

# **Fujitsu Software**

## **Technical Computing Suite V4.0L20**

# **Job Operation Software**

## **Troubleshooting**

J2UL-2465-02ENZ0(11)  
March 2024

# Preface

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## Purpose of This Manual

This manual describes actions to take for common problems that may occur during use of the Job Operation Software in Technical Computing Suite. It also describes Job Operation Software messages output to the system log and the actions to take for them.

The purpose of this manual is to enable administrators to troubleshoot by themselves any problems that occur. By referring to the manual, administrators can identify and isolate the causes of these problems.

For details on errors in commands provided by the Job Operation Software, see the "Job Operation Software Command Reference", which describes command messages and the actions to take for them.

## Intended Readers

This manual is intended for administrators who operate and manage systems and jobs using the Job Operation Software.

The manual assumes that readers have the following knowledge:

- Basic Linux knowledge
- General knowledge of the Job Operation Software from the "Job Operation Software Overview"

## Organization of This Manual

### [Chapter 1 Installation Work Problems](#)

This chapter describes problems during installation work and the actions to take for them.

### [Chapter 2 Problems During Operation](#)

This chapter describes problems during operation and the actions to take for them.

### [Chapter 3 Maintenance Work Problems](#)

This chapter describes problems during maintenance work and the actions to take for them.

### [Chapter 4 Problems in Job Execution Environment](#)

This chapter describes problems related to configuring and using the job execution environment and the actions to take for them.

### [Appendix A Messages Related to Installation Design Sheet](#)

This appendix describes the meanings of messages related to the installation design sheets used in installation work and the actions to take for them.

### [Appendix B System Log Messages](#)

This appendix describes the meanings of Job Operation Software messages output to the system log and the actions to take for them.

## Notation Used in This Manual

### Notation of model names

In this manual, the computer that based on Fujitsu A64FX CPU is abbreviated as "FX server", and FUJITSU server PRIMERGY as "PRIMERGY server" (or simply "PRIMERGY").

Also, specifications of some of the functions described in the manual are different depending on the target model. In the description of such a function, the target model is represented by its abbreviation as follows:

[FX]: The description applies to FX servers.

[PG]: The description applies to PRIMERGY servers.

### Representation of units

The following table lists the prefixes used to represent units in this manual. Basically, disk size is represented as a power of 10, and memory size is represented as a power of 2. Be careful about specifying them when displaying or entering commands.

Prefix	Value	Prefix	Value
K (kilo)	10 <sup>3</sup>	Ki (kibi)	2 <sup>10</sup>
M (mega)	10 <sup>6</sup>	Mi (mebi)	2 <sup>20</sup>

Prefix	Value	Prefix	Value
G (giga)	10 <sup>9</sup>	Gi (gibi)	2 <sup>30</sup>
T (tera)	10 <sup>12</sup>	Ti (tebi)	2 <sup>40</sup>
P (peta)	10 <sup>15</sup>	Pi (pebi)	2 <sup>50</sup>

### Notation of users

The users of the Job Operation Software include the administrators responsible for system management and job operations and the end users who use the system to run programs. Unless otherwise noted, "user" in this manual means an end user.

### Administrators

The Job Operation Software has different types of administrators: system administrator, cluster administrator, and job operation administrator. However, they may all be represented as just "administrator" in this document. In such cases, an administrator who manages the system usually means the system administrator or cluster administrator. An administrator who manages job operations means the cluster administrator or job operation administrator.

### Path names of the commands

In the examples of the operations, the path names of the commands in the directory /bin, /usr/bin, /sbin or /usr/sbin might not be represented by absolute path.

### Symbols in This Manual

This manual uses the following symbols.



**Note**

The Note symbol indicates an item requiring special care. Be sure to read these items.



**See**

The See symbol indicates the written reference source of detailed information.



**Information**

The Information symbol indicates a reference note related to Job Operation Software.

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## Update history

Changes	Location	Version
Added troubleshooting when a job ended with PJM code 28.	2.4.14	2.11
Also fixed errata.	-	
Added troubleshooting for failed to register node information.	1.3.10	2.10
Added troubleshooting when the power management function service stopped at PRIMERGY server compute node.	2.5.4	
Removed troubleshooting that power management service stopped at system management node failover.	3.11.1	
Added troubleshooting when the power management service on a compute cluster management node is stopped.	1.5	2.9
Added troubleshooting for executing the pjdcl command when interactive job is in the RNA state.	2.4.13	2.8
Removed system log messages for the following HPC extension functions: - Sector Cash Driver (SEC) Message: message ID 0004-0007, 0012 - Inter-core Hardware Barrier Driver (HWB) Message: message ID: 0001-0004 Also fixed errata.	B.7.3 B.7.6 B.7.7	
Changed job termination description in case of error in system exit script.	2.4.7	
Added troubleshooting for creating mpiexec output files under the same directory.	2.4.12	2.7
Removed troubleshooting for the system with a single node serving as all of the system management node, compute cluster management node, and login node.	3.12	
Added troubleshooting for problems with Docker mode.	4.3	

Changes	Location	Version
<p>Added or removed system log messages for the following HPC extension functions:</p> <ul style="list-style-type: none"> <li>- Added message <ul style="list-style-type: none"> <li>- Remote dump message ID: 5001 -5039, 6001, 6002</li> </ul> </li> <li>- Removed messages <ul style="list-style-type: none"> <li>- IO-RAS driver message ID: 0304,0305</li> <li>- HPC tag address override control function message ID: 1001, 1111, 1112</li> <li>- Power control driver message: 1009</li> </ul> </li> </ul> <p>Also fixed errata.</p>	B.7.1 B.7.2 B.7.3 B.7.4 B.7.5 B.7.6 B.7.7 B.7.8 B.7.9	2.6
Added troubleshooting for times when the power management function service stopped at FX server compute node.	2.5.3	2.5
Added troubleshooting for the system with a single node serving as all of the system management node, compute cluster management node, and login node.	2.2.13 3.12	2.4
Added troubleshooting for an error when executing a job of Intel MPI 2019.	2.4.11	2.3
Changed the first error message in Table 4.9.	4.2.3	2.2
Improved actions for troubleshooting when virtual machine does not start (Misconfiguration).	4.2.3.10	
<p>Added or changed the following TofuD driver system log messages.</p> <ul style="list-style-type: none"> <li>- Added Message: Message IDs 5001-5005, 6016-6032</li> <li>- Changed Message: Message IDs 6003, 6004, and 7001</li> </ul>	B.7.10	
Changed description for causes and actions of errors in the pjstat command with the -H option.	2.4.8	2.1
Added troubleshooting when Pjcmd_jobinfo_execute () specifying the parameter of PJCMD_JOBINFO_HISTORY_XXX returns with an error.	2.4.9	
Added troubleshooting when a core file (core.*) is created in the current directory of the job.	2.4.10	
Added troubleshooting for times when the power management function service stopped at system management node.	2.5.2	
Added system log messages for the following ToufuD driver: Message IDs: 7004, 2018	B.7.10	
Fixed the command used to apply the package.	1.1.7.2 3.6 3.7	
Changed the action to troubleshoot when reflection of cluster configuration definitions failed.	1.1.7.2 1.1.7.3 1.1.7.4	
Changed the action to troubleshoot an FEFS service in an I/O error state on a compute node.	2.2.5	
Added troubleshooting when the service does not start on reboot after a panic.	2.2.12	
Added cause and action for troubleshooting when submitted job ends with PJM code 27	2.4.7	
Added troubleshooting for times when the pjstat command with the -H option failed.	2.4.8	
Added troubleshooting for times when the pasyspwr command does not end normally.	2.5.1	
Added troubleshooting for times when the pasyswr command executed with the --trace option fails.	3.11.2	
Added troubleshooting for times when a job ends with PJM code 21 after being submitted with the job execution environment specified.	4.2.1	
<p>Added troubleshooting for times when a job ends with PJM code 27 or 28 after being submitted with the following job execution environment specified.</p> <ul style="list-style-type: none"> <li>- Normal or Docker mode to execute jobs that utilize GPUs.</li> </ul>	4.2.2 4.2.3	

Changes	Location	Version
- Docker mode with the mount point of the container startup configuration file set to a parameter (dynamic parameter) that changes dynamically as the job executes.		
Added troubleshooting for times when a job ends with any of the following PJM code after being submitted with KVM mode specified for the job execution environment: - PJM code 28 - PJM code 29 - PJM code 140	4.2.3 4.2.4 4.2.5	
The system log message ID:1240 of the power management function is obsolete.	B.6	
Added system log messages from a Tofu library.	B.8	
Changed the look according to product upgrades.	-	

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# Chapter 1 Installation Work Problems

This chapter describes problems with installation work and the actions to take for them.

## 1.1 Problems Related to System Configuration Management

### 1.1.1 Error When Registering Cluster Configuration Information

#### Event

When executed with the --create option specified, the pxsystemadm command fails with the following output message.

```
[ERR.] PSM 1002 pxsystemadm Processing failed.(detail)
```

*detail*: Detailed information

#### Cause

The contents of the cluster configuration definition file pxsystem.conf have an error.

The possible causes (and actions to take) vary depending on the detailed information output in *detail*.

Table 1.1 Detailed Information Output in detail

Detailed Information	Meaning	Action
Invalid cluster name: <i>clstname</i>	The command was going to add the <i>clstname</i> cluster, which is already defined and thus cannot be used.	See a. in "Actions."
Invalid file format: <i>filepath</i>	There is an error in the format of the configuration file.	See b. in "Actions."
Invalid number of nodes: <i>nodetype</i>	The node type <i>nodetype</i> exceeds the maximum number of nodes that can be registered in the cluster.	See c. in "Actions."
Invalid number of boot groups: <i>num</i>	The number of boot groups exceeds the maximum number of boot groups that can be defined for the cluster or node group. Alternatively, the number of BoBs written in the node information definition file for the FX server is insufficient for what is written in the pxsystem.conf file.	See d. in "Actions."
Invalid parameter: <i>item</i>	The specified item or section <i>item</i> is invalid.	See e. in "Actions."
No necessary data: <i>item</i>	The required item or section <i>item</i> is not specified.	See f. in "Actions."
Not found IP address of my node	The setting is incorrect for the active system management node.	See g. in "Actions."
Other messages	-	See h. in "Actions."

#### Actions

Take action according to the output cause as follows.

- a. Invalid cluster name: *clstname*  
Review the value of the item "ClusterName" in the pxsystem.conf file, and execute the pxsystemadm command again.
- b. Invalid file format: *filepath*  
See "How to write a configuration file" in the "Job Operation Software Command Reference" and the man page for the pxsystem.conf file, and review how the configuration file is written.
- c. Invalid number of nodes: *nodetype*  
Correct any error in the contents of the pxsystem.conf file, and execute the pxsystemadm command again.

If there is no error, the design of the system configuration must be reviewed. See "Designing the System Configuration" in the "Job Operation Software Setup Guide," and review the system configuration.

d. Invalid number of boot groups: *num*

Review the contents of the node information definition file for the FX server, and confirm that the number of BoBs is sufficient for what is written in the pxsystem.conf file. If the contents do not have any missing elements or errors, the number of boot groups written in the pxsystem.conf file exceeds the maximum number of boot groups that can be defined for the cluster. If the contents have an error, correct it, and execute the pxsystemadm command again.

If there is no error, the design of the system configuration must be reviewed. See "Designing the System Configuration" in the "Job Operation Software Setup Guide," and review the system configuration.

e. Invalid parameter: *item*

Review the item name and specified value of the item *item* in the pxsystem.conf file, and execute the pxsystemadm command again.

If the value written in the item is invalid, the output message is as follows.

```
[ERR.] PSM 1002 pxsystemadm Processing failed.(Invalid parameter: item=value)
```

*item*: Item that has an invalid value written

*value*: Written value

f. No necessary data: *item*

See the man page for the pxsystem.conf file, and review how the configuration file is written.

g. Not found IP address of my node

Specify the management network IP address of the command execution node in the item "ManageNet" in the SMM section of the pxsystem.conf file in order to execute the pxsystemadm command on the active system management node.

However, if the system management node is in a redundant configuration, write the management network IP address of the command execution node in the item "ManageNet" for either of the paired nodes written in the file.

h. Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

If one of the following errors has been determined based on the investigation results, see Actions in the respective section, and take action:

- Error in resource unit configuration settings (see "[1.1.1.1 Error in Resource Unit Configuration Settings](#)")
- Error in partition configuration settings (see "[1.1.1.2 Error in Partition Configuration Settings](#)")
- Error in initial service settings or service start processing (see "[1.1.1.3 Error in Initial Service Settings or Service Start Processins](#)")

### 1.1.1.1 Error in Resource Unit Configuration Settings

If resource unit configuration settings have an error, eliminate the cause of the error, and then perform the following procedure.

1. Reregistering compute nodes

If the cluster to be added or its nodes include the FX server, perform the work of "[1.1.1.4 Reregistering FX Server](#)." If the cluster or nodes include PRIMERGY server compute nodes, see "[1.1.1.5 Reregistering PRIMERGY Server Compute Nodes](#)," and reregister the compute nodes by using the configuration management function.

2. Restarting the active system management node

Restart the active system management node.

```
# shutdown -r now
```

3. Checking configuration information

Specify the -a option in the pashowclst command. Confirm that the entire system configuration, including the reregistered configuration information, is correct.

```
# pashowclst -a
...
```

### 1.1.1.2 Error in Partition Configuration Settings

If partition configuration settings have an error, eliminate the cause of the error, and then perform the following procedure.

1. Reregistering the FX server  
Referring to "1.1.1.4 Reregistering FX Server," reregister the FX server.
2. Restarting the active system management node  
Restart the active system management node.

```
# shutdown -r now
```

3. Checking configuration information  
Specify the -a option in the pashowclst command. Confirm that the entire system configuration, including the reregistered FX server configuration information, is correct.

```
# pashowclst -a  
...
```

### 1.1.1.3 Error in Initial Service Settings or Service Start Processins

If initial service settings or service start processing has an error, eliminate the cause of the error, and then update the status of the active system management node by performing the following procedure.

1. Creating pxsystem.conf  
Create a pxsystem.conf file. Specify the node ID of the active system management node, which is the node that executed the pxsystemadm command.

```
Operation {  
    Type = update  
}  
Cluster {  
    ClusterName = "clstname"  
    Node {  
        NodeID = "0x00000001"  
        ManageNet = "ipaddress"  
    }  
}
```

*clstname*: Name of cluster to be built

*ipaddress*: Management network IP address that is currently set for the node in the item "NodeID"

2. Registering cluster configuration information  
Specify the --create option in the pxsystemadm command to update the status of the active system management node.

```
# pxsystemadm --create filename  
Operation/Type is "update".  
Do you really want to continue (y/n)? y  
Creating a cluster configuration...  
[WARN] PSM 1051 pxsystemadm Reboot the cluster to reflect the settings.  
...  
...  
[INFO] PSM 1082 pxsystemadm The setting was completed.
```

*filename*: pxsystem.conf file created in step 1.

3. Restarting the system management node  
The message (message ID 1051) output in step 2. to prompt a cluster restart is a warning message. However, restart only the active system management node in the procedure in this section.

```
# shutdown -r now
```

## 1.1.1.4 Reregistering FX Server

If one of the following problems occurs, the FX server must be reregistered.

- An error occurs during registration of cluster configuration information where the cluster to be added or its nodes include the FX server. The cause of that error is determined to be an error in either resource unit configuration settings or partition configuration settings. (See "[1.1.1.1 Error in Resource Unit Configuration Settings](#)" or "[1.1.1.2 Error in Partition Configuration Settings](#).")  
In either case, eliminate the cause of the error, and then reregister the FX server. After reregistering the FX server, you will need to perform a procedure. For details on the procedure, see "[1.1.1.1 Error in Resource Unit Configuration Settings](#)" or "[1.1.1.2 Error in Partition Configuration Settings](#)."
- The Tofu coordinates registered for the FX server in cluster configuration information are incorrect. (See "[1.1.2 Incorrect Cluster Configuration Information](#).")  
In this case, delete the registered configuration information, and then reregister the FX server.



The procedure to reregister the FX server varies depending on the installation work status.

"Job Operation Software Setup Guide" (The procedure shows titles from the table of contents.)

- "New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Preparing for Installation on the FX Server" - "Configuring Hardware Control [SMM]"
- "New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Preparing for Installation on the FX Server" - "Registering Node Information [SMM]"
- "New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Installing the OS"
- "New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Reflecting Cluster Configuration Information"

Before performing procedure a., perform steps 1. to 7. shown below.

Before performing procedure b. when procedure a. has already been done, perform steps 1. to 9. shown below.

Before performing procedure c. when procedures a. and b. have already been done, perform all of the steps shown below.

If the work up to procedure c. has already been done, perform all of the steps shown below, and then reinstall the OS.

If the work up to procedure d. has already been done, you need to start over in the installation work. Perform the work of "Deleting a Cluster" or "Deleting a Node" in the "Job Operation Software Setup Guide," and then perform the work of "Adding a Cluster" or "Adding a Node" again.

Perform the following procedure on the active system management node.

1. Modifying the node information definition file for the FX server  
Modify the node information definition file for the FX server.  
For details on items in the node information definition file for the FX server, see "Node Information Definition File for FX Servers" in "Details of the System Management Function" in the "Job Operation Software Administrator's Guide for System Management."
2. Creating pxsystem.conf  
Create a pxsystem.conf file to delete the added configuration information that is incorrect.  
Write the pxsystem.conf file as follows to first delete nodes before adding nodes.  
The following example deletes nodes in units of node groups.

```
Operation {
  Type = del-node
}
Cluster {
  ClusterName = clstname
  NodeGroup {
    NodeGroupID = nodegid1
  }
  NodeGroup {
    NodeGroupID = nodegid2
  }
}
```

```
}  
}
```

*clstname*: Target cluster name

*nodegid1*, *nodegid2*: Target node group ID

### 3. Registering cluster configuration information

Use the `--create` option of the `pxsystemadm` command to have the system management node reflect the cluster configuration information.

```
# pxsystemadm --create pxsystem.conf  
Operation/Type is operation.                <- (*1)  
Do you really want to continue (y/n)? y      <- (*2)  
[INFO] PSM 1082 pxsystemadm The setting was completed
```

(\*1) *operation* displays the operation type written in the `pxsystem.conf` file.

(\*2) Confirmation is requested before registration.

### 4. Checking settings

Specify the `-a` option in the `pashowclst` command, and confirm that the settings are registered.

```
# pashowclst -a  
...
```

### 5. Creating `pxsystem.conf` file

Create a `pxsystem.conf` file to register the modified configuration information.

The following example adds nodes in units of node groups.

```
Operation {  
    Type = add-node  
}  
Cluster {  
    ClusterName = clstname  
    NodeGroup {  
        CCS {  
            ManageNet = 192.0.2.1  
            ControlNet = 198.51.100.1  
            Model = PG  
        }  
        Model = FT  
        NumberOfBootGroups = 252  
    }  
    NodeGroup {  
        CCS {  
            ManageNet = 192.0.2.2  
            ControlNet = 198.51.100.2  
            Model = PG  
        }  
        Model = FT  
        NumberOfBootGroups = 252  
    }  
}
```

*clstname*: Target cluster name

### 6. Registering cluster configuration information

Use the `--create` option of the `pxsystemadm` command to have the system management node reflect the cluster configuration definitions.

Also specify the `--ft` option in the `pxsystemadm` command. In the `--ft` option, specify the path to the directory storing the node information definition file for the FX server for the installation function.

```
# pxsystemadm --create pxsystem.conf --ft node_ft  
Operation/Type is operation.                <- (*1)
```

```
Do you really want to continue (y/n)? y          <- (*2)
[INFO] PSM 1082 pxsystemadm The setting was completed
```

(\*1) *operation* displays the operation type written in `pxsystem.conf`.

(\*2) Confirmation is requested before registration.

#### 7. Checking settings

Specify the `-a` option in the `pashowclst` command, and confirm that the settings are registered.

```
# pashowclst -a
...
```

#### 8. Configuring hardware control

Perform this step only if the FX server coordinates have changed.

Referring to the following section in the "Job Operation Software Setup Guide," configure hardware control.

"New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Preparing for Installation on the FX Server" - "Configuring Hardware Control [SMM]"

#### 9. Checking hardware control settings

Perform this step only if the FX server coordinates have changed.

Referring to the following section in the "Job Operation Software Setup Guide," confirm that hardware control is correctly configured.

"New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Preparing for Installation on the FX Server" - "Checking Hardware Control Settings [SMM]"

#### 10. Deleting node information

Delete the currently registered node information.

```
# pxinst node del -m hostname
[INFO] INST 1804 pxinst Deleting nodes completed.(nodenum=1)
```

*hostname*: Host name of a registered node

#### 11. Registering node information

Referring to the following section in the "Job Operation Software Setup Guide," register the node information again.

"New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Preparing for Installation on the FX Server" - "Registering Node Information [SMM]"

After performing the above procedure and confirming that the settings are as expected, execute the `pxsystemadm` command with the `--set-hardware` option again.

### 1.1.1.5 Reregistering PRIMERGY Server Compute Nodes

An error may occur during registration of cluster configuration information where the cluster to be added or its nodes include the PRIMERGY server. If the cause of that error is determined to be an error in resource unit configuration settings, PRIMERGY server compute nodes need to be registered again.

In that case, eliminate the cause of the error, and then reregister the PRIMERGY server compute nodes. After reregistering the PRIMERGY server compute nodes, you will need to perform a procedure. For details on the procedure, see "[1.1.1.1 Error in Resource Unit Configuration Settings](#)."



#### Note

The procedure to reregister PRIMERGY server compute nodes varies depending on the installation work status.

"Job Operation Software Setup Guide" (The procedure shows titles from the table of contents.)

- a. "New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Preparing for Installation on the PRIMERGY Server" - "Registering Node Information [SMM]"
- b. "New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Installing the OS"
- c. "New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Reflecting Cluster Configuration Information"



Before performing procedure a., perform steps 1. to 7. shown below.

Before performing procedure b. when procedure a. has already been done, perform steps 1. to 9. shown below.

If procedures a. and b. have already been done, perform steps 1. to 9. shown below, and then reinstall the OS.

If procedures a. to c. have already been done, you need to start over in the installation work. Perform the work of "Deleting a Cluster" or "Deleting a Node" in the "Job Operation Software Setup Guide," and then perform the work of "Adding a Cluster" or "Adding a Node" again.

---

Perform the following procedure on the active system management node.

1. Modifying the node information definition file for the PRIMERGY server

Modify the node information definition file for the PRIMERGY server. For details on items in the node information definition file for the PRIMERGY server, see "Node Information Definition File" in "Details of the System Management Function" in the "Job Operation Software Administrator's Guide for System Management."

2. Creating a pxsystem.conf file

Create a pxsystem.conf file to delete the added configuration information that is incorrect.

For nodes added in units of node groups for the addition of a cluster or nodes, perform this work in units of node groups.

For nodes added in units of nodes, perform the work in units of nodes.

Write the pxsystem.conf file as follows to first delete nodes before adding nodes.

The following example deletes nodes in units of node groups.

```
Operation {
  Type = del-node
}
Cluster {
  ClusterName = clstname
  NodeGroup {
    NodeGroupID = nodegid1
  }
  NodeGroup {
    NodeGroupID = nodegid2
  }
}
```

*clstname*: Target cluster name

*nodegid1, nodegid2*: Target node group ID

3. Registering cluster configuration information

Specify the --create option in the pxsystemadm command to have the system management node reflect the cluster configuration information.

```
# pxsystemadm --create pxsystem.conf
Operation type is operation. <- (*1)
Do you really want to continue (y/n)? y <- (*2)
[INFO] PSM 1082 pxsystemadm The setting was completed
```

(\*1) *operation* displays the operation type written in the pxsystem.conf file.

(\*2) Confirmation is requested before registration.

4. Checking settings

Specify the -a option in the pashowclst command, and confirm that the settings are registered.

```
# pashowclst -a
...
```

5. Creating a pxsystem.conf file

Create a pxsystem.conf file to register the modified configuration information.

The following example adds nodes in units of node groups.

```
Operation {
  Type = add-node
}
Cluster {
  ClusterName = clstname
```

```
NodeGroup {
  CCS {
    ManageNet = 192.0.2.1
    ControlNet = 198.51.100.1
    Model = PG
  }
  CN {
    ManageNet = 192.0.2.7
    ControlNet = 198.51.100.7
    Model = PG
  }
}
NodeGroup {
  CCS {
    ManageNet = 192.0.2.2
    ControlNet = 198.51.100.2
    Model = PG
  }
  CN {
    ManageNet = 192.0.2.8
    ControlNet = 198.51.100.8
    Model = PG
  }
}
}
```

*clstname*: Target cluster name

6. Registering cluster configuration information

Specify the --create option in the pxsystemadm command to have the system management node reflect the cluster configuration definitions.

```
# pxsystemadm --create pxsystem.conf
Operation type is operation. <- (*1)
Do you really want to continue (y/n)? y <- (*2)
[INFO] PSM 1082 pxsystemadm The setting was completed
```

(\*1) "operation" displays the operation type written in pxsystem.conf.

(\*2) Confirmation is requested before registration.

7. Checking settings

Specify the -a option in the pashowclst command, and confirm that the settings are registered.

```
# pashowclst -a
...
```

8. Deleting node information

Delete the currently registered node information.

```
# pxinst node del -m hostname
[INFO] INST 1804 pxinst Deleting nodes completed.(nodenum=1)
```

*hostname*: Host name for the reregistered node

9. Registering node information

Referring to the following section in the "Job Operation Software Setup Guide," register the node information again.

"New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Preparing for Installation on the PRIMERGY Server" - "Registering Node Information [SMM]"

After performing the above procedure and confirming that the settings are as expected, execute the pxsystemadm command with the --set-hardware option again.

## 1.1.2 Incorrect Cluster Configuration Information

### Event

When used to check cluster configuration information, the `pashowclst` command with the `-a` option displays different values than expected.

For example, suppose the following configuration information is correct.

Table 1.2 Examples of Expected Cluster Configuration Information

Item	Expected Configuration Information
ControlNet	192.0.2.3
ManageNet	198.51.10.3
Model	PG

If the ControlNet (control network IP address) setting is not as expected when the `pashowclst` command is executed on the system management node, the command displays the following. In this example, the value displayed under `CTRL_NET` differs from the expected value.

```
# pashowclst -a
...
[ NODETYPE: SCM ]
NODE          STATUS      REASON          PWR_STATUS      ARCH_STATUS      SRV_STATUS
              MODEL      MNG_NET_MASTER  MNG_NET         CTRL_NET         HOSTNAME
              RELAY_NODE  RELAY_MNG_NET   RELAY_HOSTNAME  FROM_UPDATE      DETAIL
0xFFFF0001   Running    -               on              -               -
              PG      198.51.10.3    198.51.10.3    192.0.2.30      scm01
              -      -               -               52:02:12        -
...

```

### Cause

The `pxsystem.conf` file, which is specified in the `--create` option of the `pxsystemadm` command, or a file in the directory specified in the `--ft` option has an error in the setting items.

### Actions

The action depends on the item with the incorrect setting. Take action according to the following table.

Table 1.3 Meanings of Incorrect Items, and Actions to Take

Incorrect Item	Meaning	Action
NAME	Cluster name	These items of information cannot be changed. See the "Job Operation Software Setup Guide," delete the relevant cluster, and then add the cluster again. The OS must be reinstalled on the nodes in the deleted cluster.
CLSTTYPE	Cluster type	
USEDDBY	Name of cluster that uses relevant storage cluster	
DEVICE	Device name of shared file system mounted by redundantly configured nodes	See " <a href="#">1.1.2.1 Changing Cluster Configuration Information</a> ."
FSTYPE	Type of shared file system mounted by redundantly configured nodes	
MOUNTPOINT	Mount point of shared file system mounted by redundantly configured nodes	
OPTLIST	Options specified to mount redundantly configured nodes in shared file system	
CTRL_NET_SRV	Control network (communication) IP address	
CTRL_NET	Control network IP address	

Incorrect Item	Meaning	Action
MNG_NET_MASTER	Representative IP address for management network	
MNG_NET	Management network IP address	
COMPUTE_NET	Tofu network IP address (FX server)	
PWRCTL_ONLY	Setting to enable non-control functions	
COORDINATE	Tofu coordinates	If the Tofu coordinates registered for the FX server are incorrect, first delete the registered configuration information and then register the cluster configuration information again. After that, reregister the FX server. For the procedure to reregister the FX server, see " <a href="#">1.1.1.4 Reregistering FX Server.</a> "

### 1.1.2.1 Changing Cluster Configuration Information

If an incorrect node IP address or other incorrect information is registered, change the information registered with the system management node by using the configuration management function.



#### Note

The procedure to change cluster configuration information varies depending on the installation work status.

"Job Operation Software Setup Guide" (The procedure shows titles from the table of contents.)

