

# PRIMECLUSTER GDS 4.3A10

## Installation Guide

Oracle Solaris

J2S2-1607-01ENZ0(02)  
July 2012

# Preface

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## Purpose

This manual explains how to install PRIMECLUSTER GDS.

## 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 appendix. 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.

## 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) XP operating system is abbreviated as Windows(R) XP.
- 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.
- Windows(R) XP, Windows(R) Vista and Windows(R) 7 are abbreviated as Microsoft(R) Windows.
- Global Disk Services is abbreviated as GDS.

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## Editing record

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Changes	Section	Manual code
A note for ZFS boot environment has been added.	2.1	J2S2-1607-01ENZ0(01)
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Fujitsu system engineers has been changed to field engineers.	Appendix A Messages	J2S2-1607-01ENZ2(02)

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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	4.3.1	GUI common framework, cluster management GUI
		FJSVwvbs	4.3.1	
		FJSVwvmpc	4.3.1	
		SMAWcj2re	1.5.0	
2	System Information Output Tool	FJSVsnap	2.6	Tool for collecting troubleshooting information
3	Global Disk Services (GDS)	FJSVsdx	4.3.1	High-availability volume manager
		FJSVsdxl	4.3.1	
		FJSVsdxwv	4.3.10	
		FJSVsdxga	4.3.1	

## 1.2 Oracle Solaris 11

No.	Component	Package	Version	Function
1	Web-Based Admin View	FJSVwvcnf	4.3.1	GUI common framework, cluster management GUI
		FJSVwvbs	4.3.1	
		FJSVwvmpc	4.3.1	
		SMAWcj2re	1.5.0	
2	System Information Output Tool	FJSVsnap	2.7	Tool for collecting troubleshooting information
3	Global Disk Services (GDS)	FJSVsdx	4.3.1	High-availability volume manager
		FJSVsdxl	4.3.1	
		FJSVsdxwv	4.3.10	
		FJSVsdxga	4.3.1	

# Chapter 2 Operation environment

This chapter explains the operation environment of this software.

## 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)	
2	Oracle Solaris 11	

### Note

If you use 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 product is required.

No.	Software	Package	Version and/or level	Remark
1	PRIMECLUSTER Clustering Base	Cluster Foundation, CF Add-On	4.3A10	Cluster foundation software. Required for managing a storage device shared between cluster nodes as a shared disk device through GDS.
2	Windows(R) XP, Windows(R) Vista, Windows(R) 7			To use as a client of Web-Based Admin View, one of them is required.
3	J2SE(TM) Runtime Environment		6u30 or later	Required to use as a client of Web-Based Admin View. The use of the latest version is recommended. Version "6u30" is included in the DVD.
4	Microsoft Internet Explorer		6.0 7 8 9	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	914679-04 or later	For Oracle Solaris10, the necessary patch for the FJSVsnap package. The patch is included in Unbundled PTF R11021 or later.

#### 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 Hardware environment

---

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

#### 1. Memory

128MB or more of memory is required.

#### 2. Required hardware

None.

#### 3. Related hardware

It is hardware that relates to this software.

No.	Machine	Model	Remark
1	Personal Computer	FM-V, etc	Required to use as a client of Web-Based Admin View.

## 2.3 Static disk resources

---

This section explains static disk space requirements for this software.

### 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.

No.	Directory	Disk space (in MB)	Remark
1	/	5.2	
2	/usr	3.5	
3	/var	0.9	
4	/home	0	
5	/opt	28.0	

### 2.3.2 Required work area

---

None.

## 2.4 Dynamic disk resources

---

This section explains dynamic disk space requirements for this software.

### 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 "[2.3 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	While mirroring the system disk.

## 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	190.0	While mirroring the system disk.



# Chapter 3 Installation

This chapter explains the installation of this software.

## 3.1 Preparations

### 1. Time required

It takes approximately 15 minutes to install this software.

