

FUJITSU Software

PRIMECLUSTER Clustering Base

4.3A40

A decorative horizontal band with a dark red background. It features several glowing, white, curved lines that sweep across the band, creating a sense of motion and depth. The lines are composed of many fine, parallel lines, giving them a textured appearance.

Installation Guide

Oracle Solaris

J2S2-1605-05ENZ0(00)
June 2015

Preface

Purpose

This manual explains how to install PRIMECLUSTER Clustering Base.

Target Readers

This manual is written for people who will install this product.

It is strongly recommended that you read the Software Release Guide from the product media before using this manual.

When setting up systems, it is assumed that readers have the basic knowledge required to configure the servers, storage and network devices to be installed.

Organization

This manual consists of four chapters, and appendices. The contents of these chapters, the appendices are listed below.

Title	Description
Chapter 1 Program components	Explains the packages of which this product is composed.
Chapter 2 Operation environment	Explains the operational environment of this product.
Chapter 3 Installation	Explains how to install this product.
Chapter 4 Uninstallation	Explains how to uninstall this product.
Appendix A Messages	Explains the messages displayed by installer.
Appendix B Upgrading from old versions	Explains how to upgrade from old versions.

Notational Conventions

The notation in this manual conforms to the following conventions.

- References and character strings or values requiring emphasis are indicated using double quotes (").
- Text to be entered by the user is indicated using bold text.
- Variables are indicated using italic text.

The following abbreviations are used in this manual:

- Microsoft(R) Windows(R) Vista operating system is abbreviated as Windows(R) Vista.
- Microsoft(R) Windows(R) 7 operating system is abbreviated as Windows(R) 7.
- Microsoft(R) Windows(R) 8 operating system is abbreviated as Windows(R) 8.
- Microsoft(R) Windows(R) 8.1 operating system is abbreviated as Windows(R) 8.1.
- Windows(R) Vista, Windows(R) 7, Windows(R) 8 and Windows(R) 8.1 are abbreviated as Microsoft(R) Windows.
- Cluster Foundation is abbreviated as CF.
- Reliant Monitor Services is abbreviated as RMS.
- Global Link Services is abbreviated as GLS.
- Global Disk Services is abbreviated as GDS.
- Oracle Solaris Legacy Containers is abbreviated as OSLC.
- Oracle Solaris might be described as Solaris, Solaris Operating System, or Solaris OS.

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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	4.3.4	GUI common framework, cluster management GUI
		FJSVwvbs	4.3.4	
		FJSVwvmpc	4.3.4	
		SMAWrcadm	4.3A40	
		SMAWcj2re	1.7.0	
2	Cluster Foundation (CF)	SMAWskel	2.0A03	Basic cluster services
		SMAWcf	4.3A40 4.3A20(For non-global zone)	
		SMAWsf	4.3A40	
		FSUNclnet	4.3.2 4.2.0(For non-global zone)	
		FJSVclapi	4.3.4	
		FJSVcldbm	4.3.4	
		FJSVcldev	4.3.4	
3	Cluster Configuration Backup/Restore	SMAWccbr	4.3A20	Configuration file backup and restoration
4	Netcompo BASE	FSUNnet	2.1.2	Online trace (for GLS)
5	Reliant Monitor Services (RMS)	SMAWRrms	4.3A40	Application takeover for operational continuity
		SMAWRdfw	4.3A20	
6	Wizard Tools	SMAWRhvto	4.3A40	Tool for defining RMS configuration
		SMAWRhvba	4.3A40	
		SMAWRhvdo	4.3A40	
		SMAWRhvde	4.3A40	
		FJSVhvgl	4.3.1	
		FJSVhvgd	4.3.2	
7	System Information Output Tool	FJSVsnap	2.8	Tool for collecting troubleshooting information
8	CF Add-On (CAO)	FJSVclptl	1.3.0	CF add-on package
		FJSVclapm	4.3.4	
9	RMS Add-On (RAO)	FJSVclrms	4.3.4	RMS add-on package
		FJSVclmac	4.1.4	
		FJSVclswu	4.1.4	

No.	Component	Package	Version	Function
		FJSVclrwz	4.3.2	
		FJSVclsfw	4.3.4	
10	GUIs	FJSVwvfrm	4.3.4	CRM view, GUI for defining RMS configuration
		FJSVwvucw	4.3.4	
		FJSVwvsfw	4.3.4	