- a. "New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Preparing for Installation on the PRIMERGY Server" - "Registering Node Information [SMM]"  
or  
"New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Preparing for Installation on the FX Server" - "Registering Node Information [SMM]"
- b. "New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Installing the OS"
- c. "New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Reflecting Cluster Configuration Information"
- d. "New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Changing Configuration Information"

Before performing procedure a., perform steps 1. to 3. shown below.

Before performing procedure b. when procedure a. has already been done, perform steps 1. to 6. shown below.

If procedures a. and b. have already been done, perform steps 1. to 7. shown below.

If procedures a. to c. have already been done, perform procedure d. instead of the procedure below.

Perform the following procedure on the active system management node.

1. Creating a pxsystem.conf file

Create a pxsystem.conf file to change information on the target node.

The following example of the pxsystem.conf file shows a case of changing the management network IP address (item: ManageNet) of the node registered with the node ID 0xFFFF0010.

```

Operation {
    Type = update
}
Cluster {
    ClusterName = clstname
    Node {
        NodeID = 0xFFFF0010
        ManageNet = ipaddr
    }
}

```

*clstname*: Target cluster name  
*ipaddr*: Changed IP address

## 2. Registering cluster configuration information

Use the --create option of the pxsystemadm command to have the system management node reflect the cluster configuration definitions.

```
# pxsystemadm --create pxsystem.conf
Operation/Type is op. <- (*1)
Do you really want to continue (y/n)? y <- (*2)
[INFO] PSM 1082 pxsystemadm The setting was completed
```

(\*1) *op* displays the operation type written in the pxsystem.conf file.  
(\*2) Confirmation is requested before registration.

## 3. Checking settings

Using the -a option of the pashowclst command, confirm that the settings are registered.

```
# pashowclst -a
...
```

## 4. Deleting node information

Perform this and subsequent steps when "CTRL\_NET\_SRV," "CTRL\_NET," "MNG\_NET\_MASTER," "MNG\_NET," or "COMPUTE\_NET" is an incorrect item.

Delete the currently registered node information.

```
# pxinst node del -m hostname
[INFO] INST 1804 pxinst Deleting nodes completed.(nodenum=1)
```

*hostname*: Host name of a registered node

## 5. Modifying a node information definition file

Check the node information definition file used in the following procedure in the "Job Operation Software Setup Guide," and modify the incorrect information.

- "New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Preparing for Installation on the PRIMERGY Server" - "Registering Node Information [SMM]"

or

- "New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Preparing for Installation on the FX Server" - "Registering Node Information [SMM]"

## 6. Registering node information

Register again the node information modified in step 5 in the following procedure in the "Job Operation Software Setup Guide."

- "New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Preparing for Installation on the PRIMERGY Server" - "Registering Node Information [SMM]"

or

- "New System Installation" - "Building a Cluster" - "Preparing for Installation" - "Preparing for Installation on the FX Server" - "Registering Node Information [SMM]"

## 7. Reinstalling the OS

The nodes that require OS reinstallation vary depending on the changed items.

Table 1.4 Nodes Requiring OS Reinstallation

Changed Node	Changed Item	Node Requiring OS Reinstallation
System management node	MNG_NET_MASTER	All nodes except the system management node
	ManageNet	
Compute cluster sub management node	MNG_NET_MASTER	All nodes in the same node group

Changed Node	Changed Item	Node Requiring OS Reinstallation
	ManageNet	

For node types and changes to items not shown in the above table, OS reinstallation is not necessary.

### 1.1.3 Shared File System Not Mounted

#### Event

When executed, the `df` or `mount` command does not display the shared file system `shared_disk`.

This event occurs at the following timing on a node where the shared file system `shared_disk` is set:

- When the `pxsystemadm` command with the `--create` option specified is executed (applies only to a newly built system management node)
- When the `pxsystemadm` command with the `--set` option specified is executed (applies only to a newly built node)
- When the node starts
- When the target node is promoted to the active node by a failover

#### Cause

There may be an incorrect setting for the shared file system `shared_disk`. On the system management node, execute the `pashowclst` command with the `-a` option specified, and check the shared file system settings.

```
# pashowclst -a
[ HA ]
CLUSTER      NODETYPE      NODE
cluster1     SMM           0x00000001,0x00000002
  DEVICE      /dev/disk/by-id/scsi-xxxxxxxxxxxxxxxxxxxxxxxxxxxx
  MOUNT_POINT /var/opt/FJSVtcs/shared_disk
  FS_TYPE     xfs
  OPT_LIST    rw
...
```

#### Actions

If the above cause is applicable, change the information on the shared file system `shared_disk` according to "Changing Cluster Configuration Information" in the "Job Operation Software Setup Guide." If it is not applicable, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk.

### 1.1.4 Cannot Communicate With Active Node Using Representative IP Address for Management Network

#### Event

Communication with an active node is not possible using a representative IP address for the management network.

This event occurs at the following timing on a node where a representative IP address for the management network (`ManageNetMaster`) is set:

- When the `pxsystemadm` command with the `--create` option specified is executed (applies only to a newly built system management node)
- When the `pxsystemadm` command with the `--set` option specified is executed (applies only to a newly built node)
- When the node starts
- When the target node is promoted to the active node by a failover

#### Cause

A representative IP address for the management network possibly may not be set.

## Actions

Restart the target node that could not be communicated with.

## 1.1.5 Error in FX Server Control Settings

---

### Event

When executed with the `--set-hardware` option specified, the `pxsystemadm` command fails with the following output message.

```
# pxsystemadm --set-hardware -c cluster1
Do you really want to continue (y/n)? y
[ERR.] PSM 0020 pxsystemadm There are nodes that failed in the setting.(filename)
```

*filename*: Name of the file output to the current directory

Check the contents of the output file *filename* to identify which boot group has abnormal settings.

An example from an output file is shown below.

```
[0x0103] Failed setting hardware configuration.
```

The output at the beginning of each line shows a boot group (boot group ID) that has abnormal settings. From the above example, you can see that the boot group with the boot group ID 0x0103 has abnormal settings.

### Cause

There was a control setting failure for the boot group displayed in the output file.

### Actions

Execute the `pxsystemadm` command for the boot group that had the control setting failure.

The following example executes the `pxsystemadm` command with the boot group ID 0x0103 specified. The boot group has the abnormality shown in the above example in Event.

```
# pxsystemadm --set-hardware -c cluster1 --bootgrp 0x0103
```

If this action does not solve the problem, contact a customer engineer (CE) to check whether BMC settings are correct.

## 1.1.6 Failed Operation for Checking FX Server Control Settings

---

### Event

When executed with the `--check-hardware` option specified, the `pxsystemadm` command fails with the following output message.

```
# pxsystemadm --check-hardware -c cluster1
Do you really want to continue (y/n)? y
[ERR.] PSM 1001 pxsystemadm There are nodes which has not setting of the hardware.(filename)
```

*filename*: Name of the file output to the current directory

Check the contents of the output file *filename* to identify which boot group has abnormal settings.

An example from an output file is shown below.

```

      (Tofu Coord)                (Cluster Range)
BootGrpID  Target  ConfigFile  Target  ConfigFile
0x0103    0,0,3,2    0,0,0,2    0,0-10,10    0,0-10,10
BootGrpID  Detail
0x0101    The hardware setting is not a default configuration
```

### Cause

The following causes are considered possible depending on the contents of the output file *filename*.

- a. Values are different between Target and ConfigFile in Tofu Coord.  
The cluster configuration information or FX server hardware settings have an error.

- b. Values are different between Target and ConfigFile in Cluster Range.  
The FX server control settings have an error, and the settings could not be corrected.
- c. Cluster Range displays a range with a hyphen ("-").  
Control settings were not implemented for the target boot group.
- d. Detail displays "The hardware setting is not a default configuration".  
Implementation of control settings failed for the target boot group.

#### Actions

Depending on the cause, take action according to the following procedures.

- a. See "[1.1.6.1 Different Values Between Target and ConfigFile in Tofu Coord.](#)"
- b. See "[1.1.6.2 Different Values Between Target and ConfigFile in Cluster Range.](#)"
- c. See "[1.1.6.3 Cluster Range Displayed With Hyphen \("-"\).](#)"
- d. See "[1.1.6.4 "The hardware setting is not a default configuration" Displayed in Detail.](#)"

### 1.1.6.1 Different Values Between Target and ConfigFile in Tofu Coord

If a Target value differs from the expected coordinates at the design time, ask a customer engineer (CE) to correct the setting.

If a ConfigFile value differs from the expected coordinates at the design time, you need to first delete the added configuration information, and then register the cluster configuration information again.



#### Note

If you have already done the work described in "Reflecting Cluster Configuration Information" in the procedures in the "Job Operation Software Setup Guide," you need to perform the setup procedure again. Perform the work described in "Deleting a Cluster" or "Deleting a Node" in the "Job Operation Software Setup Guide," and then add the cluster or node again.

Perform the following procedure on the active system management node.

1. Modifying the node information definition file for the FX server  
Modify the node information definition file for the FX server.  
For details on items in the node information definition file for the FX server, see "Node Information Definition File for FX Servers" in "Details of the System Management Function" in the "Job Operation Software Administrator's Guide for System Management."
2. Creating pxsystem.conf  
Create a pxsystem.conf file to delete the added configuration information that is incorrect.  
Write the pxsystem.conf file as follows to first delete nodes before adding nodes.  
The following example deletes nodes in units of node groups.

```
Operation {
    Type = del-node
}
Cluster {
    ClusterName = clstname
    NodeGroup {
        NodeGroupID = nodegid1
    }
    NodeGroup {
        NodeGroupID = nodegid2
    }
}
```

*clstname*: Target cluster name

*nodegid1*, *nodegid2*: Target node group ID



### 3. Registering cluster configuration information

Use the `--create` option of the `pxsystemadm` command to have the system management node reflect the cluster configuration information.

```
# pssystemadm --create pxsystem.conf
Operation/Type is op. <- (*1)
Do you really want to continue (y/n)? y <- (*2)
[INFO] PSM 1082 pssystemadm The setting was completed
```

(\*1) *op* displays the operation type written in the `pxsystem.conf` file.

(\*2) Confirmation is requested before registration.

### 4. Checking settings

Specify the `-a` option in the `pashowclst` command, and confirm that the settings are registered.

```
# pashowclst -a
...
```

### 5. Creating `pxsystem.conf`

Create a `pxsystem.conf` file to register the modified configuration information.

The following example adds nodes in units of node groups.

```
Operation {
  Type = add-node
}
Cluster {
  ClusterName = clstname
  NodeGroup {
    CCS {
      ManageNet = 192.0.2.1
      ControlNet = 198.51.100.1
      Model = PG
    }
    Model = FT
    NumberOfBootGroups = 252
  }
  NodeGroup {
    CCS {
      ManageNet = 192.0.2.2
      ControlNet = 198.51.100.2
      Model = PG
    }
    Model = FT
    NumberOfBootGroups = 252
  }
}
```

*clstname*: Target cluster name

### 6. Registering cluster configuration information

Use the `--create` option of the `pxsystemadm` command to have the system management node reflect the cluster configuration definitions.

Also specify the `--ft` option in the `pxsystemadm` command. In the `--ft` option, specify the path to the directory storing the node information definition file for the FX server for the installation function.

```
# pssystemadm --create pxsystem.conf --ft node_ft
Operation/Type is op. <- (*1)
Do you really want to continue (y/n)? y <- (*2)
[INFO] PSM 1082 pssystemadm The setting was completed
```

(\*1) *op* displays the operation type written in `pxsystem.conf`.

(\*2) Confirmation is requested before registration.

## 7. Checking settings

Specify the `-a` option in the `pashowclst` command, and confirm that the settings are registered.

```
# pashowclst -a
...
```

After performing the above procedure and confirming that the settings are as expected, execute the `pxsystemadm` command with the `--set-hardware` option again.

### 1.1.6.2 Different Values Between Target and ConfigFile in Cluster Range

The FX server control settings have an error, and the settings could not be corrected.

Execute the `pxsystemadm` command with the `--set-hardware` option again for the target boot group.

If this action does not solve the problem, contact a customer engineer (CE) to check whether BMC settings are correct.

### 1.1.6.3 Cluster Range Displayed With Hyphen ("-")

Control settings were not implemented for the target boot group.

Execute the `pxsystemadm` command with the `--set-hardware` option again for the target boot group.

If this action does not solve the problem, contact a customer engineer (CE) to check whether BMC settings are correct.

### 1.1.6.4 "The hardware setting is not a default configuration" Displayed in Detail

Implementation of control settings failed for the target boot group.

For details on the cause, check `/var/log/FJSVtcs/psm/pxsystemadm.log` on the system management node.

- For a setting failure

If the log output is as follows, the reason for the setting failure for the BMC is, for example, a failure to connect to the BMC.

```
2018-12-18 14:26:08:641630 [ERR.] [PSM] 9999 - pxsystemadm [0xFF01] Hardware information was not
able to be acquired.
```

Execute the `pxsystemadm` command with the `--set-hardware` option again for the target boot group.

If this action does not solve the problem, contact a customer engineer (CE) to check whether BMC settings are correct.

- For log output other than the above

Contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the log together with the output message.

## 1.1.7 Failed Reflection of Cluster Configuration Definitions

### Event

This event occurs when the `pxsystemadm` command with the `--set` option specified is executed.

For any node with this setting failure, the `pxsystemadm` command outputs an error file to the current directory.

The following example of execution specifies the cluster `cluster1`.

```
# pxsystemadm --set -c cluster1
Do you really want to continue (y/n)? y
[ERR.] PSM 0020 pxsystemadm There are nodes that failed in the setting.(filename)
```

*filename*: Error file name (`pxsystemadm_cluster1_set_failed_YYYY`)

### Cause/Actions

The cause (and action to take) varies depending on the message output to the error file.

The following table lists examples of messages output to the error file. Take action according to the following table.

Table 1.5 Messages Output to an Error File and Actions for Failures to Reflect Cluster Configuration Definitions

Message	Action
Permission denied (publickey,gssapi-keyex,gssapi-with-mic,password)	See "1.1.7.1 ssh Communication Failure."

Message	Action
pmexe command message (message ID: 5006)	
ssh: connect to host <i>ipaddr</i> port 22: No route to host	
Packages install failed.	See " <a href="#">1.1.7.2 Failed Package Application for the Job Operation Software.</a> "
Services setting failed.	See " <a href="#">1.1.7.3 Failed Service Setting for the Job Operation Software.</a> "
Starting the services failed.	See " <a href="#">1.1.7.4 Failed Service Start for the Job Operation Software.</a> "
getting DB files failed: <i>detail</i>	See " <a href="#">1.1.7.5 Failed to Obtain Cluster Configuration Information.</a> "
Warning: RPMDB altered outside of yum.	The RPMDB may have been modified by a command other than yum. No action is necessary.

If the output message is other than the above, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance." Then, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

### 1.1.7.1 ssh Communication Failure

#### Event

ssh communication with the target node has failed, and an ssh command error message is output to the error file.

```
# cat pxsystemadm_cluster1_set_failed_20180308093223
[nodeid] ssh: connect to host ipaddr port 22: No route to host
```

*nodeid*: Node ID of the target node

*ipaddr*: Management network IP address of the target node

#### Cause

This event occurs because the target node stopped or the sshd setting is incorrect.

#### Actions

The output of this error means a failure to execute the pmexe command as part of the pxsystemadm command.  
See "[2.3.1 Batch Operation Command Failed,](#)" and take action.

### 1.1.7.2 Failed Package Application for the Job Operation Software

#### Event

The following message is output to an error file when the target node has failed to apply a Job Operation Software package.

```
# cat pxsystemadm_storage_set_failed_20180308093223
[nodeid] Packages install failed.
```

*nodeid*: Node ID of the target node

#### Cause

The system management node or compute cluster sub management node has the repository referenced by the yum command on the target node. The httpd service of that management node may have stopped or experienced an abnormality.

#### Actions

Check the httpd service status on the repository reference node.

```
# systemctl status httpd
* httpd.service - The Apache HTTP Server
```

```
Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; vendor preset: disabled)
Active: inactive (dead) since Wed 2019-05-22 21:45:35 JST; 32s ago
   Docs: man:httpd(8)
          man:apachectl(8)
```

See `/var/log/httpd/error_log` on the repository reference node, and specify the cause of the error. Restart the `httpd` service of the repository reference node as needed. The repository reference node varies as follows depending on the type of node where the error occurred:

- For an FX server node belonging to a node group  
Compute cluster sub management node of that node group
- For a PRIMERGY server compute node belonging to a node group  
Compute cluster sub management node of that node group
- For any other node  
System management node

Specify the cause of the error according to the above-described method. Eliminate the cause before performing the following work. Perform this procedure on the active system management node.

#### 1. Checking a package list (packagekit.yaml file)

Confirm the package names of applicable node types written in the `packagekit.yaml` file.

For details on how to check it, see "New System Installation" - "Building a System Management Node" - "Installing the Job Operation Software [SMM]" in the "Job Operation Software Setup Guide."

[packagekit.yaml format]

```
TYPE:
FEFS: FJSVfefes-client,FJSVfefes-client-modules
LANG: FJSVxtclang-mpi-compiler-TCL40R00,FJSVxtclang-mpi-runtime-TCL40R00,...
TCS: FJSVpxinst,FJSVpxpsm,FJSVpxprm,...
```

TYPE: Node type name (FX server compute node: CN-SP; PRIMERGY server compute node: CN-PG)

FEFS: Name of the FEFS package applied to the target node

LANG: Name of the language package applied to the target node

TCS: Name of the Job Operation Software package applied to the target node

\* A package name may be "null," indicating that there is no package to apply.

#### 2. Applying packages

Specify all the package names confirmed in step 1., and give an installation instruction with the `yum` command.

```
# pmexe -c clstname -n nodeid --chroot "yum clean all"
```

*clstname*: Target cluster

*nodeid*: Node ID of the target node (Aside from the `-n` option, you can also specify an option that specifies a range.)

Apply the packages with the `yum` command.

```
# pmexe -c clstname -n nodeid --chroot "yum -y install pkg1 pkg2,..."
```

#### 3. Reflecting cluster configuration definitions again

Specify the `--set` option in the `pxsystemadm` command, and execute the command again on the target node.

```
# pxsystemadm --set -c clstname -n nodeid
```

*clstname*: Target cluster name

*nodeid*: Node ID of the target node

#### 4. Confirming the start of services

Use the `pashowclst` command to confirm that the services have started.

```
# pashowclst -c clstname -n nodeid
...
```

### 1.1.7.3 Failed Service Setting for the Job Operation Software

#### Event

The following message is output to an error file when the target node has failed to set the Job Operation Software services.

```
# cat pxsystemadm_storage_set_failed_20180308093223
[nodeid] Services setting failed.
```

*nodeid*: Node ID of the target node

#### Cause

The causes considered possible include a network error.

#### Actions

Using the ping or ssh command, confirm that the target node can be connected. Eliminate the cause of the error, and then perform the following procedure.

1. Reflecting cluster configuration definitions again  
Specify the --set option in the pxsystemadm command, and execute the command again on the target node.

```
# pxsystemadm --set -c clstname -n nodeid
```

*clstname*: Target cluster name

*nodeid*: Node ID of the target node

2. Confirming the start of services  
Use the pashowclst command to confirm that the services have started.

```
# pashowclst -c clstname -n nodeid
...
```

### 1.1.7.4 Failed Service Start for the Job Operation Software

#### Event

The following message is output to an error file when the target node has failed to start the Job Operation Software services.

```
# cat pxsystemadm_storage_set_failed_20180308093223
[nodeid] Starting the services failed.
```

*nodeid*: Node ID of the target node

#### Cause

The causes considered possible are OS and service errors.

#### Actions

Eliminate the cause of the error, and then perform the following procedure.

1. Reflecting cluster configuration definitions again  
Specify the --set option in the pxsystemadm command, and execute the command again on the target node.

```
# pxsystemadm --set -c clstname -n nodeid
```

*clstname*: Target cluster name

*nodeid*: Node ID of the target node



If the target node is an FX server, perform "1. Reflecting cluster configuration definitions again" on the boot group.

## 2. Confirming the start of services

Use the `pashowclst` command to confirm that the services have started.

```
# pashowclst -c clstname -n nodeid
...
```

### 1.1.7.5 Failed to Obtain Cluster Configuration Information

#### Event

The target node has failed to obtain cluster configuration information from the active system management node, and the following message is output to the error file.

```
# cat pxsystemadm_cluster1_set_failed_20180308093223
[nodeid] getting DB files failed: detail
```

*nodeid*: Node ID of the target node

*detail*: Detailed information

#### Note

If the target node is a compute node belonging to a node group, it obtains cluster configuration information from the compute cluster sub management node belonging to the same node group, not from the system management node. In this case, perform the procedure described below in Actions on the compute cluster sub management node belonging to the same node group as the target node, not on the active system management node.

#### Cause

The HTTP service of the active system management node may not be running.

#### Actions

Check the status of the HTTP service of the active system management node. If it has stopped, start it, and then execute the `pxsystemadm` command with the `--set` option again on the target node.

If this action does not solve the problem, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance." Then, contact a customer engineer (CE) or Fujitsu Support Desk.

## 1.2 Problems Related to Software Environment Check Function

### 1.2.1 pachecker Command Execution Result File Not Output

#### Event

This event occurs when the `pachecker` command is executed.

The following example shows execution of the `pachecker` command.

```
# pachecker -c compute -n 0xFFFF0003 --type plugin
Check phase has started.
[0xFFFF0003] Check phase has end.
[INFO] PSM 4181 pachecker Result of the check items are OK.
```

The example does not output the `pachecker` command message that appears when the command is executed normally (message ID: 4182).

#### Cause

No check items are defined for the nodes within the scope of the check.

For example, suppose that arbitrary check items are defined for the compute cluster management node in the check definition file and the `pachecker` command is executed with only the login node specified in the `-n` option. In this case, no result file is output because there are no check items on the login node, which is the subject of the check.

## Actions

Review the check definition file or the value specified in the target node option, and execute the pachecker command again.

## 1.2.2 DIFF as Node Check Result (RESULT) for Installed Packages With Same Name

---

### Event

By specifying the nodes where packages with the same name but different versions or architectures are installed, the check result (RESULT) will be DIFF when the pachecker command is executed.

The following example shows nodes where packages with the same name but different architectures are installed.

```
# rpm -qa |grep systemd-libs
systemd-libs-219-57.el7.i686
systemd-libs-219-57.el7.x86_64
```

### Cause

A package with a different version or architecture is treated as a different package.

### Actions

See the execution result file created when the command ends, and visually check for any problems.

The following example of a plugin output file shows that packages with the same name but different architectures are installed on the nodes 0x00000001, 0x01FF0003, and 0x01FF0004.

```
# cat /root/pachecker_plugin_check01.conf_psm1_result_20180101120000
*****
TARGET:perl-PadWalker          RESULT:DIFF      ACTION:-
=====
0x00000001,0x01FF0004
=====
perl-PadWalker-1.92-5.puias6.x86_64
perl-PadWalker-1.92-5.puias6.i686
=====
0x01FF0003
=====
perl-PadWalker-1.92-5.puias6.i686
perl-PadWalker-1.92-5.puias6.x86_64
```

In the above example, the result for the perl-PadWalker package on 0x00000001, 0x01FF0003, and 0x01FF0004 is DIFF. Nonetheless, you can confirm that the same package is installed on them in a visual check.

## 1.2.3 Normal Treatment for Non-Existent File Described in FileMatch Section

---

### Event

A file written in the FileMatch section of the check definition file is visible normally even if the file does not exist on any of the checked nodes.

### Cause

If the FileMatch section has a file that does not exist on any of the checked nodes, the situation is determined to be not different and treated as normal. This mechanism is provided in consideration of cases where an unnecessary configuration file does not exist.

### Actions

If you want to check whether a file exists, in addition to comparing files for differences, make a definition in the FileMatch and FileExist sections.

## 1.2.4 Output of NoCommand Even Though Command Described in Command Section Exists

---

### Event

This event occurs when you do not have the execution privilege for any command written in the Command section of the check definition file.

NoCommand is output to the check execution result file.

### Cause

The output results of any command written in the item "ExecCmd" in the Command section may contain the following conditions. If one of these conditions applies, the command is considered non-executable, and NoCommand is output:

- No such file or directory
- command not found
- Permission denied

### Actions

Confirm that any command exists and you have the execution privilege. Then, execute the pachecker command again.

## 1.2.5 cat and vi Cannot Open an Error Node List

---

### Event

This event occurs in an attempt to open a file that has a blank space in the file path of an error node list.

```
# cat /root/pachecker_plugin_checklist_compute_error_aaa bbb_20190315181415
/root/pachecker_plugin_checklist_compute_error_aaa bbb_20190315181415: No such file or directory
exists
```

### Cause

"Name" is a check item in the check definition file. If there is a blank space in Name, the blank space is also inserted in the file path, so escape processing is needed.

### Actions

You can open the file by enclosing the file path in double quotation marks or specifying "/" before the blank space to escape it.

[Example of enclosing in double quotation marks]

```
# cat "/root/pachecker_plugin_checklist_compute_error_aaa bbb_20190315181415"
# aaa bbb
0xFF020001 # CannotCheck
0xFF030001 # CannotCheck
```

[Example of specifying "/" to escape]

```
# cat /root/pachecker_plugin_checklist_compute_error_aaa\ bbb_20190315181415
# aaa bbb
0xFF020001 # CannotCheck
0xFF030001 # CannotCheck
```



"Name" is a check item in the check definition file. "Name" is also used as a file path, so we recommended that Name not use blank spaces or any other characters requiring an escape character.



## 1.3 Installation Function Problems

---

### 1.3.1 verify Process Failed When Creating Installation Design Sheet

---

#### Event

This event occurs when [Add-Ins] - [Technical Computing Suite] - [verify] is executed.

The following dialog message appears when the event occurs.

[ERR.] INST 2013 The input data is incorrect. More details can be found in log file "design\_sheet.log".

#### Cause

The information entered on the installation design sheet has an error.

#### Actions

Eliminate the error according to the message output to the design\_sheet.log log file, which is shown in the dialog message. Then, execute the verify process again.



See

For details on messages output for abnormalities, such as an error in the information entered on an installation design sheet, see "[Appendix A Messages Related to Installation Design Sheet.](#)"

### 1.3.2 OS Not Starting After OS Installation Using SVIM

---

#### Event

This event occurs when SVIM (ServerView Installation Manager) was used to install the OS on the system management node.

The console freezes at an OS boot screen, for example, when the event occurs.

#### Cause

One of the kernel modules required for starting the OS may be missing or an old version because the SVIM version in use does not support the hardware.

#### Actions

If you did not use the SVIM supplied with the hardware, use it to install the OS again.

### 1.3.3 Node Power-on Failed

---

#### Event

This event occurs in remote power-on of a node by the papwrctl or ipmitool command during OS installation.

When the event occurs with the papwrctl command, the following message is output.

```
# papwrctl -c clstname -n nodeid on
[ERR.] PSM 2024 papwrctl Power control failed
```

*clstname*: Target cluster name

*nodeid*: Node ID of the target node

#### Cause

- No IPMI IP address is set on the BIOS of the target node.
- The set IP address on the BIOS differs from the control network IP address defined in cluster configuration information.

#### Actions

Take the following actions for the respective causes described above.

- Set an IPMI IP address on the BIOS of the target node. For details on how to set it, see the manual for the hardware used.

- b. If the set IP address on the BIOS is incorrect, set the correct IP address.  
If the control network defined in the cluster configuration information is incorrect, take action according to "[1.1.2.1 Changing Cluster Configuration Information](#)."

## 1.3.4 OS Installation Not Starting

---

### Event

This event occurs in remote power-on of a node by the `papwrctl` or `ipmitool` command or in manual power-on of a node, during OS installation.

The console of the target node stops at a screen when the event occurs, as shown in the following example. (Note: The screen varies depending on the hardware used.)

[Target node console stopping at the following screen]

```
>>Start PXE over IPv4
```

[UEFI shell starting on the target node console]

```
UEFI Interactive Shell v2.2
EDK II
UEFI v2.70 (EDK II, 0x00010000)
Mapping table
  FS0: Alias(s):HD1a0b:;BLK3:
        PciRoot(0x0)/Pci(0x6,0x0)/Scsi(0x0,0x0)/HD(1,GPT,E40AA6B6-A162-4210-
A914-87100823F675,0x800,0xF4000)
  BLK0: Alias(s):
        PciRoot(0x0)/Pci(0x1,0x0)/Floppy(0x0)
  BLK1: Alias(s):
        PciRoot(0x0)/Pci(0x1,0x0)/Floppy(0x1)
  BLK2: Alias(s):
        PciRoot(0x0)/Pci(0x6,0x0)/Scsi(0x0,0x0)
  BLK4: Alias(s):
        PciRoot(0x0)/Pci(0x6,0x0)/Scsi(0x0,0x0)/HD(2,GPT,F7F4813D-C62C-4AFA-8DA7-D6815D85D6DE,
0xF5182,0x90AE5D)

Press ESC in 1 seconds to skip startup.nsh or any other key to continue.
Shell>
```

Also, the following message is output to `/var/log/messages` on the active system management node.

```
DHCPDISCOVER from MAC address via eth0: network 192.0.2.0/24: no free leases
```

### Cause

Startup via DHCP failed because the MAC address of the target node is incorrect.

