FUJITSU

FUJITSU Software
PRIMECLUSTER Cloud Edition
4.6A20

Installation Guide

Linux

Preface

Purpose

This manual explains how to install PRIMECLUSTER Cloud Edition.

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 Troubleshooting	Explains how to address problems that occur.
Appendix B Necessary OS packages to be installed.	Explains about the necessary OS packages to be installed.

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:

- Reliant Monitor Services is abbreviated as RMS.

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Note

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The latest manuals are available at

http://www.fujitsu.com/global/support/software/manual/

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Contents

Chapter 1 Program components

The unit of the program that composes the system is called a package.

This chapter explains about the packages of which this software is composed.

No.	Component	Package	Version	Function
1	PCLsnap	FJSVpclsnap	4.6.2	Tool for collecting troubleshooting information
2	Reliant Monitor Services(RMS)	SMAWRrms	4.6A20	Application takeover for operational continuity
		SMAWRdfw	4.6A00	
3	Wizard Tools(WT)	SMAWRhv-to	4.6A20	Tool for defining RMS configuration
		SMAWRhv-ba	4.6A20	
		SMAWRhv-do	4.6A20	
		SMAWRhv-de	4.6A20	
		SMAWhvksh	4.6A00	
4	RMS Add-On(RAO)	FJSVclrwz	4.6.2	RMS add-on package
		FJSVclsfw	4.6.2	

Chapter 2 Operation Environment

This chapter explains the operation environment for the cluster node of this software.

2.1 Software environment

This software is used on AWS instances.

1. Basic software prerequisites

   Install the following software product on a cluster node:

No.	Basic Software	Kernel	Remarks
1	Red Hat Enterprise Linux 8.2 (for Intel64)	Supports kernel-4.18.0-193.el8 or later	
2	Red Hat Enterprise Linux 8.4 (for Intel64)	Supports kernel-4.18.0-305.el8 or later	

   This software, when operating on the above software, requires additional packages to be added besides the packages which are installed with a minimum OS option installation. Please refer to "Appendix B Necessary OS packages to be installed" for the necessary additional packages.

   ## Note

   For the following software environment, contact your Fujitsu service representative. Applying fixes of PRIMECLUSTER may be required.

   - Errata kernel

   - Newer minor versions of the basic software listed in the above table

2. Required software

   None.

3. Exclusive software

   None.

4. Required patches

   None.

2.2 Hardware environment

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

1. Memory

   1024MB or more of memory is required.

2. Required hardware

   None.

3. Related hardware

4. None.

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)
1	/	2.9
2	/usr	2.4
3	/var	0.1
4	/var/opt	0.1
5	/opt	20.8

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	63.8	conditions: One cluster application is registered in a cluster system. Note that 2.3 MB is required for each additional cluster application.
2	/var/tmp	500.0	When FJQSS (Information Collection Tool) of PRIMECLUSTER is executed for collecting information.

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	265.9	A cluster system is operated under the following conditions: One cluster application is registered in a cluster system. Note that 36.2 MB is required for each additional cluster application. In addition to the aforementioned user memory, 2.0 MB of kernel memory will be allocated per CPU by vmalloc.
2	Required memory for resources	Estimate the memory requirement according to the resources to be registered in the cluster application. For details, see "2.5.1 Required memory for resources"

2.5.1 Required memory for resources

No.	Resources	Memory
1	Cmdline resources	23 MB x ((number of resources + 1) / 2) (Round up)

Chapter 3 Installation

This chapter explains the installation of this software.

You can install this software on each node where basic and required software is installed. For details about error messages during installation, see "Appendix A Troubleshooting".

Note

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Before installing PRIMECLUSTER, take a snapshot of the system disk.

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1. Time required

   It takes approximately 15 minutes to install this software.

2. Package check

   Before installing this software, check if the necessary OS packages listed in "Appendix B Necessary OS packages to be installed" are installed on the system.