1.2 Oracle Solaris 11

No.	Component	Package	Version	Function
1	Web-Based Admin View	FJSVwvcnf	4.3.4	GUI common framework, cluster management GUI
		FJSVwvbs	4.3.4	
		FJSVwvmpc	4.3.4	
		SMAWRcadm	4.3A40	
		SMAWcj2re	1.7.0	
2	Cluster Foundation (CF)	SMAWskel	2.0A03	Basic cluster services
		SMAWcf	4.3A40 4.3A20(For non-global zone)	
		SMAWsf	4.3A40	
		FSUNclnet	4.3.2 4.2.0(For non-global zone)	
		FJSVclapi	4.3.4	
		FJSVcldbm	4.3.4	
		FJSVcldev	4.3.4	
3	Cluster Configuration Backup/Restore	SMAWccbr	4.3A20	Configuration file backup and restoration
4	Reliant Monitor Services (RMS)	SMAWRrms	4.3A40	Application takeover for operational continuity
		SMAWRdfw	4.3A20	
5	Wizard Tools	SMAWRhvto	4.3A40	Tool for defining RMS configuration
		SMAWRhvba	4.3A40	
		SMAWRhvdo	4.3A40	
		SMAWRhvde	4.3A40	
		FJSVhvgl	4.3.1	
		FJSVhvgd	4.3.2	
6	System Information Output Tool	FJSVsnap	2.8	Tool for collecting troubleshooting information
7	CF Add-On (CAO)	FJSVclptl	1.3.0	CF add-on package
		FJSVclapm	4.3.4	
8	RMS Add-On (RAO)	FJSVclrms	4.3.4	RMS add-on package

No.	Component	Package	Version	Function
		FJSVclmac	4.1.4	
		FJSVclswu	4.1.4	
		FJSVclrwz	4.3.2	
		FJSVclsfw	4.3.4	
9	GUIs	FJSVwvfrm	4.3.4	CRM view, GUI for defining RMS configuration
		FJSVwvucw	4.3.4	
		FJSVwvsfw	4.3.4	

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	
		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	System Information Output Tool	FJSVsnap	2.5	Tool for collecting troubleshooting information
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	
		FJSVhvgl	4.1.2	
		FJSVhvgd	4.1.3	
5	System Information Output Tool	FJSVsnap	2.5	Tool for collecting troubleshooting information
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	
		FJSVwvswf	4.1.2	

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 "2.4 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.

2. Required software

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

No.	Software	Package	Version and/or level	Remark
1	Windows(R) Vista, Windows(R) 7, Windows(R) 8, Windows(R) 8.1			To use as a client of Web-Based Admin View, one of them is required.
2	J2SE(TM) Runtime Environment		7	Required to use as a client of Web-Based Admin View. The use of the latest version is recommended.
3	Microsoft Internet Explorer		7 8 9 10 11	To use Microsoft(R) Windows as a client of Web-Based Admin View, one of them is required.

No.	Software	Package	Version and/or level	Remark
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.

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) Clustering Base	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.
2	PRIMECLUSTER(TM) Clustering Base	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) Clustering Base	901173-24 or later	Required to use Oracle Solaris 8 Containers (OSLC). The patch "901173-24" is included in the "/Solaris8/patch" of the DVD media of this product.
4	PRIMECLUSTER(TM) Clustering Base	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) Clustering Base	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.
6	PRIMECLUSTER(TM) Clustering Base	914346-01 or later	Required to use Oracle Solaris 8 Containers (OSLC).

No.	Software	ID/PTF	Remark
			The patch "914346-01" is included in the "/Solaris8/patch" of the DVD media of this product.
7	PRIMECLUSTER(TM) Clustering Base	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.
8	PRIMECLUSTER(TM) Clustering Base	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.
9	PRIMECLUSTER(TM) Clustering Base	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.
10	PRIMECLUSTER(TM) Clustering Base	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.
11	PRIMECLUSTER(TM) Clustering Base	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.
12	PRIMECLUSTER(TM) Clustering Base	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.
13	PRIMECLUSTER(TM) Clustering Base	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.
14	PRIMECLUSTER(TM) Clustering Base	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.
15	PRIMECLUSTER(TM) Clustering Base	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.
16	PRIMECLUSTER(TM) Clustering Base	914346-01 or later	Required to use Oracle Solaris 9 Containers (OSLC). The patch "914346-01" is included

No.	Software	ID/PTF	Remark
			in the "/Solaris9/patch" of the DVD media of this product.
17	PRIMECLUSTER(TM) Clustering Base	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.
18	PRIMECLUSTER(TM) Clustering Base	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.
19	PRIMECLUSTER(TM) Clustering Base	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.
20	PRIMECLUSTER(TM) Clustering Base	915102-01 or later	Required to use Oracle Solaris 9 Containers (OSLC). The patch "915102-01" is included in the "/Solaris9/patch" of the DVD media of this product.