### Actions

Check the contents of the node information definition file, and correct "device" having the "boot: true" definition in the network definition section "networks" of the target node so that the correct MAC address is reflected. Then, reregister the node information by performing the procedure in "[1.3.8 How to Reregister Node Information](#)," and restart the target node.

## 1.3.5 OS Installation Failed

---

### Event

This event occurs in remote power-on of a node by the `papwrctl` or `ipmitool` command or in manual power-on of a node, during OS installation.

If OS installation failed, the STATUS and STATE fields show "Completed" and "Failed," respectively, in the installation check results displayed by the `pxinst status show` command. The DETAIL field shows *detailed-information* to identify the cause of the OS installation failure.

```
# pxinst status show
HOSTNAME      OPERATION      STATUS      STATE      DETAIL
```

-----	-----	-----	-----	-----
host01	ImgProvision	Completed	Succeeded	-
host02	ImgProvision	Completed	Succeeded	-
host03	ImgProvision	Completed	Failed	<i>detailed-information</i>

### Cause/Actions

The cause (and action to take) varies depending on *detailed-information*, displayed by the `pxinst status show` command. The following table lists examples of *detailed-information*. Take action according to the following table.

**Table 1.6 Examples of Detailed Information Displayed in the DETAIL Field**

<i>detailed-information</i>	Action
Failed to retrieving config file (kickstart)	See " <a href="#">1.3.5.1 Failed to Retrieve Configuration File.</a> "
Failed to retrieving config file (node_ft.json)	
Failed to retrieving config file (structure.yaml)	
Failed to retrieving config file (pxinst.conf)	
Failed to retrieving config file (_pxinst_internal.conf)	
Failed to retrieving config file (_paclone_internal.conf)	
command execute error.(cmd=mkfs.fat -F 32 /dev/sdb1)\n detail=/dev/sdb1: No such file or directory)	See " <a href="#">1.3.5.2 Failed to Create Disk Partition.</a> "
Failed to retrieving rootfs image	See " <a href="#">1.3.5.3 Failed to Retrieve rootfs.img.</a> "
Unrecognized rootfs image format	
Failed to unpack rootfs image	See " <a href="#">1.3.5.4 Failed to Unpack rootfs.img.</a> "
Failed to retrieving updates image	See " <a href="#">1.3.5.5 Failed to Retrieve updates.img.</a> "

If the *detailed-information* output is other than the above, collect investigation data from the system management node according to the "Job Operation Software Administrator's Guide for Maintenance." Then, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

## 1.3.5.1 Failed to Retrieve Configuration File

### Cause

IP address retrieval may have failed.

### Actions

Using ping or ssh, check the accessibility of the provision IP address (management network) of the target node.

- a. If the target node is accessible
 

The system management node may be in an improper state, such as the HTTP service httpd not running. Collect investigation data from the system management node according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.
- b. If the target node is not accessible
 

IP address retrieval may have failed during OS installation. Confirm that the DHCP server is running on the active system management node. If the DHCP server has stopped, restart the target node after the DHCP server starts. If the DHCP server is running, collect investigation data from the system management node according to the "Job Operation Software Administrator's Guide for Maintenance." Then, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

### 1.3.5.2 Failed to Create Disk Partition

#### Cause

The disk partition definition file may be incorrect.

Log in to the target node to check which disks are recognized by the node. The password is the same as that of the root user on the system management node.

```
# ssh target-node-IP-address
# ls /dev/sd*
/dev/sda
```

- a. No disks recognized  
The kernel module required for recognizing disks may not have been incorporated.
- b. Different disks than expected  
The disk partition definition file used when registering node information has an error.

#### Actions

- a. Actions to take when no disks are recognized  
You will need a kernel module provided by ServerView Suite. Check the following, and take the applicable action.
  - If the `pxinst svcs setup` command was not executed  
Execute the `pxinst svcs list` command on the active system management node. If the message "[ERR.] INST 1027 pxinst The "updates.img" is not found." is output, the `pxinst svcs setup` command was not executed.

```
# pxinst svcs list -R reponame
[ERR.] INST 1027 pxinst The "updates.img" is not found.
```

*reponame*: Repository name

Using the SVIM supplied with your hardware, execute the `pxinst svcs setup` command. Then, restart the target node.

- If the SVIM specified in the `pxinst svcs setup` command is not that supplied with the hardware  
Using the SVIM supplied with your hardware, execute the `pxinst svcs setup` command. Then, restart the target node.
- b. Action for different disks than expected  
Correct the disk names, sizes, etc. defined in the disk partition definition file, and reregister the node information. Then, restart the target node. For the procedure to reregister node information, see "[1.3.8 How to Reregister Node Information](#)."

### 1.3.5.3 Failed to Retrieve rootfs.img

#### Cause

rootfs corresponding to the repository used may not have been created.

#### Actions

Create rootfs corresponding to the repository used, and then restart the target node.  
Perform the following operation on the active system management node.

```
# pxinst rootfs create -R reponame
[INFO] INST 0800 pxinst rootfs completed successfully.(create rootfs)
```

*reponame*: Repository name

### 1.3.5.4 Failed to Unpack rootfs.img

#### Cause

The disk partition size may be incorrect. Log in to the target node, and check the size of the "/" partition.  
The following example shows a case where the OS is installed in `/dev/sda`.

```
# parted /dev/sda u GB print
Model: FUJITSU MBD2147RC (scsi)
Disk /dev/sda: 5.37GB
```

```
Sector size (logical/physical): 512B/512B
Partition Table: gpt
Disk Flags:
Number  Start    End      Size    File system  Name              Flags
  1      0.00GB  0.51GB  0.51GB  fat32        EFI_System_Partition  boot
  2      0.51GB  5.37GB  4.85GB  xfs          primary
```

#### Actions

If the disk partition size is incorrect, correct the disk name, size, etc. defined in the disk partition definition file, and reregister the node information. Then restart the target node. For the procedure to reregister node information, see "[1.3.8 How to Reregister Node Information.](#)"

### 1.3.5.5 Failed to Retrieve updates.img

#### Cause

updates.img corresponding to the repository used may not have been created.

#### Actions

The action depends on whether or not the kernel module supplied with SVIM or the bundled software is required. If the target node is a PRIMERGY server and it is not clear whether the kernel module or bundled software is required, judge whether either of them is required.

Perform the following work on the active system management node.

- a. If the kernel module supplied with SVIM or the bundled software is required  
Create updates.img corresponding to the repository used, and then restart the target node.

[To use the DVD]

```
# pxinst svcs setup -R reponame
Copying the ServerView software and kernel modules      [OK]
Updating the initrd                                    [OK]
Generate the updates.img                               [OK]
[INFO] INST 0800 pxinst svcs completed successfully.(setup)
```

*reponame*: Name of the repository for importing the kernel module or bundled software

[To use an ISO image file]

```
# pxinst svcs setup -R reponame --iso isoimage
Copying the ServerView software and kernel modules      [OK]
Updating the initrd                                    [OK]
Generate the updates.img                               [OK]
[INFO] INST 0800 pxinst svcs completed successfully.(setup)
```

*reponame*: Name of the repository for importing the kernel module or bundled software

*isoimage*: ISO image file path of the ServerView DVD

- b. If neither the kernel module supplied with SVIM nor the bundled software is required  
Specify the --no-svcs option in the pxinst node add command to reregister the node information. Then, restart the target node. For the procedure to reregister node information, see "[1.3.8 How to Reregister Node Information.](#)"

### 1.3.6 OS Installation (Post Processing) Failed

#### Event

This event occurs after power-on of the target node.

If OS installation (post processing) failed, the STATUS and STATE fields show "Completed" and "PostFailed," respectively, in the installation check results displayed by the pxinst status show command.

```
# pxinst status show
HOSTNAME  OPERATION  STATUS  STATE  DETAIL
-----  -
```

```

host01    ImgProvision  Completed  Succeeded  -
host02    ImgProvision  Completed  Succeeded  -
host03    ImgProvision  Completed  PostFailed  name-of-post-plugin-that-failed-in-processing

```

#### Cause

The cause varies depending on the post plugin that failed in processing.

#### Actions

Collect the following data from the target node, and contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the installation check results from the pxinst status show command:

[Data collected from the target node]

- Files under /var/log/pxinst
- /var/log/messages
- Results of the rpm -qa command
- Information on all processes in operation (results of the ps command)

Since OS installation on the target node has completed, you can log in to and use the node.

### 1.3.7 How to Log In to Node During Installation

For an investigation when a problem occurs, you can log in via ssh to a node while OS installation is in progress. Only the root user can log in at this time. The password is the same as that of the root user on the system management node.

You can also connect a remote console by using the paconsole or ipmitool command. For the PRIMERGY server, you need to specify the --bootopt="console=ttyS0" option in the pxinst node add command when registering node information.

Perform the following operations on the system management node.

[ssh connection]

```
# ssh target-node-IP-address
```

[Remote console connection using the paconsole command]

```
# paconsole -c clstname -n nodeid
```

*clstname*: Cluster name

*nodeid*: Node ID

[Remote console connection using ipmitool]

```
# ipmitool -I lanplus -H IPMI-IP-address -U username sol activate
Password: <- Enter the password.
```

### 1.3.8 How to Reregister Node Information

If OS installation failed due to a definition error during system installation, correct the node information definition file or disk partition definition file and reregister the node information to solve the problem.

Perform the following procedure to reregister the node information.

Perform the following procedure on the active system management node.

#### 1. Preparing a node information definition file

For the node information definition file, extract and use only the definitions of the target node from the file used when building the node. Modify the items that require modification according to the event.

```
# vi nodefile
-
nodetype: 'LN'
hostname: 'node01'
networks:
```

```
- {device: '00:00:00:00:00:20', ip: '192.0.2.10', prefix: 24, boot: true}
partition: 1
```

*nodefile*: Path to the node information definition file

## 2. Preparing a disk partition definition file

For the disk partition definition file, extract and use only the definitions of the target node from the file used when building the node. Modify the items that require modification according to the event.

```
# vi diskfile
-
id: 1
partition:
- {fstype: 'fat32', mountpoint: '/boot/efi', onpart: '/dev/sda1', size: 512, label: 'gpt'}
- {fstype: 'xfs', mountpoint: '/', onpart: '/dev/sda2', size: max, label: 'gpt'}
```

*diskfile*: Path to the disk partition information definition file

## 3. Registering node information

Execute the pxinst node add command to register the node information.

```
# pxinst node add -R reponame -N nodefile -P diskfile
INST 1803 pxinst Adding nodes has been completed.(nodenum=1)
```

*reponame*: Repository name

## 1.3.9 How to Restart Node Currently Being Built

To restart the target node because an error occurred during node build, perform the following steps. Perform the following operations on the system management node.

[To restart the target node and resume installation]

```
# papwrctl -c clstname -n nodeid -w force-off
# papwrctl -c clstname -n nodeid --boottype pxe on
```

*clstname*: Target cluster name

*nodeid*: Node ID of the target node

[To restart the target node and proceed with normal startup]

```
# papwrctl -c clstname -n nodeid -w force-off
# papwrctl -c clstname -n nodeid on
```

## 1.3.10 Failed to register node information

### Event

This event occurs in using the node subcommand in the pxinst command to register the installation destination node. The following message appears when the event occurs.

```
# pxinst node add -R reponame -N nodefile -P diskfile --svs sv sno
[ERR.] INST 0011 pxinst Failed to parse the configuration file.(nodefile, invalid data
key=hostname, val=hostname(nodenum=nodeno))
```

*reponame*: Repository name

*nodefile*: Path to the node information definition file

*diskfile*: Path to the disk partition information definition file

*svsno*: ServerView Suite Number of the ServerView Suite supplied software to apply

*hostname*: Incorrect hostname specified in *nodefile*

*nodeno*: Number of the node where *hostname* is specified

### Cause

The pxinst command failed because the hostname specified for node information definition file uses a symbol other than "-".

## Actions

Check the definition of "hostname" in the node information definition file, and then register node information again.  
For the procedure to reregister node information, see "[1.3.8 How to Reregister Node Information](#)."

# 1.4 Problems With Backup/Restore

---

For details on problems with backup and restore and the actions to take for them, see "[3.9 Problems With Backup/Restore](#)."

# 1.5 Problems Related to Power Management Function

---

## 1.5.1 The Power Management Service on The Compute Cluster Management Node is Stopped

---

### Event

The SRV\_STATUS field for the compute cluster management node (production for redundancy) displayed by the pashowclst command shows PWRD(x).

```
# pashowclst -v
[ CLST: clstname ]
NODE          NODETYPE  STATUS    REASON   PWR_STATUS  ARCH_STATUS  SRV_STATUS
....
0xFFFF0001   CCM        SoftError SrvDown  on          -            PJM(o),PLE(o),MRD(o),SRD(o),FEFS(o),
PWRD(x)
0xFFFF0002   CCM        Running  -        on          -            PJM(o),PLE(o),MRD(o),SRD(o),FEFS(o),
PWRD(o)
....
```

*clstname*: Target cluster name

### Cause

An environment error was detected during system build when there were no compute nodes in the compute cluster.

### Actions

No action is required. Continue building the system.



## Chapter 2 Problems During Operation

This chapter describes problems during operation and the actions to take for them.

### 2.1 Problems Related to System Control Function

#### 2.1.1 Failed to Distribute System Control Function Settings to Standby System Management Node

##### Event

When executed with the `--set` option specified, the `papwradm` command fails with the following output message.

```
# papwradm --set
Do you really want to continue (y/n)? y
[WARN] PSM 0051 papwradm There are nodes that failed in the setting.(filename)
[INFO] PSM 0082 papwradm The processing of the configuration file was completed.
```

*filename*: Name of the file output by the `pmscatter` command executed internally by the `papwradm` command

##### Cause

The system control function failed in the execution of a batch operation function.

##### Actions

Perform the following procedure on the active system management node.

1. Eliminating the cause of the failure of the batch operation function  
See the contents of the *filename* file output by the `papwradm` command and "[2.3.1 Batch Operation Command Failed](#)," investigate the cause of the failure of the `pmscatter` command, and make sure that the `pmscatter` command completes successfully.
2. Editing the `papwr.conf` file  
Edit the password, shown with characters replaced by "\*", in the `papwr.conf` configuration file of the system control function on the active system management node.

```
# vi /etc/opt/FJSVtcs/papwr.conf
```

3. Applying settings  
Execute the `papwradm` command to apply the changed settings.

```
# papwradm --set
```

4. Checking settings  
Display the current valid settings with the `--show` option of the `papwradm` command to check the settings. The contents are displayed in the same format as in the `papwr.conf` file.

```
# papwradm --show
...
```

#### 2.1.2 Node Power Control Failed

##### Event

When executed the `pastart` and `pastop` commands that internally calls the `papwrctl` and `papwrctl` commands fail with the following output message.

```
# papwrctl -c compute -n 0xFFFF0001,0xFFFF0002 on
[ERR.] PSM 2001 papwrctl Power control failed.(Response timeout(0xFFFF0001))    <- (*)
[ERR.] PSM 2001 papwrctl Power control failed.
```

(\*) The error message displays the cause of the failure in parentheses (detailed message).

The pastart or pastop command outputs information by type of nodes controlled when the error occurred. The following example shows that an error occurred when starting nodes of the BIO, GIO, SIO, CN, or LN node type. (It does not indicate that an error occurred in the control process of any of these node types.)

```
# pastart -c compute
[ERR.] PSM 2001 papwrctl Power control failed.(Response timeout(0xFF020001))
[ERR.] PSM 2001 papwrctl Power control failed.
[ERR.] PSM 2102 pastart Power control failed.(BIO,GIO,SIO,CN,LN)
[ERR.] PSM 2102 pastart Power control failed.
```

**Cause/Action**

The possible causes (and actions to take) vary depending on the detailed message output in the error message. The following table lists detailed messages. Take action according to the following table.

**Table 2.1 Detailed Messages Output as Error Messages**

Detailed Message	Cause	Action
Not supported in present state( <i>nodeid</i> )	The BMC firmware did not accept a control instruction while processing was in progress.	Wait a moment, and then try controlling the power again.
System configuration change( <i>nodeid</i> )		
Timed out in IPMI authentication processing( <i>nodeid</i> )	The BMC connection timed out.	With the ping or other command, confirm that communication is possible from the active system management node to the IP address of the control network that is the subject of control. Control the power with communication enabled.
Response timeout( <i>nodeid</i> )		
Timeout occurred( <i>nodeid</i> )		
Message other than above	Internal error	Collect investigation data from the active system management node and the faulty node by using the investigation data collection function (pasnap command). Then, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

*nodeid*: Node ID of the target node

If the above actions do not solve the problem, take the same action as when the cause is an internal error.

### 2.1.3 Unable to Start PXE

**Event**

PXE cannot start when "pxe" is specified for an argument of the --boottype option in the papwrctl command to start the PRIMERGY server.

**Cause**

In a node that has multiple NICs, the NIC used to start PXE is lower in the order of startup priority than NICs not used to start PXE.

**Actions**

On hardware with multiple mounted network devices capable of PXE boot, set a higher startup priority to the NIC used to start PXE than to NICs not used to start PXE.

If the papwrctl command does not start PXE after this action is taken, start PXE by setting the highest startup priority to PXE on the BIOS.

## 2.2 Problems Related to System Monitoring Function

### 2.2.1 Node Down

#### Event

When executed, the `pashowclst` command displays `NodeDown` in the `REASON` field, detecting that a node went down.

Execute the `pashowclst` command with the `--detail` option specified to display the reason for the detected error in the `DETAIL` field. In the example shown below, a node was determined to have gone down because an error was detected by OS alive monitoring from the monitoring node.

```
# pashowclst -v -d --detail
[ CLST: cluster1 ]
NODE          NODETYPE  STATUS    REASON    PWR_STATUS  ARCH_STATUS  SRV_STATUS  DETAIL
0x01010010   CN        SoftError NodeDown  os-running  ICC_Running  -           Monitoring failed
```

#### Cause

For the cause, check the reason why and the time when the node was detected to be down in the system monitoring function log on each management node.

The following examples show how to check them.

- a. If the monitoring node for the node that went down is the system management node, an error detection log message is recorded in the monitoring master daemon log `/var/log/FJSVtcs/psm/pxmonitor_masterd.log`.

If the monitoring node is any other node, an error detection log message is recorded in the monitoring subdaemon log `/var/log/FJSVtcs/psm/pxmonitor_subd.log`.

The following example checks the log that has the recorded detection of the node `0x02010008` going down.

```
# less /var/log/FJSVtcs/psm/pxmonitor_subd.log
...
2018-01-29 19:28:04:210687 [WARN] 9999 - pxm_sub_write_after_select: 3427: (140568753952512)
[02010001] Failed to connect.(111, 0x02010008)
2018-01-29 19:28:04:210844 [WARN] 9999 - pxm_sub_write_after_select: 3427: (140568753952512)
[02010001] Failed to connect.(111, 0x02010008)
2018-01-29 19:28:04:211049 [WARN] 9999 - pxm_sub_write_after_select: 3427: (140568753952512)
[02010001] Failed to connect.(111, 0x02010008)
...
2018-01-29 19:28:04:213057 [INFO] 9999 - pxm_sub_packet_write_parallel: 3867:
(140568753952512) [02010001] monitor error(0x02010008, 0)
2018-01-29 19:28:04:217818 [INFO] 9999 - pxm_sub_node_down: 2771: (140568753952512)
[02010001] node_down clst 2 id 02010008 nnum 7 cond 0x10014 os stat 0
2018-01-29 19:28:04:217842 [INFO] 9999 - pxm_sub_node_down: 2855: (140568753952512)
[02010001] all status are set to DOWN/NONE
2018-01-29 19:28:04:217859 [INFO] 9999 - pxm_trace_sub_out: 95: (140568753952512) [02010001]
2 02010008 1 OS(o:x)
PJM(-),PLE(o:-),MRD(-),SRD(-),NRD(o:-),FEFSSR(-),FEFS(o:-),IC(-),PWRD(o:-)
...

```

From this log, you can see that the node was determined to have gone down due to a connection failure beginning at 19:28:04.

- b. If node down has been determined based on notification from the service of the job resource manager function, the following message is output to the monitoring master daemon log

`/var/log/FJSVtcs/psm/pxmonitor_masterd.log` on the system management node.

```
# less /var/log/FJSVtcs/psm/pxmonitor_masterd.log
...
2018-01-29 19:28:04:210687 [INFO] 9999 - pxm_mst_server_set_prmdown: 2016: (140568753952531)
[00000001] >> set prmdown request cid=2 nnum=1 nid=0x02010001 os=1 srd=0 nrd=0 ib=0
...

```

The value 1 in "os=1" in this message means a node down notification.

## Actions

Collect investigation data according to "Collecting Investigation Materials" in the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the results displayed by the pashowclst command.

To incorporate the node into operation again, use the paclstmgr command. For details on the procedure, see "Hardware Maintenance" in the "Job Operation Software Administrator's Guide for Maintenance."

## 2.2.2 Job Operation Software Service Down

### Event

When executed, the pashowclst command displays SrvDown in the REASON field, detecting that a Job Operation Software service is down.

From the output information under SRV\_STATUS, you can determine which Job Operation Software service is abnormal.

In the example shown below, the PLE service is abnormal.

```
# pashowclst -v -d
[ CLST: cluster1 ]
NODE          NODETYPE  STATUS      REASON      PWR_STATUS  ARCH_STATUS  SRV_STATUS
0x01010010   CN           SoftError   SrvDown     os-running  ICC_Running  PLE(x),NRD(o),PWRD(o)
```

### Cause

For the cause, check the reason why and the time when the Job Operation Software service was detected to be down in the system monitoring function log on the node where the service is down.

The following example shows how to check them.

An error detection log entry is recorded in the monitoring slave daemon log /var/log/FJSVtcs/psm/pxmonitor\_slaved.log on the node where the service is down.

The following example checks the log that has the recorded detection of the PLE service going down.

```
# less /var/log/FJSVtcs/psm/pxmonitor_slaved.log
...
2018-01-29 19:51:00:000118 [WARN] 9999 - pxm_slave_monitor_pipe: 728: (139837286356736) [02010008]
Failed to write request to pipe.
2018-01-29 19:51:54:005824 [INFO] 9999 - pxm_service_monitor: 1003: (139837286356736) [02010008]
PLE 0 -> 1
2018-01-29 19:51:54:006279 [INFO] 9999 - pxm_slave_service: 1364: (139837286356736) [02010008] job
service status changed 1 0->1
...
```

From this log, you can see that the service was determined to have gone down due to a pipe writing failure beginning at 19:51:00. "PLE 0 -> 1" represents the PLE service transition from 0 (started) to 1 (stopped).

The following table shows the status of Job Operation Software services.

Table 2.2 Status Indicators of Job Operation Software Services

Value	Operating Status Indicator	Meaning
0	o	Service operating
1	x	Service stopped or error occurred
2	-	Service not installed
3	!	Degradation occurred
4	s	Service being initialized
5	d	Service being stopped
8	b	Service not started
9	w	Startup completed on standby system. Switchback now possible

Value	Operating Status Indicator	Meaning
10	*	One-sided operation state
11	f	Failover in progress
13	a	I/O error in file system

#### Actions

Perform maintenance work as needed, and then incorporate the service into operation again with the `paclstmgr` command.

## 2.2.3 Service Not Starting After Package Application

#### Event

After a system restart, a service does not transition from the (b) to (o) status.

In the following example, a power management function service does not start. There is no transition from PWRD(b) to PWRD(o) in the `SRV_STATUS` field displayed by the `pashowclst` command.

```
# pashowclst -v
[ CLST: clstname ]
NODE          NODETYPE  STATUS  REASON  PWR_STATUS  ARCH_STATUS  SRV_STATUS
...
0x01010004  CN          Init    -        os-running  ICC_Running  PLE(o),NRD(o),FEFS(s),PWRD(b)
...
```

*clstname*: Target cluster name

#### Cause

After a package is applied, a service may not automatically start when the system is forcibly powered off and on.

#### Actions

To start a service whose status is (b), use the `systemctl` command on the node that has the service.

The following example starts the `pxpwr` service of the power management function.

```
# systemctl start pxpwr
```

After one minute, confirm that the service has transitioned to the (o) status. If the service remains in the (b) status, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk.

## 2.2.4 FEFS Service Not Starting on Compute Node

#### Event

The FEFS service status does not transition from FEFS(s) to FEFS(o) when an FX server compute node starts.

```
# pashowclst -c clstname -v --nodetype CN
[ CLST: clstname ]
[ NODETYPE: CN ]
NODE          NODETYPE  STATUS  REASON  PWR_STATUS  ARCH_STATUS  SRV_STATUS
...
0x01010004  CN          Init    -        os-running  ICC_Running  PLE(o),NRD(o),FEFS(s),PWRD(o)
...
```

*clstname*: Target cluster name

#### Cause

The FEFSR service of the file system is not running on the global I/O node in the same GIO group as the compute node.

```
# pashowclst -c clstname --cmu nodeid --giogrp --nodetype GIO -v
[ CLST: clstname ]
[ CMU: nodeid ]
[ NODETYPE: GIO ]
```

NODE	NODETYPE	STATUS	REASON	PWR_STATUS	ARCH_STATUS	SRV_STATUS
0xFF010003	GIO,CN	Stopped	-	off	ICC_Running	-
0xFF030003	GIO,CN	Stopped	-	off	ICC_Running	-

*nodeid*: Node ID with FEFS(s)

#### Actions

Wait for the FEFSSR service to start on the global I/O node. The start of the FEFSSR service on the global I/O node automatically starts the FEFS service on the compute node. If the service does not start, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk.

## 2.2.5 FEFS Service in I/O Error State on Compute Node

#### Event

The status of the FEFS service on the FX server compute node is I/O error (FEFS(a)).

```
# pashowclst -c clstname -v --nodetype CN
[ CLST: clstname ]
[ NODETYPE: CN ]
NODE      NODETYPE  STATUS      REASON    PWR_STATUS ARCH_STATUS SRV_STATUS
0x01010004 CN          SoftError   SrvDown   os-running ICC_Running PLE(o),NRD(o),FEFS(a),PWRD(o)
...
```

*clstname*: Target cluster name

#### Cause

An error occurred on the global I/O node in the same GIO group as the compute node.

```
# pashowclst -c clstname --cmu nodeid --giogrp --nodetype GIO -v
[ CLST: clstname ]
[ CMU: nodeid ]
[ NODETYPE: GIO ]
NODE      NODETYPE  STATUS      REASON    PWR_STATUS ARCH_STATUS SRV_STATUS
0xFF010003 GIO,CN     Stopped     -         off         ICC_Running -
0xFF030003 GIO,CN     Stopped     -         off         ICC_Running -
```

*nodeid*: Node ID with FEFS(a)

#### Actions

After the global I/O node recovers, the FEFS service on the compute node automatically transitions to FEFS(o).

If a job is assigned to a global I/O node in the same GIO group as the compute node, the job may not end. To end a job, execute the following procedure.

```
# pmexe -c clstname -n nodeid --giogrp --excludetype GIO --stdout "/usr/sbin/force_intr -c \
-m deactivate target..."
```

*nodeid*: Node ID with FEFS(a)

For target, specify all the contents output by the following command.

```
# pmexe -c clstname -n nodeid --stdout "lctl device_list -t" | grep -e MDT -e OST | \
awk '{print $5}' | cut -f 1,2 --delim="-"
```

*nodeid*: FEFS mounted node ID, such as login node.

The following is an execution example.

```
# pmexe -c cluster -n 0xFFFF0003 --stdout "lctl device_list -t" | grep -e MDT -e OST | \
awk '{print $5}' | cut -f 1,2 --delim="-"
fefs01-MDT0000
fefs01-OST0000
# pmexe -c cluster -n 0xFF010003 --giogrp --excludetype GIO --stdout "/usr/sbin/force_intr -c \
-m deactivate fefs01-MDT0000 fefs01-OST0000"
```

After the global I/O node recovers, execute the following.

```
# pmexe -c clstname -n nodeid --giogrp --excludetype GIO --stdout "/usr/sbin/force_intr -c \  
-m activate target..."  
# pmexe -c clstname -n nodeid --giogrp --excludetype GIO --stdout "lfs df > /dev/null"
```

*nodeid*: Node ID with FEFS(a)

The following is an execution example.

```
# pmexe -c cluster -n 0xFF010003 --giogrp --excludetype GIO --stdout "/usr/sbin/force_intr -c \  
-m activate fefs01-MDT0000 fefs01-OST0000"  
# pmexe -c cluster -n 0xFF010003 --giogrp --excludetype GIO --stdout "lfs df > /dev/null"
```

If this action does not bring about recovery, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk.