   ```
   # rpm -qi <Package>.<Architecture> <Return>
   ```

   If the command encounters an error, install the OS packages according to the OS document.

3. Check the NetworkManager service.

   Check to enable the auto startup of the NetworkManager service.

   Check that the setting of auto startup of the NetworkManager service is "enabled" using the following command.

   ```
   # /usr/bin/systemctl is-enabled NetworkManager.service <Return>
   enabled
   ```

   If the setting is "disabled", enable the NetworkManager service using the following command.

   ```
   # /usr/bin/systemctl start NetworkManager.service <Return>
   # /usr/bin/systemctl enable NetworkManager.service <Return>
   ```

4. Copy the data from the DVD and deploy it in the environment where the installation is done.

   Prepare separate environments where the DVD can be set and mounted and mount the DVD.

   ```
   Copy source system # mount -t iso9660 -r /dev/<Device file name> <DVD-ROM mountpoint> <Return>
   ```

   Copy the entire directory under <DVD-ROM mountpoint> to all the target systems copied to. Set the directory copied to as <Directory copied to>.

Note

. . . .

When you copy to the target system, use the tar command to archive and make sure that the symbolic link is not made into an actual file.

. . . .

5. Execute the CLI installer.

   Prepare separate environments where the DVD can be set and mounted and mount the DVD.

   ```
   # cd <Directory copied to>/Tool <Return>
   # ./cluster_install -e PCL-CE <Return>
   Installation of PRIMECLUSTER started.
   PRODUCT : PCLsnap
   Installing package <FJSVpclsnap> ... finished.
           .
   ```

```
        .
The installation finished successfully.
```

6. Reboot the system by executing the shutdown(8) command.

```
# shutdown -r now <Return>
```

7. Download the latest PRIMECLUSTER patch(es) and update information file from Updatesite.

8. Apply the corrections to PRIMECLUSTER.

   For how to apply changes, refer to "Software Maintenance" in " PRIMECLUSTER Installation and Administration Guide Cloud Services ", and see the points of concern in the correction information file of each correction.

Chapter 4 Uninstallation

This chapter explains the uninstallation of this software.

📘 **Note**
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If the following settings were set erroneously it might not be possible to access the system. Before doing the following settings, take a snapshot of the system storage.
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1. Login to the system as the root user.

```
$ sudo su - <Return>
Password: password <Return>
```

2. Disable the CloudWatch agent.

   See the AWS documentation.

3. Change the tag settings on the instance to remove it from the switch.

   Use the AWS Management Console to set the value of the fujitsu.pclswr.is_recovery_target tag to false.

4. If RMS is running, stop RMS.

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

5. Execute the following command to stop automatic start of the PRIMECLUSTER services.

```
# /opt/FJSVpclinst/bin/pclservice off <Return>
```

6. Restart the system.

```
# shutdown -r now <Return>
```

7. Login to the system as the root user.

```
$ sudo su - <Return>
Password: password <Return>
```

8. If an UpdateSite format PRIMECLUSTER correction is applied, delete this correction.

   For details, see help in UpdateAdvisor (middleware) and refer to the correction information file.

📘 **Note**
. . . .

However, if you remove the patch with uam remove, you do not need to execute pclservice on or reboot the operating system.
. . . .

9. Copy the data from the DVD and deploy it in the environment where the installation is done.

   Prepare separate environments where the DVD can be set and mounted and mount the DVD.

```
Copy source system # mount -t iso9660 -r /dev/<Device file name> <DVD-ROM mountpoint> <Return>
```

   Copy the entire directory under *<DVD-ROM mountpoint>* to all the target systems copied to. Set the directory copied to as *<Directory copied to>*.

📘 **Note**
. . . .

When you copy to the target system, use the tar command to archive and make sure that the symbolic link is not made into an actual file.
. . . .

