrading from PRIMECLUSTER HA Server 4.2A00.

```
# cd /etc/rc0.d <Return>
# rm K00FJSVwvbs <Return>
# rm K00FJSVwvcnf <Return>

# cd /etc/rc2.d <Return>
# rm S80FJSVwvbs <Return>

# cd /etc/rc3.d <Return>
# rm S99FJSVwvcnf <Return>
```

10. Unmount the DVD, and eject DVD.

```
# cd / <Return>
# /usr/sbin/umount /cdrom/cdrom0 <Return>
```

11. Restore the PRIMECLUSTER operating environment.

```
# /opt/FJSVwvbs/etc/bin/wvSetport fjwv_c=`cat /var/tmp/backup/fjwv_c` <Return>
```

3. If the upgrading process above is complete on all the cluster management servers, reboot the system by executing the shutdown(1M) command.

```
# /usr/sbin/shutdown -y -g0 -i6 <Return>
```