## 2.2.6 How to Check Time of Node Power State Change

Check the power state transition time in the system monitoring function log on the active system management node.

The node power state "pwr\_stat," CMU power state "cmu\_stat," and BoB power state "arch\_stat" are output after the character string "power info changed..." at the time that a power state transition is detected. They are output to the monitoring master daemon log /var/log/FJSTcs/psm/pxmonitor\_masterd.log of the system monitoring function on the active system management node.

The following example checks the time of the power state transition of a node to os-running.

```
# grep "power info changed" /var/log/FJSTcs/psm/pxmonitor_masterd.log  
...  
2018-01-29 19:28:36:175740 [INFO] 9999 - pxm_fh_change_pwrstatus: 8622: (140522818201344) [00000001]  
power info changed cnum=1, chassis=1, nid=0x02010004 pwr_stat os-boot->os-running cmu_stat on->on  
arch_stat on->on  
...
```

From this log, you can see that the node power state pwr\_stat transitioned from os-boot to os-running at 19:28:36.

## 2.2.7 How to Check Detection Time of Hardware Error

Check the hardware error detection time in the system monitoring function log on the system management node.

An error detection log entry is recorded in the monitoring master daemon log /var/log/FJSTcs/psm/pxmonitor\_masterd.log of the system monitoring function on the active system management node at the time that a hardware error is detected.

The following example checks the PortRouterFatal detection time.

```
# grep "PortRouterFatal" /var/log/FJSTcs/psm/pxmonitor_masterd.log  
...  
2018-01-26 17:21:35:995357 [INFO] 9999 - pxm_monitor_fh_hardinfo: 10364: (140522818201344) [00000001]  
change PortRouterFatal (cnum=1 nid=0x02010004)  
...
```

From this log, you can see that PortRouterFatal on the node 0x02010004 was detected at 17:21:35.

In addition, the system monitoring function has a mechanism to isolate the node corresponding to RouterFatal from operation when a link status check detects the error at node startup. In such cases, the following log entry is recorded.

```
# less /var/log/FJSTcs/psm/pxmonitor_masterd.log  
...  
2018-01-25 16:29:14:768229 [INFO] 9999 - pxm_fh_port_check: 9276: (139659128178432) [00000001]  
0x02010004 setting disabled.(1)  
...
```

## 2.2.8 How to Check Reason for Node STATUS Not Showing Running

If the STATUS field displayed by the pashowclst command does not show Running for a node even after the node is instructed to start, first look at the PWR\_STATUS field. Confirm that nothing is blocking the progress of starting the hardware and OS.

You can check a console log with the `paconsole` command even before the OS starts. In addition, a service start status log entry is recorded in the monitoring slave daemon log `/var/log/FJSVtcs/psm/pxmonitor_slaved.log`. If the `PWR_STATUS` field shows "os-running" or "on," log in to the relevant node with the `ssh` or `paconsole` command, and check the start status of Job Operation Software services in the monitoring slave daemon log.

The following example checks the start status of Job Operation Software services in the monitoring slave daemon log.

```
# less /var/log/FJSVtcs/psm/pxmonitor_slaved.log
...
2018-01-26 11:40:34:413200 [DBG1] 9999 - pxm_service_monitor: 1006: (140244036884224) [02010008] PLE 0
2018-01-26 11:40:34:413525 [DBG1] 9999 - pxm_service_monitor: 1006: (140244036884224) [02010008] NRD 0
2018-01-26 11:40:34:413838 [DBG1] 9999 - pxm_service_monitor: 1006: (140244036884224) [02010008] FEFS
4
...
```

From this log, you can see that the status of the FEFS service is 4 (service being initialized), so it has not started.



See

For details on the status values and indicators of Job Operation Software services, see "[Table 2.2 Status Indicators of Job Operation Software Services](#)."

## 2.2.9 How to Check System Memory Release Status

The system monitoring function has a mechanism that clears (releases) usage restrictions on system memory to allow maintenance work, such as applying a fix package, to be done at the timing of node state transition to Disable. For the release status of system memory, check the system monitoring function log.

Log entries on the system memory release status are recorded in the monitoring slave daemon log `/var/log/FJSVtcs/psm/pxmonitor_slaved.log` on the relevant node.

The following example checks the release status of system memory.

```
# less /var/log/FJSVtcs/psm/pxmonitor_slaved.log
...
2018-01-26 11:40:34:413200 [INFO] 9999 - pxm_slave_notice_data: 861: (140375450699520) [01010010]
usejobmem on
...
```

From this log, you can see from the output of "usejobmem on" that restrictions on the system memory were cleared.



Information

The output of "usejobmem off" means that system memory is restricted.

## 2.2.10 How to Clear All User-Defined Service Settings

Clear the set user-defined services by performing the following procedure.

Perform the following procedure on the active system management node.

1. Editing the `paservice.conf` file

Clear or comment out descriptions in the user-defined service configuration file `paservice.conf`.

```
# vi /etc/opt/FJSVtcs/paservice.conf
#Cluster {
#  ClusterName = cluster1
#  Service {
#    Name = NFS
#    NodeType = LN
#    ChkPath= /usr/local/bin/nfsclient_check.sh
```



```
# }  
#}
```

## 2. Applying settings

Apply the changed settings with the user-defined service configuration command `paserviceadm`.

```
# paserviceadm --set
```

## 2.2.11 How to Check `pamonitor_notice` Command Execution Results by Configuring Error Notification

If you want to check the execution results (such as the execution time) of the `pamonitor_notice` command, you can check the monitoring plugin function `log /var/log/FJSVtcs/psm/pxmonitor_plugin.log` of the system monitoring function. The log is output when the `pamonitor_notice` command is executed.

The log output destination depends on the model:

- FT (FX server)  
Boot I/O node in the same boot group as the node executing the `pamonitor_notice` command
- Other than FT  
Node executing the `pamonitor_notice` command

When successful, the command outputs the target node ID in parentheses after the character string "Notice succeeded" in the execution results. Otherwise, the target node ID is output in parentheses after the character string "Notice failed" when the command fails.

The following example of execution results has error notification configured for the nodes `0x01010001` and `0x01010002`.

```
# less /var/log/FJSVtcs/psm/pxmonitor_plugin.log  
...  
2018-07-06 10:23:51:401010 [INFO] [PSM] 3481 - pamonitor_notice Notice succeeded.(0x01010001) 0 10712  
2018-07-06 10:23:54:410207 [ERR.] [PSM] 0001 - pamonitor_notice Internal error occurred.(connect  
error(113)) 1009 10712  
2018-07-06 10:23:54:410264 [ERR.] [PSM] 3401 - pamonitor_notice Notice failed.(0x01010002) 0 10712  
...
```

## 2.2.12 Service Does Not Start After Panic and Reboot

### Event

After the panic, STATUS becomes `SoftError` when rebooted.  
For example, below STATUS is a `SoftError`.

```
# pashowclst -c clstname -v --nodetype CN  
[ CLST: clstname ]  
[ NODETYPE: CN ]  
NODE          NODETYPE  STATUS      REASON      PWR_STATUS  ARCH_STATUS  SRV_STATUS  
0x01FF0003   CN          SoftError   NodeDown    on           -            -  
...
```

*clstname*: Target cluster name

### Cause

The shared library cache may be corrupted.  
Check the size of the cache (`/etc/ld.so.cache`), as in the following example:  
A cache size of 0 indicates that the shared library cache is corrupt.

```
# pmexe -c clstname -n 0x01FF0003 --stdout "ls -l /etc/ld.so.cache"  
[cmdline]  
pmexe -c clstname -n 0x01FF0003 --stdout ls -l /etc/ld.so.cache  
[cluster]  
clstname
```

```
<<<< ResultInformation >>>>
[0x01FF0003] -rw-r--r-- 1 root root 0 Jan 20 17:13 /etc/ld.so.cache
```

## Actions

Execute the `ldconfig` command on the node where the shared library cache is corrupted. The following is an example of running the `ldconfig` command.

```
# pmexe -c clstname -n 0x01FF0003 "ldconfig"
```

## 2.2.13 The Node Serving as All of System Management Node, Compute Cluster Management Node, and Login Node Down

If the node serving as all of system management node, compute cluster management node, and login node go down, you need to restart the Job Operation Software services on all nodes in a cluster.

Execute the following procedure.

1. Starting the node serving as all of system management node, compute cluster management node, and login node  
Start the node serving as all of system management node, compute cluster management node, and login node.  
At this time, if the `pashowclst` command is executed, the `STATUS` field of the node serving as all of system management node, compute cluster management node, and login node may not be "Running" as a result of the `pashowclst` command, but it does not affect the recovery. Regardless of the status, proceed to step 2.



### Note

During node startup, the job resource management process (`pxmrd`), core files may be created, but they do not affect recovery and should be ignored. Delete unnecessary core files.

2. Restarting Job Operation Software services  
Restart the Job Operation Software services. Execute the following procedure.

- a. Transitioning the compute nodes to software maintenance mode  
Transition all compute nodes in a cluster to software maintenance mode, and stop the Job Operation Software services.

```
# paclstmgr -c clstname -a --nodetype CN --soft-mainte -k
```

*clstname*: Cluster name

- b. Restarting Job Operation Software services on node serving as all of system management node, compute cluster management node, and login node  
Restart the Job Operation Software services on node serving as all of system management node, compute cluster management node, and login node.

```
# paclstmgr -c clstname -a --nodetype SMM --service restart
```

Execute the `pashowclst` command, and check that the `SRV_STATUS` field of the node serving as all of system management node, compute cluster management node, and login node has transitioned to `PJM(s)` before proceeding to step c.

```
# pashowclst -v
[ CLST: clstname ]
NODE      NODETYPE    STATUS  REASON          PWR_STATUS  ARCH_STATUS  SRV_STATUS
0xFFFF0001 SMM,CCM,LN  Init    -                on           -
PJM(s),PLE(o),MRD(o),SRD(o),PWRD(o)
0xFFFF0003 CN          Disable  SoftMaintenance on           -
-
0xFFFF0004 CN          Disable  SoftMaintenance on           -
-
...
```

c. Returning the compute nodes from software maintenance mode

Return all compute nodes in the cluster from software maintenance mode, and start the Job Operation Software services.

```
# pACLstMgr -c clstname -a --nodetype CN --recover --service-restart
```

Execute the pashowclst command, and check that the STATUS field of compute nodes in the cluster has transitioned to "Running".

```
# pashowclst -v
[ CLST: clstname ]
NODE          NODETYPE      STATUS   REASON          PWR_STATUS  ARCH_STATUS  SRV_STATUS
0xFFFF0001  SMM,CCM,LN  Running -          on          -
PJM(o),PLE(o),MRD(o),SRD(o),PWRD(o)
0xFFFF0003  CN          Running -          on          -
PLE(o),NRD(o),PWRD(o)
0xFFFF0004  CN          Running -          on          -
PLE(o),NRD(o),PWRD(o)
...
```

 Note

- Running jobs are rerun after the service restart on compute nodes. However, jobs that are submitted with the --norestart option are deleted.
- When a job is deleted, some job statistic information is not output.

## 2.3 Problems Related to Operational Support Function

### 2.3.1 Batch Operation Command Failed

If the batch operation function command pmexe, pmscatter, or pmgather fails to execute a command, deliver a file, or collect a file, respectively, an error file is output.

The following example shows an error file from the execution of the pmexe command.

```
pmexe_failed_date.pid
```

*date*: pmexe command execution time (example: 10:27 on 6 July 2017 -> 201707061027)

*pid*: Process ID for the executed pmexe command

The cause and action vary depending on the message output to the error file. Take action according to the following table.

Table 2.3 Messages Output to an Error File

Message	Action
Permission denied (publickey,gssapi-keyex,gssapi-with-mic,password)	See <a href="#">"2.3.1.1 Defect in Public Key Authentication Settings."</a>
[ERR.] PSM 5006 pmexe Connection failed : XXX.XXX.XXX.XXX (Cannot send listfile to BIO) ReturnCode=256	See <a href="#">"2.3.1.2 Relay Process Failed on Boot I/O Node."</a>
ssh: connect to host XXX.XXX.XXX.XXX port 22: detail	See <a href="#">"2.3.1.3 ssh Connection Failure to Target Node."</a>
Connection timed out during banner exchange	See <a href="#">"2.3.1.4 ssh Connection Timeout to Target Node."</a>

 Note

If there are no messages in the error file, the system management node disk might be full. Check the amount of free disk space on the system management node.

## 2.3.1.1 Defect in Public Key Authentication Settings

### Event

On the execution target node, ssh authentication fails with the following output message when the pmexe, pmscatter, or pmgather command is executed.

An example of the pmexe command is shown below.

```
# pmexe -c cluster1 "hostname"  
[WARN] PSM 5051 pmexe The execution failed file was output.(filename)
```

*filename*: Name of the file output by the execution of the command

The following message is output to the *filename* file.

```
[nodeid] Permission denied (publickey,gssapi-keyex,gssapi-with-mic,password).
```

*nodeid*: Node ID

### Cause

There is a defect in the public key authentication settings for the related node. Check the related node conditions to identify the cause.

- a. There is a defect in the sshd settings for the execution target node.  
This applies to cases where /etc/ssh/sshd\_config has the following settings.
  - PubkeyAuthentication=no is set, disabling the key exchange authentication method.
  - PermitRootLogin=no is set, not allowing the root account to execute SSH.
- b. The public key used by the system management function for public key authentication has been deleted from /root/.ssh/authorized\_keys on the execution target node, relay compute cluster sub management node, or relay boot I/O node.

### Information

For efficient parallel processing in a system that has a large-scale configuration with a large number of nodes, the batch operation functions execute commands in a hierarchical structure. To do so, they use the compute cluster sub management node in the same node group as the target node and the boot I/O node in the same boot group as the target node as relays to execute the commands.

- c. The private key used by the system management function for public key authentication has been deleted from the system management node, relay compute cluster sub management node, or relay boot I/O node.

### Actions

Take the following actions for the respective causes described above.

Perform the following operations on the system management node.

- a. Log in to the relevant node console, and change the sshd settings. Then, restart sshd.
- b. Execute the following command for the target node.

```
# pmexe -c cluster1 -n node-ID --ssh-keygen  
password:
```

When executed, the above command prompts for a password. Enter the password of the root account.

### Note

To specify the --ssh-keygen option in the pmexe command to set a public key, PasswordAuthentication=yes must be set for sshd on the related node.

- c. The action to take depends on whether or not the private or public key exists on the system management node (in a redundant configuration, this includes the node on the side not running the operational support function).
  - If the private or public key exists on the system management node (in a redundant configuration, this includes the node on the side not running the operational support function)  
Copy the private or public key to `/etc/opt/FJSVtcs/psm/.ssh`.
  - If the private or public key does not exist on the system management node (in a redundant configuration, this includes the node on the side not running the operational support function)  
Create a new private key and public key, and distribute and set them again on all nodes.

### 2.3.1.2 Relay Process Failed on Boot I/O Node

#### Event

Relay processing to the boot I/O node fails with the following output message when the pmexe command is executed.

```
# pmexe -c cluster1 "hostname"
[WARN] PSM 5051 pmexe The execution failed file was output.(filename)
```

*filename*: Name of the file output to the current directory

The following message is output to the *filename* file.

```
[ERR.] PSM 5006 pmexe Connection failed : XXX.XXX.XXX.XXX (Cannot send listfile to BIO)
ReturnCode=256
```

#### Cause

The following causes are considered possible. Check the boot I/O node conditions to identify the cause.

- a. The boot I/O node is not powered on.
- b. The ssh daemon is not running on the boot I/O node.
- c. There is a defect in the sshd settings for the boot I/O node.

This applies to cases where `/etc/ssh/sshd_config` has the following settings.

- `PubkeyAuthentication=no` is set, disabling the key exchange authentication method.
- `PermitRootLogin=no` is set, not allowing the root account to execute SSH.

#### Actions

Take the following actions for the respective causes described above.

- a. Power on the relevant node.
- b. Start the ssh daemon on the relevant node.
- c. Log in to the relevant node console, and change the sshd settings. Then, restart sshd.

### 2.3.1.3 ssh Connection Failure to Target Node

#### Event

An attempted ssh connection to the execution target node fails with the following output message when the pmexe, pmscatter, or pmgather command is executed.

```
# pmexe -c cluster1 "hostname"
[WARN] PSM 5051 pmexe The execution failed file was output.(filename)
```

*filename*: Name of the file output to the current directory

The following message is output to the *filename* file.

```
[0XXXXXXXXXX] ssh: connect to host XXX.XXX.XXX.XXX port 22: message-indicating-cause-of-error
```

## Cause

The following causes are considered possible. Check the execution target node conditions to identify the cause.

- a. The execution target node is not powered on.
- b. The ssh daemon is not running on the execution target node.
- c. There is a defect in the sshd settings for the execution target node, and access from the system management node or relay compute cluster sub management node is denied.

## Actions

Take the following actions for the respective causes described above.

- a. Power on the relevant node.
- b. Start the ssh daemon on the relevant node.
- c. Log in to the relevant node console, and change the sshd settings. Then, restart sshd.

### 2.3.1.4 ssh Connection Timeout to Target Node

#### Event

This event occurs when the pmexe, pmscatter, or pmgather command is executed and the ssh connection to the execution target node times out.

An example of the pmexe command is shown below.

```
# pmexe -c cluster1 "hostname"  
[WARN] PSM 5051 pmexe The execution failed file was output.(filename)
```

*filename*: Name of the file output to the current directory

The following message is output to the *filename* file.

```
[0XXXXXXXXX] Connection timed out during banner exchange
```

#### Cause

The execution target node may be unable to return a response because of a high load or other reasons.

#### Actions

If the load on the execution target node is high, execute the command again when the load is reduced.

In addition, you can prevent this event from occurring, by performing the following work when executing the command.

- a. Specify the -P option to reduce the multiplicity of command execution (file transfer).
- b. Specify the -ssh-o "ConnectTimeout=XXX" option (XXX: timeout time) to extend the timeout time (default: 5 seconds).

## 2.4 Problems Related to Job Operation Management Function

---

### 2.4.1 Error When --set or --check Option Specified in pmpjmadm Command

---

#### Event

When executed with the --set or --check option specified, the pmpjmadm command fails with the following output message.

```
[ERR.] PJM 6022 pmpjmadm File format error: invalid item data detected.
```

#### Cause

There is an error in the contents of the pmpjm.conf file.

The following errors are common.

- a. "node" is specified in "AllocType" in the pmpjm.conf file for a PRIMERGY server resource unit.

- b. No file exists in the predefined path on the compute cluster management node specified in the setting item "PrologueName," "EpilogueName," or "ExitFuncLib" in the pmpjm.conf file.
- c. There may be a value containing a blank space and not enclosed in double quotation marks.

**Actions**

Take the following actions for the respective causes described above.

- a. Specify "vnode" in "AllocType."
- b. Store a file in the predefined path on the compute cluster management node.
- c. Enclose the value in double quotation marks.

Example: To write CreateRscMap = 01:00:00, 00:10:00

CreateRscMap = "01:00:00, 00:10:00"

## 2.4.2 No Transition to RUN State After Job Submission

---

**Event**

This event occurs when a job is submitted.

If the pjstat command checks the job status after the job is submitted, the job does not enter the RUN state.

**Cause**

The various possible causes include incorrect content written in the pmpjm.conf file, no resource space, a node failure, and a deadline schedule.

**Actions**

Execute the pjstat command with the -v option specified to display REASON (error message). Take action according to the error message displayed in REASON.



See

For details on REASON, see the man page for the pjstat command.

## 2.4.3 Error About No Resource Group When Job Submitted

---

**Event**

This event occurs when a job is submitted.

If the pjstat command checks the job status after the job is submitted, the job does not enter the RUN state. In addition, the REASON field shown by the -v option of the pjstat command displays "RSCGRP NOT EXIST" even when a resource group exists.

**Cause**

An incorrect range is specified for the resource group defined in the pmpjm.conf configuration file for job operation management within a resource unit. An example is a defined range of 0,0,0-4,3,3 for the resource group when the range of the resource unit is 0,0,0-3,3,3.

**Actions**

Modify settings in the pmpjm.conf file. After modifying the file, apply the modified settings with the pmpjmadm command.

## 2.4.4 Allocated More Nodes Than Requested for Submitted Job

---

**Event**

This event occurs at the submission time of a job that uses multiple nodes exclusively occupying a Tofu space (torus mode and mesh mode).

**Cause**

The allocation of a job that uses multiple nodes exclusively occupying a Tofu space may result in more allocated nodes than requested because they are allocated as a rectangular parallelepiped space in a Tofu unit. This is not an error.

For example, if the number of requested nodes is 36, a rectangular parallelepiped space of 1x1x3, 1x3x1, or 3x1x1 as a Tofu unit is required. However, a space of 1x2x2 may be selected due to the status of allocation of other jobs or for other reasons. In this case, the number of allocated nodes is 48: 2x6x4.

## 2.4.5 How to Return Job Statistical Information Output Items to Initial Values

To return the output of customized job statistical information to the initial values, restore the initial settings in the papjmstats.conf configuration file for the job statistical information of the cluster by performing the following procedure.

1. Editing the papjmstats.conf file  
Set the following.

```
Cluster {
  Record {
    PATH=/var/opt/FJSVtcs/shared_disk/pjm/jsti/jobinfo
  }
}
```

2. Applying settings  
Apply the changed settings with the papjmstatsadm command for setting job statistical information.

```
# papjmstatsadm -c clstname --set
```

*clstname*: Target cluster name

## 2.4.6 Problems in Job Execution Environment

For details on problems and actions to take when configuring and using the job execution environment, see "[Chapter 4 Problems in Job Execution Environment](#)."

## 2.4.7 Job Ended With PJM Code 27

### Event

Job ended with PJM code 27.

### Cause

This is caused by the exit script of the job resource management exit function.

Some exit scripts are registered by the administrator, while others are already embedded into the Job Operation Software (embedded exit script).

The cause may be one of the following:

- a. An error occurred in the administrator registered exit script.
- b. The administrator registered exit script timed out and was aborted.
- c. An error occurred in the embedded exit script.  
In this case, the job statistical information REASON (error message) will be either "PWRM KNOBUTIL" or "PWRM JPE," and the PWRD service stops on the failed nodes.  
If an error occurs in the embedded exit script, the job will fail regardless of the setting for automatic replay described in Setting the Job Operation and Management Facility in the resource unit (pmpjm.conf file).  
This could be because the node has not been rebooted since the package was applied, so check the state of the system.  
Please resubmit the job when the cause has been cleared.
- d. The embedded exit script timed out and was aborted.  
If none of the items a through c apply, this is probably the cause.

### Actions

- For cause a or b  
Review the processing of the exit script registered by the administrator and the timeout value set.



- For cause c  
Restart the node if it has not been rebooted since the package was applied.

Otherwise, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk.

## 2.4.8 Error When -H Option Specified in pjstat Command

---

### Event

When executed on the login node with the -H option specified, the pjstat command fails with the following output message.

```
[ERR.] PJM 0291 pjstat Internal error: code=99 detail=110.
```

### Cause

MariaDB may not have been set according to the procedure described in "Setting MariaDB" in "Job Operation Software Administrator's Guide for Job Management."

### Actions

If MariaDB has not been set, follow the steps in "MariaDB Settings" in "Job Operation Software Administrator's Guide for Job Management."

## 2.4.9 Pjcmd\_jobinfo\_execute () Specifying the Parameter of PJCMD\_JOBINFO\_HISTORY\_XXX Returns with an Error

---

### Event

If you specify the following parameters and execute pjcmd\_jobinfo\_execute (), pjcmd\_jobinfo\_execute () will set PJCMD\_ERROR\_INTERNAL in pjcmd\_errcode and return with an error.

- PJCMD\_JOBINFO\_HISTORY\_DAY
- PJCMD\_JOBINFO\_HISTORY\_START
- PJCMD\_JOBINFO\_HISTORY\_END
- PJCMD\_JOBINFO\_HISTORY\_PERIOD

### Cause

The probable cause is the same as when an error occurs when the -H option of the pjstat command is specified (see 2.4.8).

### Actions

Take the same action as when an error occurs when the -H option of the pjstat command is specified (see 2.4.8).

## 2.4.10 Core file (core.\*) is Created in the Current Directory of the Job

---

### Event

A core file (core.\*) is created in the current directory of the job even if the following values (core file size for the process unit) are specified as 0:

- "proc-core" for the {-L | --rsc-list} option of pjsub command
- Job ACL function items "joblimit proc-core" or "interact-proc-core"

### Cause

If a job process is generated immediately before the elapsed time limit is exceeded after the start of job execution, it is terminated by SIGXCPU (Signals sent when the elapsed time limit is exceeded). As a result, core files may be created.

This can also occur, if the job elapsed time limit is short.

### Actions

Other jobs and systems are not affected. Delete the created core file.  
Ask the user to increase the job elapsed time limit and submit the job.

## 2.4.11 Error when Executing a Job of Intel MPI 2019

---

### Event

When you execute a job of Intel MPI 2019, the following error is output.

```
check_exit_codes (../../../../../../../../src/pm/i_hydra/libhydra/demux/hydra_demux_poll.c:117): unable to
run bstrap_proxy on 192.0.2.1 (pid 144, exit code 768)
poll_for_event (../../../../../../../../src/pm/i_hydra/libhydra/demux/hydra_demux_poll.c:159): check exit
codes error
HYD_dmz_poll_wait_for_proxy_event (../../../../../../../../src/pm/i_hydra/libhydra/demux/
hydra_demux_poll.c:212): poll for event error
HYD_bstrap_setup (../../../../../../../../src/pm/i_hydra/libhydra/bstrap/src/intel/i_hydra_bstrap.c:772):
error waiting for event
main (../../../../../../../../src/pm/i_hydra/mpiexec/mpiexec.c:1938): error setting up the bootstrap proxies
```

### Cause

For Intel MPI 2019, the host names of other compute nodes must be able to resolve on each compute node.

### Actions

The administrator should set up the OS environment so that the host names of other compute nodes can be resolved on each compute node.

## 2.4.12 If you create a large number of mpiexec output files under the same directory, the job execution time will increase

---

### Event

If you specify with mpiexec to create a large number of mpiexec output files under the same directory, the job execution time may be longer than usual.

As a result, the job ends with PJM code 11 due to the elapsed time limit being exceeded.

### Cause

This is because access to the same directory is concentrated and the MDS becomes overloaded, which delays file system processing.

One of the following can be considered.

- a. A large number of files exist under the existing directory.
- b. A large number of files are created under the same directory.

### Actions

Take the following actions for each of the causes listed above.

- a. Specify a new directory.
- b. Output the standard output / standard error output file of each rank to another directory.



See

For details, see "Notes on running large-scale MPI jobs" in "Standard output/standard error output of the mpiexec command" in the "Job Operation Software Administrator's Guide for Job Management."

## 2.4.13 If the pjdel command is executed when the interactive job is in the RNA state, it takes time for the interactive job prompt to return

---

### Event

If you execute the pjdel command when the interactive job is in the RNA state, it may take some time for the interactive job prompt to return.

## Cause

The interactive job waits for the completion of the startup process of the job execution environment up to the time specified for a maximum wait time for resource allocation (`--sparam "wait-time ="` option) of the `pjsub` command).

Therefore, if the `pjdel` command is executed in the RNA state, it waits until the time specified for a maximum wait time for resource allocation elapses, and then the prompt returns.

## Actions

Wait until the prompt returns after the time specified for a maximum wait time for resource allocation has elapsed.

If you want to return the prompt immediately, use the `kill` command to kill the `pjsub` and `plexec` processes.

```
$ ps -ef | grep username | grep -e pjsub -e plexec
username   aaaaaa bbbbbb x xx:xx pts/x    00:00:00 pjsub ...
username   ccccc  aaaaaa x xx:xx pts/x    00:00:00 plexec ...
$ kill -9 aaaaaa ccccc
```

*username*: Name of the user who executed the `pjsub` and `plexec` commands.

## 2.4.14 Job Ended With PJM Code 28

### Event

Job ended with PJM code 28.

Parse the log file on the compute node to isolate the problem. This section describes the causes and actions to be taken when 1. and 2. below are satisfied.

1. When the log file `/var/log/FJSVtcs/prm/pxnrd.log` on the compute node is searched by the job ID, the following log message “`nrm_kif_create_job ... Create job failed (retval=-5, ...)`” is output.