10. Execute the CLI uninstaller.

```
# cd <Directory copied to>/Tool <Return>
# ./cluster_uninstall <Return>
Are you sure to remove PRIMECLUSTER from your system (y or n) ? y
.
.
The uninstallation finished successfully.
```

11. Execute the following command to delete smawrrms.service.d and the files under it.

```
# rm -rf /etc/systemd/system/smawrrms.service.d <Return>
```

12. Execute the following command to unmount EFS.

```
# umount /var/opt/SMAWRrms/log <Return>
```

13. Delete the following line to the "/etc/fstab" file.

```
file-system-id:/ /var/opt/SMAWRrms/log efs _netdev,noresvport,tls,iam 0 0
```

14. Delete the directory.

```
# rm -rf /var/opt/SMAWRrms <Return>
```

15. Restart the system.

```
# shutdown -r now <Return>
```

Appendix A Troubleshooting

This chapter explains how to address problems that occur.

A.1 CLI installer

This section explains CLI installer.

A.1.1 Log file

The CLI installer log including the rpm(8) command output will be saved in the following log file:

- /var/log/install/cluster_install

A.1.2 Information messages

INFO: no package to update

Description

Since the package same as that in DVD or newer than that in DVD is installed, the package in DVD cannot be installed.

Workaround

According to the procedure of "Chapter 4 Uninstallation", execute the command again after removing PRIMECLUSTER from the system.

INFO: The installation process stopped by user request

Description

Installation process was stopped according at user's request.

Workaround

Execute the command again.

A.1.3 Error messages

ERROR: /tmp needs *TMP_LEAST* KB at least

Description

There is not enough free space on the /tmp file system.

Workaround

Reserve at least *TMP_LEAST* KB on the /tmp file system then execute the command again.

ERROR: /tmp not writable

Description

Creation of a temporary file in /temp failed.

Workaround

After /temp is made writable, execute the command again.
Example: If the file system including /temp is mounted as a read-only file system, make /temp writable by executing "mount -o remount <mount point of the file system including /tmp>".

ERROR: /var needs *VAR_LEAST* KB at least

Description

There is not enough free space on the /var file system.

Workaround

Reserve at least V*AR_LEAST* KB on the /var file system then execute the command again.

ERROR: failed: rpm *

Description

The rpm command failed. ("*" indicates the error details.)

Workaround

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

ERROR: internal error: *

Description

An internal error occurred. ("*" indicates the error details.)

Workaround

Put down the message then contact your Fujitsu system engineers.

ERROR: platform *<PLAT>* not supported

Description

This software is not supported.

Workaround

Check if the environment meets operating conditions as prescribed in "Chapter 2 Operation Environment". If there is nothing wrong with the environment, put down the message then contact your Fujitsu system engineers.

ERROR: product *<PROD>* on platform *<PLAT>* not supported

Description

Installation of the product set *<PROD>* is not supported for this software.

Workaround

Check if the command option is correct. If it is, then check if the environment meets operating conditions as prescribed in "Chapter 2 Operation Environment". If there is nothing wrong with the environment, put down the message then contact your Fujitsu system engineers.

ERROR: product *<PROD1>* and *<PROD2>* contains the same package *<PKG>*

Description

The products *<PROD1>* and *<PROD2>* are included in the same package *<PKG>*, so they cannot be installed at the same time.

Workaround

An option cannot be specified for the products *<PROD1>* and *<PROD2>*.

ERROR: syntax error

Description

An incorrect option was specified.

Workaround

Correct the option then execute the command again.

ERROR: syntax error (*<PSET>* *<PLAT>*)

Description

An incorrect option was specified.
Installation of the product set *<PSET>* is not supported for this software.

Workaround

Check if the command option is correct. If it is, check whether the environment meets operating conditions as prescribed in "Chapter 2 Operation Environment".

ERROR: The installation of following package(s) failed.
<PackageName>

Description

The installation of *<PackageName>* failed. You may have tried to install in the kernel version of OS not supported.