### 2. Checking the system environment

1. Check the available disk space for installing this software. For information on the disk space requirements, see "2.3 Static disk resources". If the disk space is not enough, reconfigure the disk partition.

2. If you want to use GDS with PRIMECLUSTER Clustering Base (Clustering Base), install Clustering Base first. If this software has already been installed and GDS is configured in the system environment, delete the configuration before installing Clustering Base.

For information about installing Clustering Base, see "PRIMECLUSTER Clustering Base Installation Guide".

3. 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. 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" 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 host-name localhost
127.0.0.1 localhost loghost
IP-Address host-name
```

### 3. Installation of Oracle Solaris 11 packages

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

- text/locale

### 4. Saving the Configuration files

None.

## 3.2 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" directory 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 package by executing the pkgadd(1M) command.

Oracle Solaris 10

```
# pkgadd -d /cdrom/cdrom0/Tool/Pkgs/Solaris10 FJSVsnap <Return>
```

Oracle Solaris 11

```
# pkgadd -d /cdrom/cdrom0/Tool/Pkgs/Solaris11 FJSVsnap <Return>
```

8. Execute the installation script then install GDS components.

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

:
:
```

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>
```

## 3.3 Environment configurations

---

1. Adjust the kernel parameters

If you use Oracle Solaris 10, add the following descriptions to /etc/system.

```
set ip:tcp_fusion_rcv_unread_min=0
```

2. Configure the SMF services

In Oracle Solaris 11, please execute the following commands for configuring the SMF services.

```
# svcadm enable svc:/milestone/fjvsdx <Return>
# svcadm enable svc:/milestone/fjswvcnf <Return>
# svcadm enable svc:/milestone/fjswvbs <Return>
```

3. Reboot the system

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

After the above procedure was performed, configure the system environment according to the "PRIMECLUSTER Global Disk Services Configuration and Administration Guide".

# Chapter 4 Uninstallation

This chapter explains the uninstallation of this software.

## 4.1 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 Uninstallation

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".

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. Uninstall PRIMECLUSTER GDS Snapshot if it has been installed. For information on how to uninstall, refer to the "PRIMECLUSTER GDS Snapshot Installation Guide".
7. 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" directory exists and creates accordingly.

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

8. Execute the uninstallation script to delete the GDS components.

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

Removal of <FJSVsdxga> was successful.
Removal of <FJSVsdxwv> was successful.
:
:
```

```
Uninstallation was successful.  
#
```

Check if "Uninstallation was successful" is displayed.

## Note

When PRIMECLUSTER GDS 4.X is updated to PRIMECLUSTER GDS 4.3A10. After uninstalling PRIMECLUSTER GDS 4.3A10, delete the PRIMECLUSTER GDS 4.X packages. See PRIMECLUSTER GDS 4.X Installation Guide. You can check the package instance of the FJSVsdX packages by using the following command.

```
# pkginfo -x FJSVsdX.* <Return>  
  
FJSVsdX          SDX/G Basic Software  
                  (sparc) 4.2.0  
FJSVsdX.2        SDX/G Basic Software  
                  (sparc) 4.3.1
```

9. 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>
```

10. Execute the uninstallation script to delete the Web-Based Admin View components. Note that Web-Based Admin View components are shared with the other product. If the following product has been installed, skip this step.

- PRIMECLUSTER Clustering Base

```
# ./cluster_uninstall -p WebView <Return>  
Are you sure to remove PRIMECLUSTER software packages from the global zone?(y,n) y <Return>  
  
Removal of <FJSVwvmpc> was successful.  
Removal of <FJSVwvbs> was successful.  
      :  
      :  
  
Uninstallation was successful.  
#
```

Check if "Uninstallation was successful" is displayed.

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>
```

# 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 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: Failed to execute "*command*".**

#### Description

Failed to execute "*command*".

#### 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 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: 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 "*svcs -l svc:/network/physical:XX*" does not include "enabled" field.**

#### Description

Result of "*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.