Example: Job ID is 3561

```
2023-11-01 03:56:27:421859 [WARN] [PRM] 9999 3561(1) [2341] ... nrm_kif_create_job: [krm]
Create job failed (retval=-5, ...
```

And,

2. When the log file `/var/log/FJSVtcs/krm/krm.log` on the compute node is searched near the occurrence time, the following log message is output:

```
...
... [ERR.] [krm] 9999 - ... crm_curl_create_container:... From docker daemon:
{"message": "invalid volume specification: '/filename'"}
...
... [INFO] [krm] 9999 - ... krm_create_job:... end: caller=... ret=-5
```

Here, in the “*filename*” part, the file name with a colon (“:”) is displayed.

## Cause

If a file (or directory) with a colon (“:”) in its name exists directly under “/” of the compute node, the docker container used by the job operation software will fail to start when the job is executed.

## Actions

Delete the file (or directory) directly under “/” with a colon (“:”) in its name or move it to another location. No node restart is required.

## Information

Note that if you have changed the kernel parameter `kernel.core_pattern` to set the core dump file name for the process.

In particular, do not use `kernel.core_pattern` with the following settings, as it may create a core file with a colon (“:”) in its name directly under “/” of the compute node, which may result in PJM code 28.

- The file path is specified as a relative path.

And,

- Specifying the following % indicator

%e: The process name may contain a colon (":").

%h: Some environments may have a colon (":") in the host name.

## 2.5 Problems Related to Power Management Function

### 2.5.1 pasyspwr Command Does Not End or Ended Abnormally

#### Event

When executed with the --trace and --time options specified, the pasyspwr command does not end. Alternatively, "internal error" has been output, or the command ended without the output of any message, etc.

```
# pasyspwr --trace -c clstname --time 201909010000-201909110000
<No response for 10 minutes or longer>
```

*clstname*: Target cluster name

#### Cause

A huge amount of power consumption information was output. (For example, the output power information for 160,000 nodes x 60 minutes x 24 hours x 10 days is 2.3 billion lines.) Processing may be taking a significant amount of time, or an abnormal end may have occurred due to tremendous memory usage.

#### Actions

Reduce the time specified in the --time option.

For example, change the time specified in the --time option to 10 minutes. If you need information on the 60 minutes from the specified start time, execute the command repeatedly with the specified time in --time option changed in steps of 10 minutes as shown below.

```
# pasyspwr --trace -c clstname --time 201909102300-201909102310
# pasyspwr --trace -c clstname --time 201909102310-201909102320
.
.
.
# pasyspwr --trace -c clstname --time 201909102350-201909110000
```

### 2.5.2 Power Management Function Service Stopped at System Management Node

#### Event

At the system management node (active node for redundancy), the SRV\_STATUS field displayed by the pashowclst command shows PWRD(x).

```
# pashowclst -v
[ CLST: clstname ]
NODE          NODETYPE    STATUS      REASON      PWR_STATUS  ARCH_STATUS  SRV_STATUS
0x00000001    SMM         SoftError   SrvDown     on          -            IC(o),PWRD(x)
```

*clstname*: Target cluster name

#### Cause

The pxsyspwr daemon might terminate abnormally if the disk containing /var/opt/FJSVtcs on the system management node is full. Check the status of the daemon as follows.

```
# systemctl status pxsyspwr
```

## Actions

Secure sufficient free space on the system management node. Then start the pxsypswrd daemon as follows.

```
# systemctl start pxsypswrd
```

## 2.5.3 Power Management Function Service Stopped at FX Server Compute Node

---

### Event

The SRV\_STATUS field for the FX server compute node displayed by the pashowclst command shows PWRD(x).

```
# pashowclst -v
[ CLST: clstname ]
NODE          NODETYPE  STATUS      REASON    PWR_STATUS  ARCH_STATUS  SRV_STATUS
0x304D000C    CN          SoftError   SrvDown   os-running  ICC_Running  PLE(o),NRD(o),FEFS(o),PWRD(x)
```

*clstname*: Target cluster name

### Cause

If an administrator's program uses Power API and runs this program as a service right after starting a node, switching a kernel module (xos\_hpcpwr.ko) will fail and Power API will not work correctly.

### Actions

When running a program that uses a Power API, you must run it only after starting the following services:

```
pxnrd.service
pxmonitor_slaved.service
```

You can check the status of services using the systemctl command, which is included with Linux by default.

## 2.5.4 Power Management Function Service Stopped at PRIMERGY Server Compute Node

---

### Event

The SRV\_STATUS field for the PRIMERGY server compute node displayed by the pashowclst command shows PWRD(x).

```
# pashowclst -v
[ CLST: clstname ]
NODE          NODETYPE  STATUS      REASON    PWR_STATUS  ARCH_STATUS  SRV_STATUS
0xFFFF00F6    CN          SoftError   SrvDown   on           -            PLE(o),NRD(o),FEFS(o),IC(o),
PWRD(x)
```

*clstname*: Target cluster name

### Cause

Due to slowdowns on the affected node(0xFFFF00F6 in the example above), the pxpwrwrap\_monitor daemon slowed down and went down with a timeout of 60 seconds.

If following messages appear in the system log /var/log/messages, this is confirmed:

```
Oct 20 14:07:30 hostname systemd: pxpwrwrap_monitor.service watchdog timeout (limit 1min)!
Oct 20 14:07:35 hostname systemd: pxpwrwrap_monitor.service: main process exited, code=dumped,
status=6/ABRT
Oct 20 14:07:35 hostname systemd: Unit pxpwrwrap_monitor.service entered failed state.
Oct 20 14:07:35 hostname systemd: pxpwrwrap_monitor.service failed.
```

When the Intel RAPL 32 bit register wraps around, the pxpwrwrap\_monitor daemon increments the upper 32 bit. According to Intel's specifications, wrap-around can occur in 60 seconds, so "increment" must be completed within 60 seconds.

If "increment" takes more than 60 seconds, the daemon is aborted(core dump) with the 60 second timeout set on systemd's watchdog.

## Actions

Reboot the affected node and incorporate it into operation.

# Chapter 3 Maintenance Work Problems

This chapter describes problems with maintenance work and the actions to take for them.

## 3.1 Failed Transition to Software Maintenance Mode

### Event

When executed with the `--soft-mainte` option specified, the `paclstmgr` command fails with the following output message.

```
# paclstmgr -c clstname --bootgrp 0x0101 --soft-mainte
Do you really want to continue (y/n)? y
<< It stops service. >>
[WARN] PSM 4052 paclstmgr There are nodes that failed in the operation.(filename)
```

*filename*: Name of the file output by the `pmexe` command executed internally by the `paclstmgr` command

*clstname*: Target cluster name

The following contents of the *filename* file are output when a transition to software maintenance mode fails.

```
# cat filename
0x0101000A # ssh: connect to host target-node-IP-address port 22: No route to host
0x0101000B # ssh: connect to host target-node-IP-address port 22: No route to host
0x0101000C # ssh: connect to host target-node-IP-address port 22: No route to host
```

### Cause

In this state (OS stopped, OS hang, etc.), the `ssh` command cannot connect to the target nodes.

### Actions

Perform the following procedure.

1. Checking connectivity with the `ssh` command  
Check with the `ssh` command whether the active system management node can connect to the target nodes. If a connection cannot be established, check the following.
  - a. Power status of the target node  
Check whether the target node is running. If the power is off or the OS is hanging, restart the target node with the `paoprctl` command.
  - b. `sshd` daemon status on the target node  
If you are unable to connect to the target node even after restarting it, log in to the target node directly with the `paconsole` command or from the console, and check whether the `sshd` daemon is running. If the `sshd` daemon is not running, restart the daemon with the `systemctl` command.
  - c. Network status of the target node  
Check whether the network of the target node is enabled. The network to check varies depending on the node type.

Table 3.1 Target Node Types and Networks to Check

Target Node Type	Network to Check
System management node (standby) (*1)	Management network of target node Management network between target node and system management node
Compute cluster management node	
Compute cluster sub management node	
Login node	
Compute node (PRIMERGY server)	
Storage cluster management node	
MGS node (*2)	
MDS node	

Target Node Type	Network to Check
OSS node	
Multiuse node	
Compute node also serving as boot I/O node	
Compute node also serving as global I/O node	Tofu network of target node
Compute node also serving as storage I/O node	Tofu network between target node and boot I/O node in same boot group as target node
Compute node (FX server)	

(\*1) Includes the nodes that also serve as storage cluster management nodes

(\*2) Includes the nodes that also serve as MDS and OSS nodes

## 2. Retrying the transition to software maintenance mode

Try again by specifying the `--soft-mainte` option in the `paclstmgr` command on the active system management node. At this time, also specify the `filename` file in the `-f` option of the command. The file was output when the transition to software maintenance mode failed.

```
# paclstmgr -c clstname -f filename --soft-mainte
```

## 3.2 Failed Transition to Hardware Maintenance Mode

### Event

When executed with the `--hard-mainte` option specified, the `paclstmgr` command fails with the following output message.

```
# paclstmgr -c clstname --cmu 0x01010004 --hard-mainte
Do you really want to continue (y/n)? y
<< It executes papwrctl off command. (model=FT) >>
[ERR.] PSM 2001 papwrctl Power control failed.(Response timeout(0x01010004))
[ERR.] PSM 2001 papwrctl Power control failed.
```

*clstname*: Target cluster name

### Cause

The `papwrctl` command executed internally by the `paclstmgr` command failed to power off nodes.

The possible causes (and actions to take) vary depending on the message "[ERR.] PSM 2001 papwrctl Power control failed.(*detailed-message*).". For details on the detailed messages and causes (and actions to take), see "[2.1.2 Node Power Control Failed](#)."

### Actions

Perform the following procedure.

1. Checking the detailed message of the `papwrctl` command  
See Actions in "[2.1.2 Node Power Control Failed](#)," and take action according to the detailed message (cause).
2. Stopping the target nodes  
Stop the target nodes by executing the `paclstmgr` command with the `--hard-mainte` option specified. Specify a range as the target. For this stopping range, specify the same range as that before the error occurred.  
To forcibly stop the target nodes, execute the `papwrctl` command with `force-off` specified, instead of the `paclstmgr` command.

```
# papwrctl -c clstname --cmu 0x01010004 force-off
```

## 3.3 Service Operation Failure

### Event

When executed with the `--service` option specified, the `paclstmgr` command fails with the following output message.

```
# paclstmgr -c clstname -n 0xFFFF0003 --service operation
[WARN] PSM 4052 paclstmgr There are nodes that failed in the operation.(filename)
```



*clstname*: Target cluster name

*filename*: Name of the file output by the pmexe command executed internally by the paclstmgr command

*operation*: Optional argument representing a service operation (start, stop, or restart)

The following contents of a file are output when a service operation fails.

```
# cat filename
0xFFFF0003 # ssh: connect to host target-node-IP-address port 22: No route to host
```

#### Cause

In this state (OS stopped, OS hang, etc.), the ssh command cannot connect to the target node.

#### Actions

Perform the following procedure.

1. Checking connectivity with the ssh command

Check with the ssh command whether the active system management node can connect to the target node. This check is done in the same way as in step 1 of Actions in "[3.1 Failed Transition to Software Maintenance Mode](#)."

2. Retrying the service operation

Try again by specifying the --service option in the paclstmgr command on the active system management node. At this time, also specify the *filename* file in the -f option of the command. The file was output when the service operation failed.

```
# paclstmgr -c clstname -f filename --service operation
```

## 3.4 Failed Recovery From Maintenance Mode

### 3.4.1 Failed to Restart Service

#### Event

This event occurs when the following two conditions are met.

- The REASON field displayed by the pashowclst command shows "SoftMaintenance" for the target node.

```
# pashowclst -v
[ CLST: clstname ]
NODE          NODETYPE  STATUS    REASON          PWR_STATUS    ARCH_STATUS    SRV_STATUS
0xFFFF0003  LN        Disable   SoftMaintenance on              -              -
```

- The paclstmgr command with the --recover and --service-restart options specified was executed for the target node.

```
# paclstmgr -c clstname -n 0xFFFF0003 --recover --service-restart
<< It restarts service. >>
[WARN] PSM 4052 paclstmgr There are nodes that failed in the operation.(filename)
```

*clstname*: Target cluster name

*filename*: Name of the file output by the pmexe command executed internally by the paclstmgr command

The following contents of a file are output when a service restart fails.

```
# cat filename
0xFFFF0003 # ssh: connect to host target-node-IP-address port 22: No route to host
```

#### Cause

In this state (OS stopped, OS hang, etc.), the ssh command cannot connect to the target node.

#### Actions

Perform the following procedure.

1. Checking connectivity with the ssh command  
Check again with the ssh command whether the active system management node can connect to the target node. For details on how to check it, see step 1 of Actions in "[3.1 Failed Transition to Software Maintenance Mode](#)."
2. Retrying the service operation  
Try again by specifying the `--service` option in the `paclstmgr` command on the active system management node. At this time, also specify the `filename` file in the `-f` option of the command. The file was output when the service restart failed.

```
# paclstmgr -c clstname -f filename --service operation
```

*operation*: Optional argument representing a service operation (start, stop, or restart)

3. Confirming the start of services  
Use the `pashowclst` command to confirm that the services have started.

```
# pashowclst -c clstname -n nodeid
...
```

*nodeid*: Target node ID

## 3.4.2 Failed to Restart Node

### Event

When executed with the `--recover` option specified, the `paclstmgr` command fails with the following output message. This does not apply to cases where the `--service-restart` or `--no-restart` option is specified together with the `--recover` option.

```
# paclstmgr -c clstname --cmu 0x01010004 --recover
Do you really want to continue (y/n)? y
<< It executes papwrctl off command. (model=FT) >>
[ERR.] PSM 2001 papwrctl Power control failed.(Response timeout(0xFFFF0003))  <- (*)
[ERR.] PSM 2001 papwrctl Power control failed.
```

*clstname*: Target cluster name

(\*) The error message displays the cause of the failure in parentheses (*detailed-message*).

### Cause

The `papwrctl`, `pastop`, or `pastart` command executed internally by the `paclstmgr` command failed to perform a power operation. The possible causes (and actions to take) vary depending on the *detailed-message* output in the error message when the `papwrctl`, `pastop`, or `pastart` command failed. For details on *detailed-message*, see "[2.1.2 Node Power Control Failed](#)."

### Actions

Perform the following procedure on the active system management node.

1. Checking *detailed-message* of the `papwrctl` command  
Take action according to *detailed-message*. For details on the action, see "[2.1.2 Node Power Control Failed](#)."
2. Performing power operations for the target nodes  
Perform the following operations for only the target nodes where the power operation failed.

- a. Forcibly stopping a target node

Forcibly stop the target node by executing the `papwrctl` command with `force-off` specified.

```
# papwrctl -c clstname -n nodeid force-off
```

*clstname*: Cluster name

*nodeid*: Node ID

- b. Checking the power status

Specify "status" in the `papwrctl` command to check the power status of a target node, and confirm that it is "off."

```
# papwrctl -c clstname -n nodeid status
```

c. Starting a target node

Specify "on" in the papwrctl command to start the target node.

```
# papwrctl -c clstname -n nodeid on
```

## 3.5 One-Sided Operation on File Server Node Failed

### Event

The FEFSSR service is displayed with "x" (the service stopped or experienced an abnormality) during failover of the MGS, MDS, or OSS node.

```
# pashowclst -c clstname -n nodeid1,nodeid2
[ CLST: clstname ]
[ NODE: nodeid1 ]
NODE      NODETYPE  STATUS      REASON    PWR_STATUS  ARCH_STATUS  SRV_STATUS
nodeid1  nodetype  SoftError   SrvDown   on           -            FEFSSR(x)  <-  (*)
[ NODE: nodeid2 ]
NODE      NODETYPE  STATUS      REASON    PWR_STATUS  ARCH_STATUS  SRV_STATUS
nodeid2  nodetype  Running     -         on           -            FEFSSR(o)
```

*clstname*: Target cluster name

*nodeid1*: Node ID of file server node 1

*nodeid2*: Node ID of file server node 2

*nodetype*: Node type

(\*) FEFSSR service stopped or error occurred

### Cause

A possible cause is that failover was suppressed when an error occurred on the target node.

Check whether failover is suppressed by executing the pacstmgr command with the --set-failover option specified. The following example checks whether failover of the MGS node is suppressed.

```
# pacstmgr -c clstname -n nodeid --set-failover list
[ CLST: clstname ]
NODE      NODETYPE  FAILOVER
nodeid1   MGS       disable
nodeid2   MGS       disable
clstname: target-cluster-name
nodeid1:  node-ID-of-file-server-node-1
nodeid2:  node-ID-of-file-server-node-2
```

The FAILOVER field displays "enable" for enabled failover and "disable" for disabled failover.

- a. If the FAILOVER field displays "disable" for the target node, take action a in Actions.
- b. If the failover failed even though failover was not suppressed, a possible cause is that an error occurred during failover processing, causing the failover failure. In this case, take action b in Actions.

### Actions

- a. Perform the following procedure on the active system management node.

1. Executing failover

Specify the node where the error occurred, and execute the pacstmgr command with the --failover option specified. In the following execution example, an error occurred on the node *nodeid1*.

```
# pacstmgr -c clstname --failover nodeid1
```

## 2. Checking one-sided operation of services

After a panic, confirm that the nodes have started. Then, specify the `-n` option in the `pashowclst` command, and execute the command to check whether services are running in one-sided operation.

```
# pashowclst -c clstname -n nodeid1,nodeid2
[ CLST: clstname ]
[ NODE: nodeid1 ]
NODE      NODETYPE  STATUS      REASON    PWR_STATUS  ARCH_STATUS  SRV_STATUS
nodeid1  nodetype  SoftError   SrvDown  on          -            FEFSSR(w)
[ NODE: nodeid2 ]
NODE      NODETYPE  STATUS      REASON    PWR_STATUS  ARCH_STATUS  SRV_STATUS
nodeid2  nodetype  Running     -         on          -            FEFSSR(*) <- (*1)
```

(\*1) One-sided operation of FEFSSR service

Since "(\*)" is displayed for the FEFSSR service on `nodeid2`, you can confirm that it is running properly in one-sided operation.

- b. Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

## 3.6 Cannot Apply and Check Package as rpmdb is Damaged

### Event

When executed on an FX server diskless node, the `rpm` or `yum` command outputs the following execution results.

```
# pmexe -c cluster1 -n 0x01010002 --chroot --stdout "rpm -q"
[cmdline]
pmexe -c cluster1 -n 0x01010002 --chroot --stdout rpm -q
[cluster]
clstname
<<<<< ResultInformation >>>>>
[0x01010002] error: rpmdb: BDB0113 Thread/process 2619/140737354029312 failed: BDB1507 Thread died
in Berkeley DB library
[0x01010002] error: db5 error(-30973) from dbenv->failchk: BDB0087 DB_RUNRECOVERY: Fatal error,
run database recovery
[0x01010002] error: cannot open Packages index using db5 - (-30973)
[0x01010002] error: cannot open Packages database in /var/lib/rpm
[0x01010002] error: rpmdb: BDB0113 Thread/process 2619/140737354029312 failed: BDB1507 Thread died
in Berkeley DB library
[0x01010002] error: db5 error(-30973) from dbenv->failchk: BDB0087 DB_RUNRECOVERY: Fatal error,
run database recovery
[0x01010002] error: cannot open Packages index using db5 - (-30973)
[0x01010002] error: cannot open Packages database in /var/lib/rpm
```

*clstname*: Target cluster name

### Cause

`rpmdb` is damaged because the same NFS area was referenced or edited from both a boot I/O node and a compute node or because an error occurred in NFS during execution of the `rpm` or `yum` command.

### Actions

Re-create `rpmdb` by performing the following procedure on the active system management node, and then apply and check the package again.

1. Delete the damaged `rpmdb` files.

```
# pmexe -c clstname -n nodeid --chroot "rm /var/lib/rpm/___db*"
```

*clstname*: Cluster name

*nodeid*: Node ID

2. Check the rpmdb files.

```
# pmexe -c clstname -n nodeid --chroot "db_verify /var/lib/rpm/Packages"
```

When the message "BDB5105 Verification of /var/lib/rpm/Packages succeeded." appears, there is no problem.

3. Re-create rpmdb.

```
# pmexe -c clstname -n nodeid --chroot "rpm --rebuilddb"
```

## 3.7 yum Command Failure

---

### Event

The following error message appears during package application by the yum command.

```
Loaded plugins: product-id, search-disabled-repos, subscription-manager
This system is not registered with an entitlement server. You can use subscription-manager to
register.
http://192.0.2.1/pxinst/repos/rhel75/repodata/repomd.xml: [Errno 14] curl#7 - "Failed connect to
192.0.2.1:80; Connection refused"
...
```

### Cause

The system management node or compute cluster sub management node has the repository referenced by the yum command on the target node. The httpd service of that node may have stopped or experienced an abnormality.

### Actions

See /var/log/httpd/error\_log on the repository reference node, and specify the cause of the error. Restart the httpd service of the repository reference node as needed. The repository reference node varies as follows depending on the type of node where the error occurred:

- For an FX server node belonging to a node group  
Compute cluster sub management node of that node group
- For a PRIMERGY server compute node belonging to a node group  
The reference destination node is the compute cluster sub management node of that node group.
- For any other node  
System management node

## 3.8 Problems Related to Log Management Function

---

### 3.8.1 Investigation Data Not Collected

---

#### Event

Error messages are output to the output files when the pasnap command is executed.

```
# pasnap -c clstname -a
Do you really want to continue (y/n)? y
[INFO] PSM 5082 pmexe The execution result file was output.
(./snap/pasnap_exec_snap_result) (*1)
[WARN] PSM 5051 pmexe The execution failed file was output.
(./snap/pasnap_exec_snap_failed) (*2)
[INFO] PSM 5082 pmexe The execution exclude file was output.
(./snap/pasnap_exec_snap_excluded) (*3)
[WARN] PSM 5051 pmscatter The execution failed file was output.
(./snap/pasnap_scatter_nodelist_failed) (*4)
[WARN] PSM 5051 pmexe The execution failed file was output.
(./snap/pasnap_exec_snap_bio_failed) (*5)
<<<< Execute pmgather >>>>
```

```
[WARN] PSM 5051 pmgather The execution failed file was output.
(/snap/pasnap_gather_failed) (*6)
[INFO] PSM 5082 pmexe The execution result file was output.
(/snap/pasnap_exec_rmsnap_result) (*1)
[WARN] PSM 5051 pmexe The execution failed file was output.
(/snap/pasnap_exec_rmsnap_failed) (*2)
[INFO] PSM 5082 pmexe The execution exclude file was output.
(/snap/pasnap_exec_rmsnap_excluded) (*3)
[WARN] PSM 5051 pmexe The execution failed file was output.
(/snap/pasnap_exec_rmsnap_bio_failed) (*5)
```

*clstname*: Target cluster name

(\*1) Message on output of the execution result file for nodes other than the boot I/O node

(\*2) Message on output of the error file for nodes other than the boot I/O

(\*3) Message on output of the exclude file for execution on nodes other than the boot I/O node

(\*4) Message on output of the error file for node list file distribution

(\*5) Message on output of the error file for processing on the boot I/O node

(\*6) Message on output of the error file for investigation data collection

## Information

When executed, the pasnap command creates a snap directory in the current directory by default, and outputs files under the directory. In addition, if the -d option is specified, the command creates a snap directory in the directory specified in the argument, and outputs files under the directory.

When collecting data, the pasnap command executes an internal command on the collection source node by using a batch operation function. For this reason, files are output at the command execution time. If the collection source node is a diskless node, the internal command is executed from the boot I/O node by default. If the --direct option is specified, the command executes the internal command by logging in directly to the collection source node.

The output files are named as follows.

Collected Data	File Name
Execution result file	pasnap_ operation-name_( target-name_)result
Error file	pasnap_ operation-name_( target-name_)failed
Exclude file for execution	pasnap_ operation-name_( target-name_)excluded

*operation-name* has the following settings.

Operation Name	Operation Description
exec_snap	Create investigation data on each node
gather	Collect investigation data from each node
exec_rmsnap	Delete investigation data from each node
scatter	Distribute definition files on each node

(\*) gather and scatter do not output execution result files.

*target-name* has the following settings.

Operation Name	Operation Description
bio	<i>target-name</i> is "bio" in the case of information on processing of an internal command to run on the boot I/O node.
nodelist	<i>target-name</i> is "nodelist" in the case of information on distribution of internal files to the boot I/O node.

Operation Name	Operation Description
troublefile	<i>target-name</i> is "troublefile" in the case of information on distribution of internal files when the --case option is specified.

For details on the contents of output files, see "Details of the Operation Support Function" in "Details of the System Management Function" in the "Job Operation Software Administrator's Guide for System Management."

### Cause

When collecting investigation data, the pasnap command executes an internal command on the collection source node by using a batch operation function. Processing of this internal command may have failed.

The following example checks the contents of the pasnap\_exec\_snap\_failed file, where a WARNING message has been output. In this example, the ssh connection to the node with node ID 0xFFFF0003 failed.

```
# cat ./snap/pasnap_exec_snap_failed
[cmdline]
/usr/sbin/_pmexe -c psm1 -f /var/opt/FJSVtcs/psm/pasnap/ianodelist -d ./snap --filename
pasnap_exec_snap -t /usr/libexec/FJSVtcs/psm/palsnap -d /var/opt/FJSVtcs/psm/pasnap-22083
[cluster]
clstname
[0xFFFF0003] ssh: connect to host 192.0.2.0 port 24: No route to host
```

### Actions

If the exec\_snap operation to create investigation data leads to an error file (failed) or an exclude file for execution (excluded), the same problem occurs in subsequent gather, scatter, and even exec\_rmsnap operations. gather collects investigation data, scatter distributes definition files, and exec\_rmsnap deletes investigation data. For the above reason, see the exec\_snap output file, and eliminate the problem. If the problem is still not solved, see the gather, scatter, and exec\_rmsnap output files, and eliminate the problem.



Each file is output in the batch operation function format. For details on solving problems, see "2.3 Problems Related to Operational Support Function."

## 3.9 Problems With Backup/Restore

### 3.9.1 paclone Command Failed

#### Event

When executed the paclone command fails with the following output message.

```
# paclone backup -c clstname -n nodeid -d dirname -k disk
[ERR.] INST 3024 paclone The specified node information is not registered.(detailed-information)
```

*clstname*: Target cluster name

*nodeid*: Node ID of the target node

*dirname*: Name of the directory of the backup source image

*disk*: Disk name (sda, sdb, etc.)

*detailed-information*: Cause of the error

#### Cause/Action

The possible causes (and actions to take) vary depending on the detailed information output in the error message.

The following table lists the detailed information output in error messages. Take action according to the following table.

Table 3.2 Detailed Information Output to an Error Message

Detailed Information	Cause	Action
Not found in the pxe config file. node= <i>nodeid</i>	Node information may not be registered.	Register node information by using the installation function. Then, perform backup or restore.
Not found in the dhcp config file. node= <i>nodeid</i>		
Not found parent.(node= <i>ipaddress</i> )	The node may not be written in the hierarchical structure definition file.	Add the IP address of the target node to the hierarchical structure definition file. Then, perform backup or restore.
Other	The node may not be registered in the node configuration definition file of the Job Operation Software.	Register node information in the node configuration definition file, or specify the host name or IP address. Then, perform backup or restore.

*nodeid*: Node ID of the target node

*ipaddress*: IP address of the target node

### 3.9.2 Backup/Restore Failed

#### Event

This event occurs when the target node is powered on after the paclone backup or paclone restore command was executed. The paclone status show command shown below checks the status of a node being backed up or restored. An error occurred during backup or restore. As a result, the STATE field shows "Failed" and the DETAIL field displays an error message.

```
# paclone status show
CLSTNAME NODEID HOSTNAME OPERATION STATUS STATE DETAIL
-----
clstname nodeid hostname Backup Completed Failed Not found disk or partition.(disk or partition)
```

*clstname*: Cluster name

*nodeid*: Node ID

*hostname*: Host name

*disk or partition*: Disk or partition name

#### Cause/Actions

The cause and action to take vary depending on the error message displayed in the DETAIL field.

The following table lists error messages displayed in the DETAIL field. Take action according to the following table.