Note

We recommend that the basic software patch "Program Temporary Fixes (PTFs)" , "FUJITSU Recommended & Security Patch Clusters (FJ RSPC)" and "Support Repository Update (SRU)" be applied.

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 11

No.	Directory	Disk space (in MB)	Remark
1	/	1.9	
2	/usr	5.5	
3	/var	4.2	
4	/home	0	
5	/opt	241.2	

- Solaris 10

No.	Directory	Disk space (in MB)	Remark
1	/	1.5	
2	/usr	11.8	
3	/var	4.8	
4	/home	0	
5	/opt	246.0	

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

No.	Directory	Disk space (in MB)	Remark
1	/	1.0	
2	/usr	0.1	
3	/var	15.0	
4	/home	0	
5	/opt	115.0	

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 / Solaris 11

No.	Directory	Disk space (in MB)	Operation
1	/var	27.0	When cluster initial settings are done.
	/opt	1.0	
2	/var	27.0	When RMS is operating.
	/opt	1.0	

- 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 / Solaris 11

No.	Memory (in MB)	Operation
1	300.0	When cluster initial settings are done.
2	100.0	When RMS is operating.

- 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) Vista, Windows(R) 7, Windows(R) 8, Windows(R) 8.1			To use as a client of Web-Based Admin View, one of them is required.

No.	Software	Package	Version and/or level	Remark
2	J2SE(TM) Runtime Environment		7	Required to use as a client of Web-Based Admin View. The use of the latest version is recommended.
3	Microsoft Internet Explorer		7 8 9 10 11	To use Microsoft(R) Windows as a client of Web-Based Admin View, one of them is required.

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.

 Note

We recommend that the basic software patch "Program Temporary Fixes (PTFs)" , "FUJITSU Recommended & Security Patch Clusters (FJ RSPC)" and "Support Repository Update (SRU)" be applied.

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 11

No.	Directory	Disk space (in MB)	Remark
1	/	0.3	
2	/usr	0.3	
3	/var	1.9	
4	/home	0	
5	/opt	184.4	

- Solaris 10

No.	Directory	Disk space (in MB)	Remark
1	/	0.2	
2	/usr	0.3	
3	/var	1.9	
4	/home	0	
5	/opt	185.1	

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.

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".

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, 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" and ":::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.

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 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 package is installed.

Please check that a newer version than "1.1 Oracle Solaris 10" or "1.2 Oracle Solaris 11" 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 CB <Return>

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

The installation was finished successfully.
#
```

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

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 package is installed.

Please check that a newer version than "1.1 Oracle Solaris 10" or "1.2 Oracle Solaris 11" 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. 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.

7. Execute the installation script from the global zone.

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

8. 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 "A. 5 Kernel Parameter worksheet" of the "PRIMECLUSTER Installation and Administration Guide".

The other kernel parameters needs the default values.

2. Reboot the system

Reboot the system to enable the settings for part 1.

3. 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 Section "4.2, Preparations for Starting the Web-Based Admin View Screen", "Chapter 5 Building a Cluster", and "Chapter 6 Building Cluster Applications", in the "PRIMECLUSTER Installation and Administration Guide".

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 "2.4, 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, 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. If you use Oracle Solaris 11, 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","::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
```

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 package is installed.

Please check that a newer version than "1.1 Oracle Solaris 10" or "1.2 Oracle Solaris 11" 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 CB-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 "4.2. 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.



If the following products are installed, when PRIMECLUSTER Clustering Base is uninstalled, they are also uninstalled at the same time.

- PRIMECLUSTER GDS
- PRIMECLUSTER GLS



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 hfs -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>
Checking <zone-a> for uninstalling PRIMECLUSTER ...finished.
```

```

Preparing for uninstalling PRIMECLUSTER from <zone-a> ...finished.
Uninstalling PRIMECLUSTER from <zone-a> ...
Removal of <FJSVclsfw> was successful.
      :
      :
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. Login to the non-global zone and delete the configuration files as followings.

```

# zlogin zone-a <Return>
# cd /opt/SMAW <Return>
# rm -r SMAWRrms <Return>
# rm -r SMAWcf <Return>

# cd /etc <Return>
# rm cip.cf <Return>

# cd /etc/default <Return>
# rm cluster <Return>
# rm cluster.config <Return>

# cd /var/adm <Return>
# rm cfreg.data <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 "Chapter 3.2" on "PRIMECLUSTER Global Link Services Configuration and Administration Guide 4.3 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>

Removal of <FJsvclsfw> was successful.
Removal of <FJsvclrww> was successful.
:
:

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.



- 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. Delete the configuration files using the following steps.