Workaround

Please confirm whether there is required patch of PRIMECLUSTER corresponding to the kernel version of OS. If the patch is existing, please apply the patch and execute "rpm -V --nodigest --nofiles --noscripts --nosignature *<PackageName>*" afterwards. When nothing is output, it means the execution of the CLI installer succeeded. Please perform the subsequent procedure.
If the above action fails to solve the problem, put down the message then contact your Fujitsu system engineers.

ERROR: the installation process is running now

Description

The other installation process is running.

Workaround

Wait until the other installation process is completed then execute the command again.

Note

If this message appears although the other installation process is not being executed, delete the "/tmp/cluster_install" and "/tmp/cluster_uninstall" flag files then execute the command again.

ERROR: to use this installer you will need to be the root user.

Description

The command was executed by a non-root user.

Workaround

Execute the command using root user access privileges.

Installation failed

Description

Installation failed.

Workaround

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

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

Description

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

Workaround

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

A.2　CLI uninstaller

This section explains CLI uninstaller.

A.2.1　Log file

Logs of the CLI uninstaller including the output of the rpm(8) command will be saved into the log file below:

- /var/log/install/cluster_uninstall

A.2.2　Information messages

INFO: no package to uninstall

Description

Currently, no packages that need to be uninstalled are installed on the system.

Workaround

None.

INFO: The uninstallation process stopped by user request

Description

The uninstallation process has been stopped at user's request.

Workaround

If you want to continue the uninstallation process, execute the command again.

A.2.3　Error messages

ERROR: /tmp needs *TMP_LEAST* KB at least

Description

There is not enough free space on the /tmp file system.

Workaround

Reserve at least *TMP_LEAST* KB on the /tmp file system then execute the command again.

ERROR: /tmp not writable

Description

Creation of a temporary file in /temp failed.

Workaround

After /temp is made writable, execute the command again.
Example: If the file system including /temp is mounted as a read-only file system, make /temp writable by executing "mount -o remount <mount point of the file system including /tmp>".

ERROR: /var needs *VAR_LEAST* KB at least

Description

There is not enough free space on the /var file system.

Workaround

Reserve at least *VAR_LEAST* KB on the /var file system then execute the command again.

ERROR: failed: rpm *

Description

The rpm command failed. ("*" indicates the error details.)

Workaround

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

ERROR: internal error: *

Description

An internal error occurred. ("*" indicates the error details.)

Workaround

Put down the message then contact your Fujitsu system engineers.

ERROR: product *<PROD>* on platform *<PLAT>* not supported

Description

The product set *<PROD>* package is invalid.

Workaround

Specify a correct command option then execute the command again.

ERROR: syntax error

Description

The incorrect option was specified.

Workaround

Correct the option and execute the command again.

ERROR: syntax error (*<PSET> <PLAT>*)

Description

An incorrect option was specified.
The product set *<PSET>* package is invalid.

Workaround

Run the command with the right option.

ERROR: the installation process is running now

Description

The other installation process is being executed.

Workaround

Wait until the other installation process is completed then execute the command again.

Note

If this message appears although the other installation process is not being executed, delete the "/tmp/cluster_install" and "/tmp/cluster_uninstall" flag files then execute the command again.

ERROR: to use this uninstaller you will need to be the root user

Description

The command was executed by a non-root user.

Workaround

Execute the command with root user access privileges.

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

Description

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

Workaround

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

Uninstallation failed.

Description

Uninstallation failed.

Workaround

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

Appendix B Necessary OS packages to be installed

When operating this software on Red Hat Enterprise Linux, in addition to the packages that are installed with a minimum OS option installation, the following packages are used.

Package	Architecture
binutils	x86_64
chrony	x86_64
crash	x86_64
gdb	x86_64
libICE	x86_64
libvirt-client	x86_64
lsof	x86_64
make	x86_64
man-db	x86_64
nfs-utils	x86_64
pam-devel	x86_64
policycoreutils-python-utils	noarch
psacct	x86_64
psmisc	x86_64
strace	x86_64
sysstat	x86_64
tar	x86_64