Table 3.3 Error Messages Displayed in the DETAIL Field

Error Message	See
Not found disk or partition.( <i>disk or partition</i> )	See <a href="#">"3.9.2.1 Disk or Partition Not Found."</a>
Cannot mount the NFS exported directory.(nfsdir= <i>nfsdir</i> , detail= <i>detail</i> )	See <a href="#">"3.9.2.2 Cannot Mount NFS Public Directory."</a>
Cannot read and write to the NFS directory.(Failed to write to nfsdir. nfsdir= <i>nfsdir</i> )	See <a href="#">"3.9.2.3 Cannot Read/Write to Directory on NFS."</a>
Cannot read and write to the NFS directory.(Failed to read from nfsdir. nfsdir= <i>nfsdir</i> )	
I/O error occurred .(No space left on the mountdir. mountdir= <i>mountdir</i> )	See <a href="#">"3.9.2.4 I/O Error Occurred."</a>
I/O error occurred .( <i>detail</i> )	
Command execute error.(cmd= <i>cmd</i> , detail= <i>detail</i> )	See <a href="#">"3.9.2.5 Command Execution Error Occurred."</a>
The filesystem is not supported.(part= <i>part</i> , fs= <i>filesystem</i> , type= <i>type</i> )	See <a href="#">"3.9.2.6 File System Not Supported."</a>



Error Message	See
Cannot create the sub directory because it already exists.( <i>nfsdir=nfsdir</i> , <i>subdir=subdir</i> )	See " <a href="#">3.9.2.7 Cannot Create Subdirectory.</a> "
Repair the file system is required.( <i>device=device</i> , <i>fs=filesystem</i> , <i>exit=exit</i> <i>code</i> , <i>err=error</i> )	See " <a href="#">3.9.2.8 File System Check Failed.</a> "
File system check was abnormally finished.( <i>device=device</i> , <i>fs=filesystem</i> , <i>exit=exit code</i> , <i>err=error</i> )	
This image cannot be used for this node.( <i>detail</i> )	See " <a href="#">3.9.2.9 Cannot Use Specified Disk Image.</a> "
The specified partition is not supported.( <i>part=part</i> , <i>fs=fs</i> )	See " <a href="#">3.9.2.10 Specified Partition Not Supported.</a> "
The number of GIO and SIO is different in disk image and node.	See " <a href="#">3.9.2.11 FX Server BoB Configuration Differs From Disk Image.</a> "
Partition settings and /etc/fstab do not match.(/etc/fstab: <i>line=line</i> )	See " <a href="#">3.9.2.12 Partition Settings Not Matching /etc/fstab Contents.</a> "
Error messages other than the above	See " <a href="#">3.9.2.13 Other Errors.</a> "

### 3.9.2.1 Disk or Partition Not Found

#### Event

The DETAIL field displays the following error message when the paclone status show command is executed.

```
Not found disk or partition.(disk or partition)
```

*disk or partition*: Name of a disk or partition that does not exist

#### Cause

The following causes are considered possible.

- a. Backup or restore may have been performed with the wrong disk or partition specified.
- b. The wrong disk image may be stored in the specified directory.
- c. The disk may not exist or be recognized correctly on the target node.

#### Actions

Take action according to the cause.

- a. Specify the correct disk or partition, and perform backup or restore.
- b. Specify the directory storing the correct disk image, and perform restore.
- c. Review the BIOS and RAID configurations, and confirm that the disk can be recognized correctly. Then, perform backup or restore.

### 3.9.2.2 Cannot Mount NFS Public Directory

#### Event

The DETAIL field displays the following error message when the paclone status show command is executed.

```
Cannot mount the NFS exported directory.(nfsdir=nfsdir, detail=detail)
```

*nfsdir*: Directory to mount NFS

*detail*: Details

#### Cause

The following causes are considered possible.

- a. Backup or restore may have been performed with a specified directory that is not an NFS public directory.

- b. Backup or restore may have been performed when the NFS server had not been started.
- c. The connection to the NFS server may have failed because a firewall, etc. blocked communication to the NFS server or the IP address of the NFS server was incorrect.

#### Actions

Take action according to the cause.

- a. Review the public directory settings of the NFS server, and confirm that NFS can be mounted. Then, perform backup or restore.
- b. Start the NFS server, and confirm that NFS can be mounted. Then, perform backup or restore.
- c. Confirm that NFS can be mounted on the public directory on the NFS server. Then, perform backup or restore.

### 3.9.2.3 Cannot Read/Write to Directory on NFS

#### Event

The DETAIL field displays one of the following error messages when the paclone status show command is executed.

[Write error]

```
Cannot read and write to the NFS directory.(Failed to write to nfsdir. nfsdir=nfsdir)
```

*nfsdir*: Directory to mount MFS

[Read error]

```
Cannot read and write to the NFS directory.(Failed to read from nfsdir. nfsdir=nfsdir)
```

#### Cause

The following causes are considered possible.

- a. The root user may not have read and write permissions in settings for the public directory on the NFS server.
- b. The NFS server may not have free disk space.

#### Actions

Take action according to the cause.

- a. Review the public directory settings of the NFS server, and confirm that the root user can mount NFS and read/write the directory. Then, perform backup or restore.
- b. Check the free disk space of the NFS server. Secure sufficient free space for backup, and then perform backup.

### 3.9.2.4 I/O Error Occurred

#### Event

The DETAIL field displays one of the following error messages when the paclone status show command is executed.

[Insufficient disk capacity]

```
I/O error occurred.(No space left on the mountdir. mountdir=mountdir)
```

*mountdir*: Directory to mount MFS

[I/O or OS error]

```
I/O error occurred.(detail)
```

*detail*: Details of the error

#### Cause

The following causes are considered possible.

- a. Writing of files may be impossible due to insufficient disk capacity at the backup destination.

- b. I/O operations, such as writing and deleting files, may be impossible.

#### Actions

Take action according to the cause.

- a. Check the free disk space at the backup destination. Secure sufficient free space for backup, and then perform backup.
- b. Confirm that the target files exist. Confirm that I/O operations, such as creating a file or directory and setting a permission, for the target node and the directory to mount NFS do not have any errors. Then, perform backup or restore. If the fault location is unknown, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk.

### 3.9.2.5 Command Execution Error Occurred

#### Event

The DETAIL field displays the following error message when the paclone status show command is executed.

```
Command execute error.(cmd=cmd, detail=detail)
```

*cmd*: Executed command

*detail*: Details of the error

If the disk capacity is insufficient, the following message is output to *detail*.

```
detail: tar: file: Wrote only size1 of size2 bytes
```

*file*: File name

*size1*: Writable disk capacity

*size2*: Expanded file size

#### Cause

The following causes are considered possible.

- a. A command retrieving a file via an HTTP server may have caused the error, because the HTTP server is not running.
- b. Restore may have failed due to insufficient disk space.

#### Actions

- a. Start the HTTP server and confirm that you can retrieve the file via the HTTP server. Then, back up or restore the file again.
- b. Restore a disk image that fits in the disk space of the target node. For details on information in a disk image, see the image.info file.

### 3.9.2.6 File System Not Supported

#### Event

The DETAIL field displays the following error message when the paclone status show command is executed.

```
The filesystem is not supported.(part=part, fs=filesystem, type=type)
```

*part*: Partition name

*filesystem*: File system name

*type*: Partition type (extended: Extended area, None: Unsupported type)

#### Cause

The specified disk or partition may contain an unsupported file system.

#### Actions

If the specified disk or partition contains an unsupported file system, remove the system from the disk or partition, and execute the paclone command again.

### 3.9.2.7 Cannot Create Subdirectory

#### Event

The DETAIL field displays the following error message when the paclone status show command is executed.

```
Cannot create the sub directory because it already exists.(nfsdir=nfsdir, subdir=subdir)
```

*nfsdir*: NFS mount point specified in the paclone command

*subdir*: Subdirectory to be generated

#### Cause

The subdirectory may already exist.



#### Information

When backing up a disk image, the backup/restore function creates a subdirectory in the directory specified in the -d option of the paclone command (subdirectory example: hostname\_20171231131020). For details, see the man page for the paclone command.

#### Actions

Retry backup. Perform backup again by generating a subdirectory with a subdirectory name that has the paclone command execution date (with seconds as the smallest unit) appended.

### 3.9.2.8 File System Check Failed

#### Event

The DETAIL field displays one of the following error messages when the paclone status show command is executed.

[File system repair required]

```
Repair the file system is required.(device=device, fs=filesystem, exit=exit-code, err=error)
```

[File system check ended abnormally]

```
File system check was abnormally finished.(device=device, fs=filesystem, exit=exit-code, err=error)
```

*device*: Target device

*filesystem*: File system of the target device

*exit-code*: Return value from a file system check of the target device

*error*: Details of the error

#### Cause

The file system of the backup source partition may be damaged.

#### Actions

Log in to the target node with the ipmitool or paconsole command, or start the node in rescue mode, and repair the file system of the target partition. Then, perform backup.

### 3.9.2.9 Cannot Use Specified Disk Image

#### Event

The DETAIL field displays the following error message when the paclone status show command is executed.

```
This image cannot be used for this node.(detail)
```

*detail*: Details of the error

#### Cause

Restore may have been performed with the specified disk image for a model different from that of the target node.

## Actions

Specify a disk image for the same model as that of the target node, and perform restore.

### 3.9.2.10 Specified Partition Not Supported

#### Event

The DETAIL field displays the following error message when the `paclone status show` command is executed.

```
The specified partition is not supported. (part=part, fs=fs)
```

*part*: Partition  
*fs*: File system

#### Cause

Restore may have been performed with a specified partition that has an unsupported file system (swap, etc.).

#### Actions

Specify a partition that has a supported file system, and perform restore.

### 3.9.2.11 FX Server BoB Configuration Differs From Disk Image

#### Event

The DETAIL field displays the following error message when the `paclone status show` command is executed.

```
The number of GIO and SIO is different in disk image and node.
```

#### Cause

The global and storage I/O node configurations may be different between the specified BoB disk image and the restore target node.

#### Actions

Restore a disk image containing the same global and storage I/O node configurations as those of the restore target node.

### 3.9.2.12 Partition Settings Not Matching /etc/fstab Contents

#### Event

The DETAIL field displays the following error message when the `paclone status show` command is executed.

```
Partition settings and /etc/fstab do not match. (/etc/fstab: line=line)
```

*line*: Number of lines in /etc/fstab

#### Cause

The set partition configuration at the node registration time may not match that written in /etc/fstab on the disk image.

#### Actions

Change the disk partition definition of the target node so that it matches that on the disk image, and register the node information again. For more information about registering node information again, see "Registering Node Information Again" in the "Job Operation Software Setup Guide." Then, perform restore.

### 3.9.2.13 Other Errors

#### Event

The DETAIL field displays an error message other than those shown in Actions in "[3.9.2 Backup/Restore Failed](#)," when the `paclone status show` command is executed.

#### Cause

The cause (and action to take) varies depending on the error message.

## Actions

If you are able to take action from only the information in the error message, eliminate the cause, and then perform backup or restore again.

If no action can be taken from only the information in the error message, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk. Since the file system to be backed up is mounted on NFS, the following data may be in a log directory under the file system. If so, retrieve that data too.

[Data to collect from an NFS directory]

```
XXX_YYY_console.log
XXX_YYY_err.tgz
```

*XXX*: Node name

*YYY*: "backup" or "restore"

Examples of data file names are as follows:

compute\_0xFFFF0002\_restore\_console.log

compute\_0xFFFF0002\_restore\_err.tgz

## 3.9.3 Dump Files Also Backed Up at Backup Time

---

### Event

Dump files are also backed up during a PRIMERGY server backup in units of disks (the `-k` option for units of disks is specified when the `paclone backup` command is executed).

### Cause

Backing up the PRIMERGY server in units of disks also backs up all the partitions (excluding swap) on the specified disk.



### Information

With the FX server, dump files are not backed up because backup is performed with the dump file area excluded by default.

### Actions

After deleting dump files from the backup source node in advance, back up the server. Alternatively, specify partitions other than the dump area, and perform backup.

The following example specifies partitions other than the dump area to back up the server.

[Out of five `sda` partitions, `/dev/sda4` is the dump area]

```
# paclone backup -d /dirname -m hostname -p sda1,sda2,sda3,sda5
```

*dirname*: Name of the directory of the backup source image

*hostname*: Name of the host of the backup source node

After you manually start the restore target node, backup begins.

## 3.9.4 Partitions Specified at Restore but Not Formatted Later

---

### Event

Partitions are not formatted when restore is attempted with some partitions specified so that they are excluded from the restore.

### Cause

If restore was performed with partitions specified to exclude some partitions from the restore, partition operations were not performed for the target node, so the partitions were not formatted.

### Actions

Save an image of the partitions you want excluded to another directory, and then perform restore. After the restore, revert back to the saved partition image at the original directory.

The following example excludes sda5 when performing restore.

```
# cd dirname
# ls
sda1.img.gz sda2.img.gz sda3.img.gz sda4.img.gz sda5.img.gz image.info
# mkdir /var/tmp/imgbackup
# mv sda5.img.gz /var/tmp/imgbackup
# ls
sda1.img.gz sda2.img.gz sda3.img.gz sda4.img.gz image.info
# paclone restore -d dirname -m hostname
```

*dirname*: Name of the directory of the restore source image

*hostname*: Name of the host of the restore target node

After you manually start the restore target node, restore begins.

## 3.9.5 Network Settings Not Reflecting Manual Settings Made After Restore

### Cause

The network settings for the restore target node are the registered settings when the node information was registered.

### Actions

Back up the network settings for the restore target node in advance, and reconfigure them after restore. Alternatively, see the pre-restore network configuration file *ifcfg-xxx*, which is backed up at the restore time, and reconfigure the settings. The network configuration file is backed up to

*/var/log/FJSVtcs/inst/clone/hostname* on the restore target node.

## 3.9.6 kdump Not Starting After Restore

### Cause

The partition of the dump area may be set individually with a UUID in the */etc/kdump.conf* file. Then, since a new partition is created at the restore time, the device UUID changes too.

### Actions

Check the UUID of the partition of the dump area with the *blkid* command, and change the UUID in the */etc/kdump.conf* file. Then, restart the *kdump* service.

You can also set the UUID by using a plugin (restore plugin) at the restore time.



See

For details on the restore plugin, see "Executing a Restore Plugin" in "Details of the System Management Function" in the "Job Operation Software Administrator's Guide for System Management."

The following setting example uses a plugin.

Perform the following procedure on the active system management node.

#### 1. Creating a plugin

Supposing that */dev/sda4* is the partition of the dump area, create the following plugin.

```
# vi /var/tmp/set_kdump_uuid.sh
uuid=`cat /etc/kdump.conf|grep ^[^\#] |grep UUID |sed -e 's/.*UUID=([a-z0-9-]\+)$/\1/g'`
newuuid=`lsblk -no UUID /dev/sda4`
if [ -z $uuid ]; then
    exit
fi
if [ $uuid != $newuuid ]; then
    sed -i ".bak" "s/$uuid/$newuuid/g" /etc/kdump.conf
fi
```

## 2. Editing the plugin list

Write the path to the created plugin in the plugin list.

```
# vi /var/tmp/pluginlist
/var/tmp/set_kdump_uuid.sh
```

## 3. Performing restore

Perform restore with the paclone restore command.

```
# paclone restore -d dirname --plugin /var/tmp/pluginlist -m hostname
```

*dirname*: Name of the directory of the restore source image

*hostname*: Name of the host of the restore target node

## 4. Starting the restore target node

Manually start the restore target node. After the node starts, restore begins.

## 3.9.7 Long Time Taken to Restore Multiple Nodes Simultaneously

---

### Cause

Multiple nodes read a single disk image on the NFS server to restore the nodes. Consequently, the restore may take a while, depending on the NFS server settings, network performance, and their load status. The time taken for restore tends to increase proportionally to the capacity used by the disk image and the number of nodes simultaneously executing restore.

### Actions

Check the load status of the NFS server and network, and review each setting as needed.

As a guideline, if the number of nodes simultaneously executing restore is 50 to 60, it takes about 1 hour to restore a backup disk image to the nodes, using a disk size of 13.5 GB. If the restore takes a while due to load on the NFS server, preparing an additional NFS server may reduce the time.

The following procedure applies to preparation of an additional NFS server. The NFS server with the disk image is server1, and the prepared additional NFS server is server2.

1. Prepare an additional NFS server, and copy the disk image storage directory on the first NFS server to the second NFS server.

The following example copies the disk image on server1 to server2 with the scp command.

```
# scp -r dirpath1 ipaddr:dirpath2
```

*dirpath1*: Disk image storage directory on server1

*ipaddr*: IP address of server2

*dirpath2*: Directory for NFS publication on server2

2. In the paclone restore command, specify that half of the restore target nodes is to be restored from the second NFS server.

```
# paclone restore -d ipaddr:dirname2 -m hostname
```

*ipaddr*: IP address of server2

*dirname2*: Name of the directory on server2 as specified in step 1

*hostname*: Name of the host of the restore target nodes

3. Starting the restore target nodes

Manually start the restore target nodes. After the nodes start, restore begins.

## 3.9.8 How to Log In to Node During Backup/Restore

---

For an investigation when a problem occurs, you can log in via ssh to a node while backup/restore is in progress. For details on how to log in, see "1.3.7 How to Log In to Node During Installation."



## 3.10 Errors When Checking Software Environment

---

For details on actions to take for errors at the software environment check time, see "[1.2 Problems Related to Software Environment Check Function.](#)"

## 3.11 Problems Related to Power Management Function

---

### 3.11.1 Error When --trace Option Specified in pasyspwr Command

---

#### Event

When executed the pasyspwr command with --trace option, fails with the following output message.

```
# pasyspwr -c fl-comp -n 0x01010001 --trace
[ERR.] PWRM 1109 pasyspwr Internal error: /usr/libexec/FJSTcs/pwr/pxsyspwr_trace:1191:
SQLSTATE[28000] [1045] Access denied for user 'syspwr'@'10.4.64.2' (using password: YES)
[ERR.] PWRM 1109 pasyspwr Internal error: 1456: fail pxsyspwr_trace
```

#### Cause

The password set in MariaDB does not match the password in the configuration file.

#### Actions

Check that the password set in "Settings for the System Power Database" in "Power Management Function Settings" in "Job Operation Software Administrator's Guide for Power Management" is the same as the password in the /etc/opt/FJSTcs/pwr/syspwr\_db.conf file on the system managed node.

The verification procedure is as follows:. Do so on a compute cluster management node.

```
# mysql -u syspwr -p syspwr
Enter password: password
```

If successful, the following message appears:.

```
Reading table (snip)
(snip)
MariaDB [syspwr]>
(Terminate with Ctrl-C)
```

If it fails, the following message appears:.

```
ERROR 1045 (28000): Access denied for user 'syspwr'@'localhost' (using password: YES)
```

If you want to reset the system power database password, use the instructions in the above manual to register the account again.

```
MariaDB [(none)]> grant all on syspwr.* to syspwr identified by 'password';
```

# Chapter 4 Problems in Job Execution Environment

This chapter describes problems and actions to take when configuring and using the job execution environment.

## 4.1 Job Operation Software Services Not Starting After Job Execution Environment Information File Updated

### Event

After an update of the `jobenv.conf` configuration file for the job execution environment, Job Operation Software services do not start even if compute nodes restart.

If you check the status of target compute nodes with the `pshowclst` command, the status remains Stopped.

### Cause/Actions

The following causes are considered possible, and shown with the actions to take for them.

- a. The `jobenv.conf` file may have an incorrect setting.  
The cause (and action to take) varies depending on the error message output to the `/var/log/FJSVtcs/krm/krm.log` log file on the compute node.

The following table lists examples of error messages output to `/var/log/FJSVtcs/krm/krm.log`. Take action according to the following table.

Table 4.1 Examples of error messages output to `/var/log/FJSVtcs/krm/krm.log`

Error Message	Action
[ERR.] [krm] 9999 - _kc_jobenv_add_entry: <i>\$LINE</i> jobenv.conf error: plugin not found for type <i>\$TYPE</i> at config index <i>\$INDEX</i> .	See <a href="#">"4.1.1 Inappropriate Job Execution Environment Type in jobenv.conf File."</a>
[krm] 9999 - _kc_jobenv_add_entry: <i>\$LINE</i> jobenv.conf format error: value type of key NeedCustomImage must be boolean at config index <i>\$INDEX</i> .	See <a href="#">"4.1.2 The Value Type Set in jobenv.conf File Is Wrong."</a>
[ERR.] [krm] 9999 - _kc_jobenv_add_entry: <i>\$LINE</i> jobenv.conf format error: Image is required when NeedCustomImage is false at config index <i>\$INDEX</i>	See <a href="#">"4.1.3 Invalid Combination of Set Keys in jobenv.conf File."</a>
[ERR.] [krm] 9999 - _kc_jobenv_init: <i>\$LINE</i> Error loading /etc/opt/FJSVtcs/krm/jobenv.conf: line <i>\$L</i> column <i>\$COLUMN</i> byte <i>\$BYTE</i> :unexpected token near ']'. ]	See <a href="#">"4.1.4 jobenv.conf File in Wrong Format."</a>

- b. The Docker service did not start. For the action to take, see ["4.1.5 Docker Service Not Started."](#)

### 4.1.1 Inappropriate Job Execution Environment Type in jobenv.conf File

#### Event

The following message is output to the `/var/log/FJSVtcs/krm/krm.log` log file on the compute node.

```
[ERR.] [krm] 9999 - _kc_jobenv_add_entry: $LINE jobenv.conf error: plugin not found for type $TYPE at config index $INDEX.
```

*\$LINE*: Line number in the source code at the internal log output location of the Job Operation Software

*\$TYPE*: Set value in the key "Type" in the `jobenv.conf` file

*\$INDEX*: Number of the entry written in the `jobenv.conf` file

#### Cause

The job execution environment type specified in the key "Type" in the `jobenv.conf` file is other than docker or KVM.

#### Actions

Set the type again by modifying the key "Type" in the `jobenv.conf` file.



See

For details on how to configure the jobenv.conf file and for setting examples, see "Configuring a Job Execution Environment" in "Job Operation Management Function Settings" in the "Job Operation Software Administrator's Guide for Job Management."

## 4.1.2 The Value Type Set in jobenv.conf File Is Wrong

### Event

The following message is output to the /var/log/FJSVtcs/krm/krm.log log file on the compute node.

```
[krm] 9999 - _kc_jobenv_add_entry: $LINE jobenv.conf format error: value type of key
NeedCustomImage must be boolean at config index $INDEX.
```

*\$LINE*: Line number in the source code at the internal log output location of the Job Operation Software

*\$INDEX*: Number of the entry written in the jobenv.conf file

### Cause

The key "NeedCustomImage" in the jobenv.conf file is set to a non-boolean value.

### Actions

Set a boolean value to the key "NeedCustomImage" in the jobenv.conf.

## 4.1.3 Invalid Combination of Set Keys in jobenv.conf File

### Event

The following message is output to the /var/log/FJSVtcs/krm/krm.log log file on the compute node.

```
[ERR.] [krm] 9999 - _kc_jobenv_add_entry: $LINE jobenv.conf format error: Image is required when
NeedCustomImage is false at config index $INDEX
```

*\$LINE*: Line number in the source code at the internal log output location of the Job Operation Software

*\$INDEX*: Number of the entry written in the jobenv.conf file

### Cause

The combination of set keys in the jobenv.conf file is invalid. The key "NeedCustomImage" is not set to true, and the key "Image" is not set for an entry.

### Actions

Set the combination again by modifying the key "NeedCustomImage" and "Image" in the jobenv.conf file.



See

For details on how to configure the jobenv.conf file and for setting examples, see "Configuring a Job Execution Environment" in "Job Operation Management Function Settings" in the "Job Operation Software Administrator's Guide for Job Management."

## 4.1.4 jobenv.conf File in Wrong Format

### Event

The following message is output to the /var/log/FJSVtcs/krm/krm.log log file on the compute node.

```
[ERR.] [krm] 9999 - _kc_jobenv_init: $LINE Error loading /etc/opt/FJSVtcs/krm/jobenv.conf: line $L
column $COLUMN byte $BYTE:unexpected token near ''
```

*\$LINE*: Line number in the source code at the internal log output location of the Job Operation Software

*\$L*: Number of lines in the jobenv.conf file

*\$COLUMN*: Number of columns in the jobenv.conf file

*\$BYTE*: Number of bytes of the jobenv.conf file

### Cause

The jobenv.conf file format is wrong.

### Actions

Set the format again by modifying the jobenv.conf file so that it is compatible with JSON (JavaScript Object Notation).

The JSON format is a commonly used standard format, and format check tools are available as free software (e.g., <https://jsonlint.com/>). We recommend using these tools in advance to check the format.



See

For details on how to configure the jobenv.conf file and for setting examples, see "Configuring a Job Execution Environment" in "Job Operation Management Function Settings" in the "Job Operation Software Administrator's Guide for Job Management."

## 4.1.5 Docker Service Not Started

---

### Event

"Active: active (running)" is not displayed by the systemctl command executed on a compute node to check the status of the Docker service.

```
# systemctl status docker | grep Active
```

### Cause

The Docker service did not start.

### Actions

Check the logs for the Docker service, such as the system log at /var/log/messages, and eliminate the cause of the failure to start. Then, restart the compute node.

## 4.2 Jobs in ERROR State

---

A job submitted by a user specifying the job execution environment may enter the ERROR state. If so, the administrator may need to take action.

The action to take varies depending on the specified job execution environment. Take the respective actions according to the cause. After taking action, resubmit the job.

### 4.2.1 Job Ended With PJM Code 21

---

#### Event

A user specifies the job execution environment when submitting a job, and the submitted job ends with PJM code 21 (Shell execution failure).

#### Cause

The memory usage limit specified by the user for the -L node-mem or -L vnode-mem option of the pjsub command may be less than the amount of memory needed to start the container image.

#### Actions

Ask the user to increase the memory usage limit specified by the -L node-mem or -L vnode-mem option of the pjsub command and resubmit the job. If the job can be executed, set the lower limit of items joblimit node-mem, vnode-mem, interact-node-mem, or interact-vnode-mem in the job ACL function to a value greater than the value specified at that time. This allows the job to be rejected before it enters an ERROR state that requires administrator intervention.

## 4.2.2 Job Ended With PJM Code 27

### Event

A user specifies the job execution environment when submitting a job, and the submitted job ends with PJM code 27 (error in job resource manager exit process).

### Cause/Actions

The cause and action depend on the job execution environment specified at job submission.

- If this occurs when submitting a job in Docker mode with the UDI (User Defined Image) specification, see [\[Docker mode \(UDI specification\)\]](#).
- If this occurs when submitting a job that uses the PRIMERGY compute node's GPU in normal or Docker mode,, see [\[Normal mode or Docker mode \(GPU environments\)\]](#).

#### [Remarks]

For convenience, this document refers to an environment in which jobs using GPUs can be executed in normal or Docker mode is called "GPU environments." For details on GPU environments, see "Settings for Using GPUs [PG]" in the "Job Operation Software Administrator's Guide for Job Management."

- If this occurs when a job is submitted in Docker mode with the item "Binds" for mount point of the container startup configuration file (The file identified by the entry "Conf" in the job execution environment information file jobenv.conf.) set to a parameter that changes dynamically as the job executes (dynamic parameter), see [\[Docker mode \(dynamic parameter setting environments\)\]](#).

#### [Remarks]

For convenience, this document refers to an environment in which dynamic parameters are set as mount points in the container startup configuration file in Docker mode is called a "dynamic parameter setting environments". For details on the dynamic parameter setting environments, see "How to Use Dynamic Parameters in Startup Configuration Files (Docker Mode)" in the "Job Operation Software Administrator's Guide Job Management."

#### [Docker mode (UDI specification)]

Container image transfer timeout may have occurred.

See "Job Execution Environment Customization Function" in the "Job Operation Software Administrator's Guide for Job Management." Adjust the timeout value of the image operation of docker and confirm whether the event resolved.

#### [Normal mode or Docker mode (GPU environments)]

The possible causes (and actions to take) vary depending on the detailed information output to the error message in the display item "REASON" by the pjstat command. Take action according to the following tables.

In Docker mode, the actions to take are common ones regardless of whether the SDI (System Deployed Image) specification or UDI specification is used.

Table 4.2 Messages output to the display item "REASON" of the pjstat command in the GPU environments

Error message	Meaning	Action
NVIDIA ERROR (RETURN CODE= <i>ret</i> )	Execution of the nvidia-smi command failed.	Check the GPU status by referring to the return value <i>ret</i> . After that, confirm that the nvidia-smi command can be executed.
NVIDIA MPS ERROR ( <i>detail</i> ) <i>detail</i> : Detailed information	The nvidia-cuda-mps-control command failed.	Check the GPU status. After that, confirm that the nvidia-cuda-mps-control command can be executed.
DAEMON NOT EXIST (nvidia-smi dmon)	The nvidia-smi dmon command daemon process terminated abnormally. Consequently, statistical information cannot be acquired.	Check the system log /var/log/messages, etc., and eliminate the cause of the abnormal end. After that, confirm that the nvidia-smi dmon command can be executed.
DAEMON NOT EXIST (nvidia-cuda-mps-server)	The nvidia-cuda-mps-server command daemon process terminated abnormally.	Check the system log /var/log/messages, etc., and eliminate the cause of the abnormal end. After that, confirm that the nvidia-cuda-mps-control command can be executed.