```
# cd /opt/SMAW <Return>
# rm -r SMAWRrms <Return>
# rm -r SMAWcf <Return>
# rm -r SMAWsf <Return>

# cd /etc/opt/SMAW <Return>
# rm -r SMAWsf <Return>

# cd /etc <Return>
# rm cip.cf <Return>

# cd /etc/default <Return>
# rm cluster <Return>
# rm cluster.config <Return>

# cd /var/adm <Return>
# rm cfreg.data <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: 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 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: 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.

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.

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.

**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.

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: network service is disabled.**Description**

Network service is disabled.
This message is output only in Oracle Solaris 11 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.

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.

PRIMECLUSTER software packages were not installed in this system.**Description**

PRIMECLUSTER software packages were not installed in this system.

Workaround

None.

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: 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/FJVSdx/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: 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 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.

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.

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: zonename is not running.

Description

zonename is not running.

Workaround

Start *zonename* then execute cluster_install again.

ERROR: Failed to execute "command".

Description

Failed to execute "*command*".

Workaround

Remove the cause of the problem 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.

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 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 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 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 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 setup Cluster Foundation on <zonename>.

Description

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

Workaround

Put down the message then contact your field engineers.

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: *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: 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: `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: 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: 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.

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.

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: 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 11.

ERROR: system/xopen/xcu4 is not installed.

Description

system/xopen/xcu4 is not installed.
This message is output only in Oracle Solaris 11 operating environment.

Workaround

Install system/xopen/xcu4 then execute cluster_install again.
Refer to OS manual.

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

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 "Chapter 13 Using PRIMECLUSTER in Oracle Solaris Zones Environments" in the "Installation and Administration Guide".

B.1.1 Upgrading a non-global zone from PRIMECLUSTER Clustering Base 4.3A10 / 4.3A20

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 "Chapter 11 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 Clustering Base 4.2A00 / 4.3A10 / 4.3A20

Explains Upgrading a physical environment from PRIMECLUSTER Clustering Base 4.2A00 and upgrading a physical environment / global zone / domain from PRIMECLUSTER Clustering Base 4.3A10.

1. Check the RMS Configuration name.

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

2. Stop RMS if you are using it.

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

3. Check to which type the target system corresponds.

Type A:

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 B:

SPARC M10, but does not correspond to condition of Type A.

Type C:

excluding SPARC M10.

- If system is Type A, record the listening port number.
- If system is Type B, 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]
XSCF> setsnmp remtraphost -t v2 -s FJSVcldev [IP address of the asynchronous monitoring sub-
```

```

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

```

Example)

```

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

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

```

4. The system is changed to the OpenBoot environment.

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

5. 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. 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/fjsrvnet.xml /var/tmp/backup/fjsrvnet.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 Clustering Base 4.2A00.

```
# cd /etc/rc0.d <Return>
# rm K00FJSVwvbs <Return>
# rm K00FJSVwvcnf <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 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 S68clrws <Return>
# rm S71clctrl <Return>
# rm S76clprmd <Return>
# rm S80FJSVwvbs <Return>

# cd /etc/rc3.d <Return>
# rm S32clautoconfig <Return>
# rm S98clwaitprobe <Return>
# rm S99FJSVwvcnf <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/FJSVcldbmsystem/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 package is installed.

For the version, please check that an older version than "1.1 Oracle Solaris 10" or "1.2 Oracle Solaris 11" is not 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 CB <Return>

      :
      :

The installation was finished successfully.
#
```

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

17. If you are using GLS Redundant Line Control Function, Execute the installation script.

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

      :
      :

The installation was finished successfully.
#
```

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

18. Unmount the DVD, and eject DVD.

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

19. If GLS is used, restore the GLS operating environment that was backed up.

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>
```

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

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

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".

20. 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>
```

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

```
export HV_RCSTART=0
```

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

1. Edit port number of "sftrap" to current setting 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 "snmpTrapAddr" line in /etc/net-snmp/snmp/snmptrapd.conf

6. 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>
```

7. Set the GLS configuration.

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

```
# 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 by 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
```

8. 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

- Change the login password on the console by referring to Section "9.4.1 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.

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

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

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

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

```
export HV_RCSTART=1
```

- Start RMS.

```
# hvcm <Return>
```

B.2 Cluster management server upgrading

This section explains upgrading cluster management server.

B.2.1 Upgrading from PRIMECLUSTER Clustering Base 4.2A00 / 4.3A10

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

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

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

- Insert DVD of this software into the DVD drive.

- Start the system in single user mode.

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

- 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>
```

- Mount the DVD.

```
# mkdir -p /cdrom/cdrom0 <Return> (*1)
# /usr/sbin/mount -F hfs -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 CB-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 Clustering Base 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>
```