Error message	Meaning	Action
	Consequently, the MPS function cannot be used.	
INSUFF GPU	There are not enough GPUs.	Confirm the number of GPUs set as custom resources, and set the number of available GPUs again.
GPU NOT EXIST	The GPU does not exist.	Confirm the node ID of the GPU-equipped node that is set as a custom resource, and correct the job to the correct node ID.
NVIDIA NOT EXIST	The nvidia-smi command does not exist.	The GPU driver may not be installed. In that case, install the GPU driver.
INVALID OPTION.( <i>detail</i> ) <i>detail</i> : Detailed information	The specification of a custom resource has an error.	Correctly specify the options to be specified when submitting the job again.
FILE IO ERROR <i>filename</i>	An I/O error occurred.	The disk capacity may be insufficient or an I/O operation such as file write cannot be done. If the disk capacity is insufficient, confirm the disk capacity, and secure sufficient free space. If the I/O operation cannot be done, set the permissions for the file <i>filename</i> .

[Docker mode (dynamic parameter setting environments)]

The possible causes (and actions to take) vary depending on the detailed information output to the error message in the display item "REASON" by the pjstat command. Take action according to the following tables.

The actions to take are common ones regardless of whether the SDI specification or UDI specification is used.

Table 4.3 Messages output to the display item "REASON" of the pjstat command in the dynamic parameter setting environments

Error message	Meaning	Action
INVALID FORMAT <i>filename</i>	The file <i>filename</i> for the job execution environment has an error.	Review the contents of the file <i>filename</i> for the job execution environment.
FILE NOT EXIST <i>filename</i>	The file <i>filename</i> does not exist.	Check whether the file <i>filename</i> exists. If it does not exist, store the file in its predefined path on the target node.
INVALID VARIABLE <i>filename</i>	A specified variable in the file is invalid.	Check the contents of the file <i>filename</i> , and specify the correct variable.
INVALID OPTION.( <i>detail</i> ) <i>detail</i> : Detailed information	There is an error in option specifications at the job submission time.	Correctly specify the options to be specified when submitting the job again.
FILE IO ERROR <i>filename</i>	An I/O error occurred.	The disk capacity may be insufficient or an I/O operation such as file write cannot be done. If the disk capacity is insufficient, confirm the disk capacity, and secure sufficient free space. If the I/O operation cannot be done, set the permissions for the file <i>filename</i> .

## 4.2.3 Job Ended With PJM Code 28

### Event

A user specifies the job execution environment when submitting a job, and the submitted job ends with PJM code 28 (job execution environment error).

### Cause/Actions

The possible causes (and actions to take) vary depending on the detailed information output in the error message. The following tables list examples of messages output to the /var/log/FJSVtcs/krm/krm.log log file on a compute node. Take action according to the following tables. Note that the action to take varies depending on the specified job execution environment.

[Common to job execution environments]

The following contents are common to all available job execution environments with the SDI or UDI specification.

Table 4.4 Messages output to the /var/log/FJSVtcs/krm/krm.log (Common to job execution environments)

Error Message	See
[ERR.] [krm] 9999 - _kc_jobenv_from_customrsc: <i>\$LINE</i> job <i>\$JOBID</i> : jobenv for config <i>\$CONFIG</i> not found.  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software <i>\$JOBID</i> : Job ID <i>\$CONFIG</i> : Job execution environment name specified at job submission	See " <a href="#">4.2.3.1 Job Execution Environment Name Specified at Job Submission Not in jobenv.conf File Settings.</a> "
[ERR] [krm] 9999 - crm_json_load_file: <i>\$LINE</i> json_load_file: <i>\$FILE</i> : -1: unable to open  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software <i>\$FILE</i> : Set start configuration file name in the key "Conf" in the jobenv.conf file	See " <a href="#">4.2.3.2 Failed Reference to Set Start Configuration File in jobenv.conf File.</a> "
[ERR.] [krm] 9999 - create_job_locked: <i>\$LINE</i> Cannot listing processes: job: <i>\$JOBID</i> : -8  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software <i>\$JOBID</i> : Job ID	See " <a href="#">4.2.3.3 Failed to Start Container.</a> "

[Docker mode]

The following message is output when a job is submitted in Docker mode with the SDI specification.

Table 4.5 Messages output to the /var/log/FJSVtcs/krm/krm.log (Docker mode, SDI specification)

Error Message	See
[ERR.] [krm] 9999 - crm_curl_create_container: <i>\$LINE</i> From docker daemon: {"message":"No such image: <i>\$IMAGE</i> "}  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software <i>\$IMAGE</i> : "Image" key setting in the jobenv.conf file	See " <a href="#">4.2.3.4 Container Image Does Not Exist.</a> "

If taking the above action does not solve the problem, the Docker service may not be running. Check whether the Docker service is running normally. For details on how to check it, see "[4.1.5 Docker Service Not Started.](#)"

[Normal mode or Docker mode (GPU environments)]

The following message is output when a job is submitted to the GPU environments. The actions to take are common ones regardless of whether the SDI specification or UDI specification is used.

Table 4.6 Messages output to the /var/log/FJSVtcs/krm/krm.log (GPU environments)

Error Message	Action
<p>[ERR.] [krm] 9999 - crm_curl_start_container:\$<i>LINE</i> From docker daemon: {"message":"OCI runtime create failed: unable to retrieve OCI runtime error \$<i>DETAIL</i>"}</p> <p>\$<i>LINE</i>: Line number in the source code at the internal log output location of the Job Operation Software                      \$<i>DETAIL</i>: Detailed message about the error</p>	<p>Check the NVIDIA Container Toolkit settings.                      For details on how to set, see "Configuring GPUs" in the "Job Operation Software Setup Guide."</p>
<p>[ERR.] [krm] 9999 - crm_curl_start_container:\$<i>LINE</i> From docker daemon: {"message":"linux runtime spec devices: error gathering device information while adding custom device \$<i>DEVICE</i>"}</p> <p>\$<i>LINE</i>: Line number in the source code at the internal log output location of the Job Operation Software                      \$<i>DEVICE</i>: Device Path</p>	<p>Check the item "Devices" in the container startup configuration file (The file identified by the entry "Conf" in the job execution environment information file jobenv.conf.).</p>

[Docker mode (dynamic parameter setting environments)]

The following message is output when a job is submitted in Docker mode in an environment with dynamic parameters. The actions to take are common ones regardless of whether the SDI specification or UDI specification is used.

Table 4.7 Messages output to the /var/log/FJSVtcs/krm/krm.log (dynamic parameter settings)

Error Message	Action
<p>[ERR.] [krm] 9999 - crm_curl_create_container:\$<i>LINE</i> From docker daemon: {"message":"invalid volume specification: \$<i>VOLUME</i>"}</p> <p>\$<i>LINE</i>: Line number in the source code at the internal log output location of the Job Operation Software                      \$<i>VOLUME</i>: Mount Point Messages</p>	<p>Check the dynamic parameter settings.                      For details on how to set, see "How to Use Dynamic Parameters in Startup Configuration Files (Docker Mode)" in the "Job Operation Software Administrator's Guide Job Management."</p>

[KVM mode]

The following messages are output when a job is submitted in KVM mode. These messages are common to SDI and UDI specifications. However, even if the same message is output, the cause and action may differ between SDI and UDI specifications.

Table 4.8 Messages output to the /var/log/FJSVtcs/krm/krm.log (KVM mode, Common to SDI/UDI specification)

Error Message	See
<p>[ERR.] [krm] 9999 - _lp_create_job_start_locked: \$<i>LINE</i>                      Not enough free memory to start qemu: \$<i>FREE_RAM</i></p> <p>\$<i>LINE</i>: Line number in the source code at the internal log output location of the Job Operation Software                      \$<i>FREE_RAM</i>: A number indicating the amount of free memory for the job.</p>	<p>See "<a href="#">4.2.3.5 Job Cannot be Executed.</a>"</p>
<p>[ERR.] [krm] 9999 - _lp_set_create_job_parameters: \$<i>LINE</i>                      Failed to read domain xml: \$<i>PATH</i></p> <p>\$<i>LINE</i>: Line number in the source code at the internal log output location of the Job Operation Software                      \$<i>PATH</i>: Path name of domain XML file</p>	<p>See "<a href="#">4.2.3.6 Domain XML File Not Found.</a>"</p>
<p>[ERR.] [krm] 9999 - lp_libvirt_generate_xml_v2: \$<i>LINE</i>                      Failed to parse xml: \$<i>PATH</i></p> <p>\$<i>LINE</i>: Line number in the source code at the internal log output location of the Job Operation Software                      \$<i>PATH</i>: Path name of domain XML file</p>	<p>See "<a href="#">4.2.3.7 Failed to Analyze Domain XML File.</a>"</p>



Error Message	See
[ERR.] [krm] 9999 - lp_libvirt_generate_xml_v2: <i>\$LINE</i> Failed to edit xml: <i>\$PATH</i>  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software <i>\$PATH</i> : Path name of domain XML file	See " <a href="#">4.2.3.8 Failed to Edit Domain XML File.</a> "
[ERR.] [krm] 9999 - _lp_get_ipaddr: <i>\$LINE</i> Failed to get host IP address  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software	See " <a href="#">4.2.3.9 Virtual Machine Does Not Start (Defect in the system).</a> "
[ERR.] [krm] 9999 = _lp_transfer_ssh_public_key: <i>\$LINE</i> Failed to stat: <i>\$ERRNO\$KEY(\$PATH)</i>  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software <i>\$ERRNO</i> : Error number <i>\$KEY</i> : Public key <i>\$PATH</i> : Path of public key	
[ERR.] [krm] 9999 = _lp_transfer_ssh_public_key: <i>\$LINE</i> Failed to register ssh_public_key: <i>\$ERRNO</i>  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software <i>\$ERRNO</i> : Error number	

The following messages are output when a job is submitted in KVM mode with the SDI specification.

Table 4.9 Messages output to the /var/log/FJSVtcs/krm/krm.log (KVM mode, SDI specification)

Error Message	See
[ERR.] [krm] 9999 - _lp_set_create_job_parameters: <i>\$LINE</i> Failed to find Image from jobenv.conf(Image)  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software	See " <a href="#">4.2.3.10 Virtual Machine Does Not Start (Misconfiguration).</a> "
[ERR.] [krm] 9999 - _lp_get_ipaddr: <i>\$LINE</i> Failed to get guest IP address  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software	See " <a href="#">4.2.3.11 Virtual Machine Does Not Start (Defect in the virtual machine image).</a> "
[ERR.] [krm] 9999 = _lp_mount_shdir: <i>\$LINE</i> Failed to mount shared directory: <i>\$ERRNO\$SOURCE</i>  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software <i>\$ERRNO</i> : Error Number <i>\$SOURCE</i> : Path name of mount point	
[ERR.] [krm] 9999 - _lp_check_boot: <i>\$LINE</i> Failed to startup guest os within timeout: <i>\$SEC</i>  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software <i>\$SEC</i> : Timeout period (sec)	

### 4.2.3.1 Job Execution Environment Name Specified at Job Submission Not in jobenv.conf File Settings

#### Cause

The set job execution environment in the jobenv.conf file is not configured in the custom resource settings in the pmpjm.conf file.

#### Actions

Solve the inconsistency between the job execution environment definitions in the jobenv.conf file and the custom resource definitions in the pmpjm.conf file.

The item "Name" in the pmpjm.conf file specifies "jobenv" for the CustomResource subsection, which has the item "Value." For the item "Value," specify a character string representing the job execution environment specified in the key "Name" in jobenv.conf.



See

For details on how to configure the pmpjm.conf and jobenv.conf files and for setting examples, see "Job operation management function settings in a resource unit" and "Configuring a Job Execution Environment" in "Job Operation Management Function Settings" in the "Job Operation Software Administrator's Guide for Job Management."

### 4.2.3.2 Failed Reference to Set Start Configuration File in jobenv.conf File

#### Cause

There is no read permission for the set start configuration file in the key "Conf" in the jobenv.conf file.

#### Actions

Set read permission for the start configuration file, and place the file in the path specified in the key "Conf" in the jobenv.conf file.

### 4.2.3.3 Failed to Start Container

#### Cause

There may be a defect in a container image placed in the system. Consequently, the container cannot be started from the container image.

#### Actions

Confirm that the Docker service is running normally (see "4.1.5 Docker Service Not Started"), and then modify the container image as needed.

### 4.2.3.4 Container Image Does Not Exist

#### Cause

The set container image in the key "Image" in the jobenv.conf file does not exist.

#### Actions

Confirm that the Docker service is running normally (see "4.1.5 Docker Service Not Started"), and then deploy the container image according to the key "Image" setting in the jobenv.conf file.



See

For details on how to configure the jobenv.conf file and for setting examples, see "Configuring a Job Execution Environment" in "Job Operation Management Function Settings" in the "Job Operation Software Administrator's Guide for Job Management."

### 4.2.3.5 Job Cannot be Executed

#### Cause

The free memory for jobs on the node is less than 1 GiB.

#### Actions

Collect investigation data according to "Collecting Investigation Materials" in the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

### 4.2.3.6 Domain XML File Not Found

#### Cause

The domain XML file required to process the virtual machine image file was not found.

#### Actions

Collect investigation data according to "Collecting Investigation Materials" in the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

### 4.2.3.7 Failed to Analyze Domain XML File

#### Cause

The domain XML file content required to process the virtual machine image file is incorrect.

#### Actions

Collect investigation data according to "Collecting Investigation Materials" in the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

### 4.2.3.8 Failed to Edit Domain XML File

#### Cause

The domain XML file content required to process the virtual machine image file is incorrect.

#### Actions

Collect investigation data according to "Collecting Investigation Materials" in the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

### 4.2.3.9 Virtual Machine Does Not Start (Defect in the system)

#### Cause

The cause varies depending on the message.

- a. For message "[ERR.] [krm] 9999 - \_lp\_get\_ipaddr: \$LINE Failed to get host IP address."  
Failed to get the IP address of the host environment.
- b. For message "[krm] 9999 = \_lp\_transfer\_ssh\_public\_key: \$LINE Failed to stat: \$ERRNO \$KEY(\$PATH)."  
No ssh public key was found to transfer to the virtual machine.
- c. For message "[ERR.] [krm] 9999 = \_lp\_transfer\_ssh\_public\_key: \$LINE Failed to register ssh\_public\_key: \$ERRNO."  
The ssh public key had not been transferred to the virtual machine.

#### Actions

The actions for causes a, b, and c are the same.

Collect investigation data according to "Collecting Investigation Materials" in the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

### 4.2.3.10 Virtual Machine Does Not Start (Misconfiguration)

#### Cause

The path name for the virtual machine image file specified in the item "Image" of the jobenv.conf file may be incorrect.

#### Actions

Set the item Image in the jobenv.conf file to the correct path name of the virtual machine image file. If the problem still occurs even if the correct path name is specified, collect investigation data according to "Collecting Investigation Materials" in the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

### 4.2.3.11 Virtual Machine Does Not Start (Defect in the virtual machine image)

#### Cause

The cause varies depending on the message.

- a. For message "[ERR.] [krm] 9999 - \_lp\_get\_ipaddr: \$LINE Failed to get guest IP address."  
Failed to get the virtual machine IP address due to a defect in the virtual machine image related to network settings.
- b. For message "[ERR.] [krm] 9999 = \_lp\_mount\_shdir: \$LINE Failed to mount shared directory: \$ERRNO \$SOURCE."  
Mount failed due to a defect in the virtual machine image for the NFS mount.
- c. For message "[ERR.] [krm] 9999 - \_lp\_check\_boot: \$LINE Failed to startup guest os within timeout: \$SEC."  
The virtual machine image may be defective.

#### Actions

The actions for causes a, b, and c are the same.

Check that the virtual machine image is created according to requirements, and correct any errors. If possible, check the operation of the virtual machine before placing it on the system.



See

For virtual machine image requirements and preliminary confirmation, see "In KVM Mode" in "Creating an Image File for a Job Execution Environment" in the "Job Operation Software End User Guide."

## 4.2.4 Job Ended With PJM Code 29

#### Event

A user specifies the job execution environment when submitting a job, and the submitted job ends with PJM code 29 (specified job execution environment information is invalid).

#### Cause/Actions

The possible causes (and actions to take) vary depending on the detailed information output in the error message.

The following tables list examples of messages output to the /var/log/FJSVtcs/krm/krm.log log file on a compute node. Take action according to the following tables. Note that the action to take varies depending on the specified job execution environment.

[Docker mode]

The following messages are output when a job is submitted in Docker mode with the UDI specification.

Table 4.10 Messages output to the /var/log/FJSVtcs/krm/krm.log (Docker mode, UDI specification)

Error Message	See
[ERR.] [krm] 9999 - crm_curl_create_container:\$LINE From docker daemon: {"message": "No such image: tcs_\$JOBID\$BULKNUM:latest"}  \$LINE: Line number in the source code at the internal log output location of the Job Operation Software	See "4.2.4.1 Container Image Does Not Exist or Specified Container Image Has Invalid Format."

Error Message	See
<i>\$JOBID</i> : Job ID <i>\$BULKNUM</i> : Bulk number	
[ERR.] [krm] 9999 - create_job_locked: <i>\$LINE</i> Cannot listing processes: job: <i>\$JOBID</i> : -8.  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software <i>\$JOBID</i> : Job ID	See " <a href="#">4.2.4.2 Failed to Start Container.</a> "

[KVM mode]

The following messages are output when a job is submitted in KVM mode with the UDI specification.

Table 4.11 Messages output to the /var/log/FJSVtcs/krm/krm.log (KVM mode, UDI specification)

Error Message	See
[ERR.] [krm] 9999 - _lp_set_create_job_parameters: <i>\$LINE</i> Failed to find Image from env_p(PJM_JOBENV_KVM_IMAGE)  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software	See " <a href="#">4.2.4.3 PJM_JOBENV_KVM_IMAGE Not Specified in -x Option of pjsub Command.</a> "
[ERR.] [krm] 9999 - _lp_create_vm_default: <i>\$LINE</i> Failed to start domain: jobid <i>\$JOBID</i>  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software <i>\$JOBID</i> : Number representing the job ID	See " <a href="#">4.2.4.4 Virtual Machine Does Not Start (Incorrect virtual machine image file specification).</a> "
[ERR.] [krm] 9999 - _lp_get_ipaddr: <i>\$LINE</i> Failed to get guest IP address  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software	See " <a href="#">4.2.4.5 Virtual Machine Does Not Start (Defect in the virtual machine image).</a> "
[ERR.] [krm] 9999 - _lp_mount_shdir: <i>\$LINE</i> Failed to mount shared directory: <i>\$ERRNO</i> <i>\$SOURCE</i>  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software <i>\$ERRNO</i> : Error Number <i>\$SOURCE</i> : Path name of the mount point	
[ERR.] [krm] 9999 - _lp_check_boot: <i>\$LINE</i> Failed to startup guest os within timeout: <i>\$SEC</i>  <i>\$LINE</i> : Line number in the source code at the internal log output location of the Job Operation Software <i>\$SEC</i> : Timeout period (sec)	

#### 4.2.4.1 Container Image Does Not Exist or Specified Container Image Has Invalid Format

##### Cause

The following causes are considered possible.

- a. The container image path name specified in the environment variable PJM\_JOBENV\_DOCKER\_IMAGE is incorrect.
- b. The container image specified in the environment variable PJM\_JOBENV\_DOCKER\_IMAGE is in an invalid format.
- c. The job execution environment specified by the user in the -L jobenv= option of the pjsub command at job submission is not in UDI mode.

## Actions

Confirm that the Docker service is running normally (see "4.1.5 Docker Service Not Started"), and then take action according to the cause.

- a. Correct the container image path name in the environment variable PJM\_JOBENV\_DOCKER\_IMAGE.
- b. Confirm that the container image specified in the environment variable PJM\_JOBENV\_DOCKER\_IMAGE is a tar archived file output by the docker export command.
- c. Set the key "NeedCustomImage" to true for the entry of the target job execution environment in the jobenv.conf file.



## See

For details on how to specify a container image in the environment variable PJM\_JOBENV\_DOCKER\_IMAGE, see "Specifying a job execution environment" in "Job Operation Procedures" in the "Job Operation Software End-user's Guide."

For details on how to configure the jobenv.conf file and for setting examples, see "Configuring a Job Execution Environment" in "Job Operation Management Function Settings" in the "Job Operation Software Administrator's Guide for Job Management."

### 4.2.4.2 Failed to Start Container

#### Cause

There may be a defect in the container image specified by the user at job submission. Consequently, the container cannot be started from the container image.

#### Actions

Confirm that the Docker service is running normally (see "4.1.5 Docker Service Not Started"), and then modify the container image as needed.

### 4.2.4.3 PJM\_JOBENV\_KVM\_IMAGE Not Specified in -x Option of pjsub Command

#### Cause

The environment variable PJM\_JOBENV\_KVM\_IMAGE is not specified in the -x option of the pjsub command.

#### Actions

The path to the virtual machine image file in the environment variable PJM\_JOBENV\_KVM\_IMAGE has to be specified. Ask the user to specify the path in the -x option of the pjsub command.

### 4.2.4.4 Virtual Machine Does Not Start (Incorrect virtual machine image file specification)

#### Cause

The path name for the virtual machine image file specified in the item "Image" of the jobenv.conf file may be incorrect.

#### Actions

Check with the user that the path name for the virtual machine image file specified in the environment variable PJM\_JOBENV\_KVM\_IMAGE is correct with the -x option of the pjsub command. If the problem still occurs even if the correct path name is specified, collect investigation data according to "Collecting Investigation Materials" in the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

### 4.2.4.5 Virtual Machine Does Not Start (Defect in the virtual machine image)

#### Cause

The cause varies depending on the message.

- a. For message "[ERR.] [krm] 9999 - \_lp\_get\_ipaddr: \$LINE Failed to get guest IP address."  
Failed to get the virtual machine IP address due to a defect in the virtual machine image related to network settings.

- b. For message "[ERR.] [krm] 9999 = \_lp\_mount\_shdir: \$LINE Failed to mount shared directory: \$ERRNO\$SOURCE."  
Mount failed due to a defect in the virtual machine image for the NFS mount.
- c. For message "[ERR.] [krm] 9999 - \_lp\_check\_boot: \$LINE Failed to startup guest os within timeout: \$SEC."  
The virtual machine image may be defective.

**Actions**

The actions for causes a, b, and c are the same.

Check with the user that the virtual machine image is created according to requirements, and correct any errors. If possible, check the operation of the virtual machine before placing it on the system.



**See**

For virtual machine image requirements and preliminary confirmation, see "In KVM Mode" in "Creating an Image File for a Job Execution Environment" in the "Job Operation Software End User Guide."

## 4.2.5 Job Ended With PJM Code 140

**Event**

A user specifies the job execution environment when submitting a job, and the submitted job ends with PJM code 140 (internal error in job resource management).

**Cause/ Actions**

The possible causes (and actions to take) vary depending on the detailed information output in the error message.

The following table lists examples of messages output to the /var/log/FJSVtcs/krm/krm.log log file on a compute node. Take action according to the following table.

[KVM mode]

The actions to take are common ones regardless of whether the SDI specification or UDI specification is used.

Table 4.12 Messages output to /var/log/FJSVtcs/krm/krm.log (KVM mode, common to SDI/UDI specification)

Error Message	See
[ERR.] [krm] 9999 - _lp_create_job_start_locked:\$LINE there is already running jrsets: \$JRSETS  \$LINE: Line number in the source code at the internal log output location of the Job Operation Software \$JRSETS: Numerical value representing the internal resource management information of the Job Operation Software	See "4.2.5.1 Running Job Exists."
[ERR.] [krm] 9999 - _lp_attach_vn_locked_body:\$LINE Job \$JOBID1 (\$JOBID2) already has VN. libvirt mode does not allow multiple VNs.  \$LINE: Line number in the source code at the internal log output location of the Job Operation Software \$JOBID: Number representing the job ID	See "4.2.5.2 Attempted Generation of Multiple Virtual Nodes in KVM Mode."

### 4.2.5.1 Running Job Exists

**Cause**

A running job exists in the specified KVM mode.

**Actions**

If other nodes are available, ask the user to re-execute the job.

Also, consider deleting the running job as needed.

## 4.2.5.2 Attempted Generation of Multiple Virtual Nodes in KVM Mode

### Cause

Multiple KVM jobs are allocated to the same node. Check whether a job is assigned as a node-exclusive job allocated to one node.

```
$ pjsub -L vnode=1,jobenv=custom-kvm -x PJM_JOBENV_KVM_IMAGE=/directory/my-kvm.img job.sh
```

The above example submits a virtual node allocated job as a node-sharing job (vnode=1).

### Actions

Instruct the user to execute the node-exclusive job allocated to one node in KVM mode.

Make sure to allocate a physical node (-L node=1) to execute the node-exclusive job. For the PRIMERGY server, allocating a virtual node in SIMPLEX mode (-L vnode=1 -P exec-policy=simplex) turns a job into a node-exclusive job.

## 4.3 Trouble in Docker mode

---

### 4.3.1 The Job Operation Software function cannot be used

---

#### Event

The Job Operation Software command cannot be found, or The Job Operation Software command results in an error.

#### Cause

The job execution environment settings are incorrect.

The cause can be one of the following.

- a. The required packages have not been added to the container image.
- b. The description of the item Binds of "HostConfig" in the startup setting file docker-image.conf may be incorrect.

#### Actions

Take the following actions for each of the causes listed above.

- a. Add the required packages to the container image.
- b. Correct the description of the item Binds of "HostConfig" in the startup setting file docker-image.conf, and set it again.



See

.....  
For details on how to add the required packages to the container image, see "In Docker mode" in "Creating an Image File for a Job Execution Environment" in the "Job Operation Software End User Guide."  
.....

### 4.3.2 The Job Operation Software service in the host OS environment terminates abnormally

---

#### Event

The Job Operation Software services (PLE service, NRD service, etc.) in the host OS environment terminate abnormally.

#### Cause

The description of the item Binds of "HostConfig" in the startup setting file docker-image.conf may be incorrect.

#### Actions

Correct the description of the item Binds of "HostConfig" in the startup setting file docker-image.conf, and set it again.





.....  
For details on how to set the startup configuration file `docker-image.conf`, see "Creating a container startup configuration file (Docker mode only)" in the "Job Operation Software Administrator's Guide for Job Management."  
.....

# Appendix A Messages Related to Installation Design Sheet

This appendix describes the messages output to a dialog box or log file when the entries on an installation design sheet have an error.

## Error Message

---

### [ERR.] INST 2001 A required item has not been completed.(*item*)

#### Meaning

Nothing is entered for the required item *item*.

#### Action

Review the entries on the user form, and fill in the blank item.

---

### [ERR.] INST 2002 The specified data is invalid.(*item*)

#### Meaning

The specified data in *item* is invalid.

#### Action

Review the entries on the user form, and eliminate the error.

---

### [ERR.] INST 2003 A required item has not been completed.(sheet=*sheetname*, item=*item*, row=*row*)

#### Meaning

Nothing is entered for the item *item* and a number of rows (*row*) have no value entered, on the *sheetname* worksheet in the installation design sheet.

#### Action

Review the entries on the worksheet, and fill in the blank items.

---

### [ERR.] INST 2004 The specified data is invalid. (sheet=*sheetname*, item=*item*, row=*row*)

#### Meaning

The specified data in the item *item* and a number of rows (*row*) is invalid, on the *sheetname* worksheet in the installation design sheet.

#### Action

Review the entries on the worksheet, and eliminate the errors.

---

### [ERR.] INST 2005 The Tofu IP address assignment rule has not been selected.

#### Meaning

No rule on assigning IP addresses for the Tofu interface has been selected.

#### Action

Select a rule on assigning IP addresses for the Tofu interface.

---

### [ERR.] INST 2006 The GIO configuration has not been selected.

#### Meaning

No global I/O node (GIO) configuration information has been selected.

#### Action

Select global I/O node (GIO) configuration information.

---

### [ERR.] INST 2007 The SIO configuration has not been selected.

## Meaning

No storage I/O node (SIO) configuration information has been selected.

## Action

Select storage I/O node (SIO) configuration information.

---

### [ERR.] INST 2008 Cannot specify the same network for the SystemSoft Network and User Network.

## Meaning

With the Tofu interconnect D, the networks specified for the system software interface and the user interface cannot be the same.

## Action

Modify the specified values so that the system software network is different from the user network.

---

### [ERR.] INST 2009 A root partition is required.(ID=*id*)

## Meaning

The root partition must be specified.

Partition ID = *id*

## Action

Specify the root partition.

---

### [ERR.] INST 2010 The partition name is duplicated. (ID=*id*, part=*partition*)

## Meaning

The specified partition name *partition* is a duplicate.

Partition ID = *id*

## Action

Review the specified partition name.

---

### [ERR.] INST 2011 The specified partition id was not found.(ID=*id*)

## Meaning

The specified partition ID *id* does not exist or is not valid due to an error in the entered information on the partition sheet.

## Action

Check whether the specified partition ID is defined in the partition sheet.

---

### [ERR.] INST 2012 Specified ip address is out of the network range.(sheet=*sheetname*, cell=*cell*)

## Meaning

The specified IP address in cell *cell* on the *sheetname* worksheet in the installation design sheet is outside the network range.

## Action

Specify an IP address within the network range.

---

### [ERR.] INST 2013 The input data is incorrect. More details can be found in log file "design\_sheet.log".

## Meaning

An input data error was detected. For detailed information, see "design\_sheet.log".

## Action

See "design\_sheet.log," and eliminate the input data error.

---

**[ERR.] INST 2014 The start coordinates or the end coordinates does not match the system coordinates.**

**Meaning**

The Start Tofu Coordinates value or End Tofu Coordinates value does not match the System coordinates value.

**Action**

Review the entered values, and retry the operation.

---

**[ERR.] INST 2015 IP address is duplicated.(IP address)**

**Meaning**

The IP address is a duplicate.

**Action**

Review the entered values, and retry the operation.

---

**[ERR.] INST 2016 MAC address is duplicated.(MAC)**

**Meaning**

The MAC address *MAC* is a duplicate.

**Action**

Review the entered values, and retry the operation.

---

**[ERR.] INST 2017 hostname is duplicated.(hostname)**

**Meaning**

The host name *hostname* is a duplicate.

**Action**

Review the entered values, and retry the operation.

---

**[ERR.] INST 2018 Verification of input data is not completed.**

**Meaning**

The input data has not been verified.

**Action**

Verify the input data by executing the verify command. Then, execute the generate command again.

---

**[ERR.] INST 2019 The mountpoint is duplicated.(ID=*id*, mountpoint=*mountpoint*)**

**Meaning**

The specified mount point *mountpoint* is a duplicate.

Partition ID = *id*

**Action**

Review the specified mount point.

---

**[ERR.] INST 2020 The swap partition is duplicated.(ID=*id*)**

**Meaning**

The specified swap area is a duplicate.

Partition ID = *id*

#### Action

Review the specified swap area.

---

#### **[ERR.] INST 2099 An internal error has occurred.(*details*)**

#### Meaning

An internal error occurred.

#### Action

Contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with this information together with the output message.

### **Information Message**

---

#### **[INFO] INST 2101 Initialize the input data. Do you want to really continue?**

#### Meaning

The input data will be initialized. Select whether to proceed with processing.

#### Action

Select "OK" when there is no problem with initializing the sheet that already has entries. Otherwise, select "Cancel" to stop processing.

---

#### **[INFO] INST 2102 Verification of input data was completed.**

#### Meaning

Verification of the input data has been completed.

#### Action

No action is necessary.

---

#### **[INFO] INST 2103 Configuration file creation was completed.**

#### Meaning

Creation of the configuration file has been completed.

#### Action

No action is necessary.

---

#### **[INFO] INST 2104 The init process was cancelled.**

#### Meaning

Initialization processing was canceled.

#### Action

No action is necessary. Retry the operation as needed.

## Appendix B System Log Messages

This appendix describes the messages that the Job Operation Software outputs to the system log.

The messages output by the Job Operation Software to the system log can be uniquely identified by their component name and message ID.

The following describes how to read system log messages.

### B.1 Referencing a Message

The system log messages described in this manual may be output to the system log (/var/log/messages) on the nodes that have the Job Operation Software installed.

To reference the system log, you need administrator privileges (root user privileges) in the OS.

You can use the log monitoring and log collection functions provided by the system management function to centralize system log monitoring and referencing on the system management node. For details on these functions, see "Overview of Log Management Function" and "Details of the Log Management Function" in the "Job Operation Software Administrator's Guide for System Management."

### B.2 About messages format

System log messages of Job Operation Software are output in the following format.

```
[PRIORITY] [component-name] message-ID job-ID message-text
```

- PRIORITY

Shows the level of importance of the message. The detail of the system log messages priority is following.

Table B.1 System log message priority

Priority	Meaning
INFO	Information message: The message displays process-related information.
NOTE	Notification message: The message reports the start or stop of a process.
WARN	Warning message: A process encountered a problem but has continued.
ERR.	Error message: A process encountered a problem and did not continue. Note: The notation of priority has "ERR" followed by a dot (.).
EMRG	Emergency message: There is a serious error that cannot use a system and it causes the stop of the node itself.

- component-name

Name indicating the identifier of Job Operation Software

- message-ID

ID that is a message identifier

- job-ID

The job ID is displayed to associate the message with a specific job. A hyphen ("-") is displayed when the message is not associated with a specific job.

The display of a job ID varies depending on the job type. For normal jobs, only the job ID is displayed. For step and bulk jobs, their respective IDs are displayed too. The following table lists examples of displayed job IDs by job type.

Table B.2 Examples of Displayed Job IDs by Job Type

Job Type	Example of Displayed Job ID
Normal job (Executed 1st)	1111(1)

Job Type	Example of Displayed Job ID
Normal job (Executed 5th)	1111(5)
Step job (Executed 1st)	1111_1(1)
Bulk job (Executed 1st)	1111[1](1)
Step/bulk job(Executed 1st)	1111_1[1](1)

- message-text: Displays information or error details.



### Note

The message format may differ from the above, depending on the function (component). The sections on messages of the relevant functions in those cases describe their message formats.

The following sections lists the messages for each function (component) and the actions to take for them.

## B.3 Job Manager Function (PJM) Messages

This section lists messages of the job manager function (component name: PJM).

### Error Message

#### [ERR.] [PJM] 0000 *jobid* Inconsistent job information.

##### Meaning

An inconsistency in job information was detected.

##### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

#### [ERR.] [PJM] 0001 - Can not open file (*path*): *code*.

##### Meaning

Opening of the file failed.

*path*: File path

*code*: Internal code for maintenance

##### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

#### [ERR.] [PJM] 0002 - Cannot read file (*path*): *code*.

##### Meaning

Reading of the file failed.

*path*: File path

*code*: Internal code for maintenance

##### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

#### [ERR.] [PJM] 0003 *jobid* Memory allocation failed: *code*.

## Meaning

Memory acquisition failed.

*jobid*: job ID

*code*: Internal code for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

## Note

A hyphen ("-") may be displayed for *jobid*.

---

## [\[ERR.\] \[PJM\] 0004 - System call error: details.](#)

### Meaning

An error occurred in the system call or the library function.

*details*: Detailed information for maintenance

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [\[ERR.\] \[PJM\] 0005 - Failed to reset node.](#)

### Meaning

A node reset failed.

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [\[ERR.\] \[PJM\] 0006 - Failed to create thread.](#)

### Meaning

The start of a thread failed. The thread was waiting for job execution.

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [\[ERR.\] \[PJM\] 0007 - Failed to change PRM status.](#)

### Meaning

The state change of the job resource management function failed.

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [\[ERR.\] \[PJM\] 0008 - Failed to initialize termination process.](#)

### Meaning

Initialization of the stop process failed.



## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0009 - Failed to receive shutdown packet.**

### Meaning

Reception of a stop instruction failed.

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0010 - Failed to open PRM interface.**

### Meaning

Opening of the job resource management function interface failed.

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0011 *jobid* Internal error occurred: *details*.**

### Meaning

An internal error was detected.

*details*: detail information for maintenance

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

### Note

A hyphen ("-") may be displayed for *jobid*.

---

## **[ERR.] [PJM] 0012 *jobid* PJM aborted.**

### Meaning

The job manager function (PJM) was forcibly terminated. There may be a detected error about being unable to continue processing with the job manager function (PJM). If so, the error is output along with its error message.

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0013 - PJM must be run as root.**

### Meaning

The job manager function (PJM) cannot be started without root (administrator) privileges.

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0014 - Socket operation failed: *details*.**

## Meaning

Socket operation failed.

*details:* Detailed information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0015 - Failed to fork() PJM daemon.**

## Meaning

The start of the PJM daemon failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0016 - Failed to initialize PSM interface.**

## Meaning

The initialization process of the system management function interface failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0017 - Failed to get all resource information.**

## Meaning

Acquisition of all resource information from the job resource management function failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0018 - Failed to start PJS daemon.**

## Meaning

The start of the job scheduler function (PJS) daemon failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0019 - Failed to monitor services.**

## Meaning

Querying for service monitoring failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0020 - Failed to send PRM request.**

## Meaning

The request to the job resource management function failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0021 - Failed to receive PRM response.**

### Meaning

Reception of a response from the job resource management function failed.

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0022 - Failed to receive PRM event.**

### Meaning

Reception of an event from the job resource management function failed.

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0023 - Failed to send PJS set all resource requests.**

### Meaning

Sending of all resource information failed.

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0026 - Failed to receive PJS response.**

### Meaning

Reception of a response from the job scheduler function (PJS) daemon failed.

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0027 *jobid* Invalid subjob link.**

### Meaning

Information on a sub job of a step job cannot be acquired.

*JobID*: Job ID

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PJM] 0028 - Invalid database version(v1, v2)**

## Meaning

The database version of the job manager function (PJM) does not match.

*v1*: Current database version

*v2*: Database version expected by the job manager function

## Action

Migrate the job manager database according to the README file that comes with the job manager function fix package.

---

### [ERR.] [PJM] 0029 - Failed to access database.

## Meaning

A database operation failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## B.4 Job Resource Management Function (PRM) Messages

This section lists messages of the job resource management function (component name: PRM).

### Error Message

---

#### [ERR.] [PRM] 0002 - Multiple execution:code

## Meaning

The start of the job resource management daemon failed. It was one of multiple attempts to start the job resource management daemon.

*code*: Internal code

## Action

An already started service may have been restarted because of an operation error. If the service is not operating normally, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance." Then, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

If there is already an instance of the job resource management process (pxmrd, pxsrd, or pxnrd) and the service is operating normally, no specific action is required.

---

#### [ERR.] [PRM] 0003 - Can not open log file(path):code

## Meaning

Opening of the log file failed.

*path*: Log file path

*code*: Internal code

## Action

An error may have occurred in the file system storing the file indicated by *path*. Check the file system state. After recovery, restart the node.

If the problem persists, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance." Then, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

#### [ERR.] [PRM] 0004 *jobid* Memory allocation failed: code.

## Meaning

The daemon ended abnormally because memory acquisition failed.

*jobid*: Job ID  
*code*: Internal code

#### Action

The memory available in the system is insufficient.  
Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

After collecting investigation data, restart the node.

#### Note

A hyphen ("-") may be displayed for *jobid*.

---

### [ERR.] [PRM] 0005 - Initializing failed:*code*

#### Meaning

The start of the job resource management function daemon failed because of an internal processing error in the daemon.

*code*: Internal code

#### Action

The system settings for starting operation of the Job Operation Software may not be correct. Referring to the "Job Operation Software Administrator's Guide for System Management," confirm that the settings are correct.

If the problem persists, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance." Then, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PRM] 0006 - Started daemon by wrong node type:*code*

#### Meaning

The start of the job resource management function daemon failed because the start was attempted on the wrong type of node.

*code*: Internal code

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance." Then, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PRM] 0009 - Can not open fifo file(*path*):*code*

#### Meaning

Opening of the fifo file failed.

*path*: fifo file path

*code*: Internal code

#### Action

An error may have occurred in the file system storing the file indicated by *path*. Check the file system state. After recovery, restart the node.

If the problem persists, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance." Then, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PRM] 0255 *jobid* Unexpected error occurred:*code*

#### Meaning

An unexpected error occurred in the job resource management function daemon.

*jobid*: Job ID

*code*: Internal code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

## Note

A hyphen ("-") may be displayed for *jobid*.

# B.5 Parallel Execution Environment (PLE) Messages

---

This section lists messages of the parallel execution environment (component name: PLE) daemon (pxpled).

## Error Message

---

### [ERR.] [PLE] 1000 - PLE service stops abnormally.(EC:code)

#### Meaning

The parallel execution environment service ended abnormally.

*code*: Internal code

#### Action

Take corrective action by referring to the other error messages output.

If only this error message was output, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance." Then, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PLE] 1001 - Cannot open socket file(*filename*) to accept requests from command.(EC:code)

#### Meaning

Creation of the command accepting socket *filename* failed.

*code*: Internal code

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PLE] 1002 - Cannot open the log file(*filename*). (EC:code)

#### Meaning

Opening of the log file *filename* failed.

*code*: Internal code

#### Action

An error may have occurred in the file system storing the file indicated by *filename*. Check the file system state. After recovery, restart the node.

If the problem persists, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance." Then, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PLE] 1003 - Cannot open the lock file(*filename*). (EC:code)

#### Meaning

Opening of the locked file *filename* failed.

*code*: Internal code

## Action

An error may have occurred in the file system storing the file indicated by *filename*. Check the file system state. After recovery, restart the node.

If the problem persists, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance." Then, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] [PLE] 1004 - Cannot make the working directory(*dirname*).(EC:*code*)

### Meaning

Creation of the work directory *dirname* failed.

*code*: Internal code

### Action

Confirm that the directory *dirname* can be created with root privileges.

If the problem persists, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance." Then, contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] [PLE] 1005 - Cannot get the number of CPUs.(EC:*code*)

### Meaning

CPU number acquisition failed.

*code*: Internal code

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] [PLE] 1006 - Cannot create thread.(EC:*code*)

### Meaning

Creation of a thread failed.

*code*: Internal code

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] [PLE] 1007 - Cannot get enough memory.(EC:*code*)

### Meaning

Not enough memory could be acquired for processing.

*code*: Internal code

### Action

After eliminating the cause of the memory shortage, restart the node.

---

## [ERR.] [PLE] 1008 - Cannot get my node information.(EC:*code*)

### Meaning

Node information acquisition failed.

*code*: Internal code

### Action

Confirm that the node configuration definitions of the system management function are set correctly.

---

**[ERR.] [PLE] 1009 - An error occurred in system manager.(EC:code)****Meaning**

The connection to the system management function failed.

*code:* Internal code

**Action**

Using the pashowclst command, check whether the monitoring function of the system management function is working.

---

**[ERR.] [PLE] 1010 - An error occurred in event control.(EC:code)****Meaning**

Event control failed.

*code:* Internal code

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] [PLE] 1011 - An error occurred in inter-node communication.(EC:code)****Meaning**

Communication between nodes failed.

*code:* Internal code

**Action**

Confirm that the node configuration definitions of the system management function are set correctly.

---

**[ERR.] [PLE] 1012 - Cannot connect it with resource manager.(EC:code)****Meaning**

The connection to the job resource management function failed.

*code:* Internal code

**Action**

Using the pashowclst command, check whether the monitoring function of the system management function is working.

---

**[ERR.] [PLE] 1013 - An error occurred in resource manager.(EC:code)****Meaning**

An error occurred in the job resource management function.

*code:* Internal code

**Action**

Using the pashowclst command, check whether the monitoring function of the system management function is working.

---

**[ERR.] [PLE] 1014 - Cannot initialize the asynchronous log thread.(EC:code)****Meaning**

Initialization of the log output thread failed.

*code:* Internal code



## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PLE] 1015 - Cannot open the device(path).(EC:code)

## Meaning

Opening of the device path failed.

*code:* Internal code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PLE] 1016 - Cannot operate the device(path).(EC:code)

## Meaning

Operation of the device *path* failed.

*code:* Internal code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PLE] 1017 - Cannot failover.(EC:code)

## Meaning

The information restores process failed.

*code:* Internal code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PLE] 1998 - An error occurred due to system environment.(EC:code)

## Meaning

There is a system environment error.

*code:* Internal code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PLE] 1999 - An unknown error occurred.(EC:code)

## Meaning

A fatal error occurred.

*code:* Internal code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

## B.6 Power Management Function (PWRM) Message

---

This section lists messages of the power management function (component name: PWRM).

### Error Message

---

#### [\[ERR.\] \[PWRM\] 0204 - pxpwrld cannot start: \*details\*](#)

##### Meaning

The start of the power management function daemon failed.

*details:* Internal information for maintenance

##### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

#### [\[ERR.\] \[PWRM\] 0205 - pxpwrld cannot open: \*details\*](#)

##### Meaning

Opening of a file by the power management function daemon failed.

*details:* Internal information for maintenance

##### Action

Check whether anything is abnormal in the file or file system by referring to the file name (and file system name) output in *details*. If there is no problem in the file and file system, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

#### [\[ERR.\] \[PWRM\] 0206 - pxpwrld cannot communicate: \*details\*](#)

##### Meaning

Communication between services by the power management function daemon failed.

*details:* Internal information for maintenance

##### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

#### [\[ERR.\] \[PWRM\] 0207 - pxpwrld: Internal error occurred: \*details\*](#)

##### Meaning

An internal error occurred in the power management function daemon.

*details:* Internal information for maintenance

##### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

#### [\[ERR.\] \[PWRM\] 1250 - pxsypwrld: Internal error occurred: \*details\*](#)

##### Meaning

An internal error occurred in the system power management daemon.

*details:* Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PWRM] 1263 - pxsypswrd cannot start: *details*

## Meaning

The start of the system power management daemon failed.

*details:* Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PWRM] 1265 - pxsypswrd cannot open: *details*

## Meaning

Opening of a file by the system power management daemon failed.

*details:* Internal information for maintenance

## Action

Check whether anything is abnormal in the file or file system by referring to the file name (and file system name) output in *details*. If there is a problem, the corresponding file name and details of the error have been output to *info*. Take corrective action according to the details. If there is no problem, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PWRM] 2001 - autopwr service cannot start.

## Meaning

The start of the auto power control service for compute nodes failed. Alternatively, this is a duplicate startup of the automatic power control service for compute nodes.

## Action

Confirm that the pxautopwr\_execd service is running for the active system management node and that the pxautopwr\_selectd service is running for the active compute cluster management node.

Check the status of the service as follows.

For the active system management node

```
# systemctl status pxautopwr_execd
```

For the active compute cluster management node

```
# systemctl status pxautopwr_selectd
```

If the service is running, the message "Active: active (running)" appears. If so, no action is necessary.

If the service is not running, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PWRM] 2002 - autopwr: File open failed (*path*): *details*.

## Meaning

Opening of a file by the auto power control service for compute nodes failed.

*path:* file path

*details:* Internal information for maintenance

## Action

Check whether anything is abnormal in the file or file system by referring to the file name (and file system name) output in *details*. If there is no problem in the file and file system, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PWRM] 2003 - autopwr: Internal error occurred: *details*.**

### Meaning

An internal error occurred in the auto power control service for compute nodes.

*details*: Internal information for maintenance

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PWRM] 4101 - JPE: Internal error occurred: *details***

### Meaning

An internal error occurred in the job power estimate function.

*details*: Internal information for maintenance

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] [PWRM] 4102 - JPE: Read configuration file failed: *details***

### Meaning

An error occurred in reading the power management function configuration file.

*details*: Internal information for maintenance

### Action

Set the power management function configuration file `papwrn.conf` again with the `papwrngradm` command on the active system management node.

```
# papwrngradm --set
```

If the above operation does not solve the problem, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] PWRM 4103 - JPE: Database connection is not established**

### Meaning

No connection to the job power database can be established.

### Action

On the active compute cluster management node, use the `systemctl` command to confirm that the job power database daemon, `mariadb`, is running.

```
# systemctl status mariadb
```

If the daemon is running, the "Active: active (running)" message appears. If it is not running, restart the job power database daemon. To start it, you need root privileges.

```
# systemctl start mariadb
```

After the job power database daemon starts running, specify the --show option in the papwrmgradm command, and execute the command on the active system management node. Confirm that the database user name and password are correctly written at the item "DbAuth" in the Cluster subsection of the JobPowerEstimation section in the papwrm.conf configuration file of the power management function. If the settings are incorrect, change them to the correct values. Then, specify the --set option in the papwrmgradm command, and execute the command to apply the settings. If the above operation does not solve the problem, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] [PWRM] 4104 - JPE Database: Internal error: *details*

### Meaning

An error occurred within the job power database.

*details*: Internal information for maintenance

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] [PWRM] 4108 - JPE: Plugin initialization failed

### Meaning

Initialization of the power estimate plugin failed.

### Action

Confirm that the power estimate plugin, basicplugin.so, is in the //usr/lib/FJSVtcs/pwrm/ directory.

- If the power estimate plugin is not in the directory  
Reinstall the power cap scheduling function package (FJSVpxpwrn\_jpe). For details on how to install the package, see "Applying or Deleting Packages and Updating Configuration Files" in "Applying or Deleting a Package" in the "Job Operation Software Administrator's Guide for Maintenance."
- If the power estimate plugin is in the directory  
Confirm that permission for reading is set for the power estimate plugin. If no permission for reading is set, configure settings to permit reading.  
After changing the permission, restart the pjmd daemon.

If the above operation does not solve the problem, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] [PWRM] 4116 - JPE: Plugin dlopen failed

### Meaning

Reading of the power estimate plugin failed.

### Action

Confirm that the power estimate plugin, basicplugin.so, is in the /usr/lib/FJSVtcs/pwrm/ directory.

- If the power estimate plugin is not in the directory  
Reinstall the power cap scheduling function package (FJSVpxpwrn\_jpe). For details on how to install the package, see "Applying or Deleting Packages and Updating Configuration Files" in "Applying or Deleting a Package " in the "Job Operation Software Administrator's Guide for Maintenance."
- If the power estimate plugin is in the directory  
Confirm that permission for reading is set for the power estimate plugin. If no permission for reading is set, configure settings to permit reading.  
After changing the permission, restart the pjmd daemon.

If the above operation does not solve the problem, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PWRM] 4135 - JPE: Plugin finalize failed

#### Meaning

An error occurred in power estimate plugin end processing.

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PWRM] 4136 - JPE: Initialization failed

#### Meaning

An error occurred in initialization of the power estimate library.

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PWRM] 4201- JPE: Plugin Internal error occurred: *details*

#### Meaning

An error occurred within the estimate plugin for the power estimate library.

*details:* Internal information for maintenance

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PWRM] 4301 - JPE: Internal error occurred: *details*

#### Meaning

An internal error occurred in the power estimate function.

*details:* Internal information for maintenance

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] [PWRM] 4302 - JPE: Read configuration file failed

#### Meaning

An error occurred in reading the power management function configuration file.

#### Action

Reset the papwrm.conf configuration file of the power management function by using the papwrmgradm command on the active system management node.

```
# papwrmgradm --set
```

If the above operation does not solve the problem, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

## Warning messages

---

### [WARN] [PWRM] 0203 - pxpwr cannot get status: [details](#)

#### Meaning

Acquisition of the power management function daemon status failed.

*details:* Internal information for maintenance

#### Action

Confirm that none of the pxsypwr, pxautopwr\_execd, pxautopwr\_selectd and ppxwrwrap\_monitord services has ended abnormally. If a problem has occurred with one of those services, take corrective action according to the response when the problem occurred.

---

### [WARN] [PWRM] 1241 - pxsypwr cannot get power info from extdev: [details](#)

#### Meaning

Power consumption information acquisition from an external device failed.

*details:* Internal information for maintenance

#### Action

This message is output when power information cannot be acquired from an external device, but it has no effect on job operations. Check also the command for acquiring power consumption information from an external device.

If the message is output frequently, the command for acquiring power consumption information from an external device may not be correctly executed. Perform a check using the following method.

[Method of checking the command for acquiring power consumption information from an external device]

See /var/log/FJSVtcs/pwr/pxsypwr.log. If the following message is displayed, the command for acquiring power consumption information from an external device has been normally executed.

```
[PWRM] 1063 - main: collect extdevpwr
```

If that message does not appear, it was not properly executed. In this case, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## B.7 HPC Extension Function Messages

This section describes system log messages related to various drivers and libraries provided by the HPC extension function.

The HPC extension function messages have a different format than other Job Operation Software messages.

The following shows the message format.

```
priority xos component-name message-ID - internal-information message-text
```

- priority

Shows the level of importance of the message.

This displays [ERR.] for error or panic messages, [WARN] for warning messages, and [INFO] for information messages.

- component-name

This displays "xos *component-name*." For example, it displays "xos IOP-BMC" for the BMC driver.

- message-ID

ID that is a message identifier

- -

Delimiter character

- internal-information

This displays "file: *filename* function: *function-name* line: *line-number*". *filename*, *function-name*, and *line-number* indicate the function that output the error, a line number in the function, and the file containing the function, respectively.

- message-text

This displays a description of the event that occurred.

## B.7.1 BMC Driver (IOP-BMC) Message

---

This section lists messages of the BMC driver (component name: IOP-BMC).

### Error Message

---

**[ERR.] xos IOP-BMC 0001 - *internal-information* Invalid parameter and command. [CODE]**

#### Meaning

The specified data is invalid as a command and parameter.

*CODE*: IPMI Command code

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos IOP-BMC 0002 - *internal-information* Invalid parameter. File Name Size:[NAME] Data Size:[DATA] Name:[PTR1] Data:[PTR2]**

#### Meaning

The specified value is invalid as an emergency dump request parameter.

*NAME*: filename size

*DATA*: Data size

*PTR1*: Pointer to the *filename* storage area

*PTR2*: Pointer to the data storage area

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos IOP-BMC 0003 - *internal-information* Invalid parameter. [TYPE/(NULL)]**

#### Meaning

The specified value is invalid as an input parameter.

*TYPE*: Status code

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos IOP-BMC 0004 - *internal-information* Invalid parameter. Info:[PTR] Size:[SIZE]**

#### Meaning

The specified value is invalid as a status control request parameter.

*PTR*: Pointer to the error log storage area

*SIZE*: Error log size

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos IOP-BMC 0005 - *internal-information* Detected an internal error of the IPMI command.. [CODE]**



## Meaning

The command cannot be executed due to an internal error.

*CODE:* IPMI command code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] xos IOP-BMC 0006 - *internal-information* Detected hard error. [CODE]**

## Meaning

A hardware error response was received from the BMC.

*CODE:* IPMI command code

## Action

There is a suspected hardware failure. Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] xos IOP-BMC 0007 - *internal-information* BMC could not allocate enough memory requested. [CODE]**

## Meaning

A response was received from the BMC about not being able to secure an area of the requested size.

*CODE:* IPMI command code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] xos IOP-BMC 0008 - *internal-information* Failed to create a log file for developers.**

## Meaning

Generation of a log file for developers failed, and BMC driver initialization failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] xos IOP-BMC 0009 - *internal-information* Failed to create a log file for IPMI messages.**

## Meaning

Generation of an IPMI message log file failed, and BMC driver initialization failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **[ERR.] xos IOP-BMC 0010 - *internal-information* Command time out. [CODE]**

## Meaning

A timeout occurred while waiting for the completion of an issued command.

*CODE:* IPMI command code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos IOP-BMC 0011 - *internal-information* Unable to get device number.**

## Meaning

Retrieval of a char-type device number failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos IOP-BMC 0012 - *internal-information* Unable to allocate device file.**

## Meaning

Securing a char-type device failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos IOP-BMC 0013 - *internal-information* Unable to register device file.**

## Meaning

Registration of a char-type device failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos IOP-BMC 0014 - *internal-information* Unable to register the interrupt handler.**

## Meaning

Registration of a BMC driver interrupt process failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos IOP-BMC 0015 - *internal-information* Base address is missing. address [VALUE]**

## Meaning

The RAM base address is an abnormal value.

*VALUE*: Base address that is abnormal

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos IOP-BMC 0016 - *internal-information* Failed to run the shutdown command[VALUE]**

## Meaning

A Shutdown command request to the OS failed.

*VALUE*: Execution result

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos IOP-BMC 0017 - *internal-information* Requested an unsupported command. [VALUE]

## Meaning

Unknown ioctl was requested.

*VALUE*: Requested ioctl value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos IOP-BMC 0018 - *internal-information* Could not Create procfs entry.

## Meaning

A proc file entry could not be created.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos IOP-BMC 0019 - *internal-information* Could not Create procfs parameter entry. [PARAM]

## Meaning

A proc file could not be created.

*PARAM*: Parameter file to be created

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos IOP-BMC 0020 - *internal-information* Taking the user data failed. size [SIZE]

## Meaning

Reading of request data from the user failed.

*SIZE*: Size of data that could not be read

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos IOP-BMC 0021 - *internal-information* BMC driver is not ready. [CODE]

## Meaning

The BMC driver cannot accept commands because loading is in progress or failed.

*CODE*: IPMI command code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos IOP-BMC 0022 - *internal-information* An unexpected error occurred. [CODE]

## Meaning

An unexpected error response was received from the BMC.

*CODE:* IPMI command code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos IOP-BMC 0023 - *internal-information* The I/O error occurred. [CODE]**

## Meaning

An IO error response was received from the BMC.

*CODE:* IPMI command code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos IOP-BMC 0024 - *internal-information* BMC is not ready to accept the command. [CODE]**

## Meaning

The BMC is not ready to accept the command.

*CODE:* IPMI command code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos IOP-BMC 0025 - *internal-information* Failed to create work queue.**

## Meaning

Queue generation failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos IOP-BMC 0026 - *internal-information* Failed to initialize IPMI driver.**

## Meaning

IPMI initialization failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos IOP-BMC 0030 - *internal-information* Invalid parameter. name\_flag [VALUE]**

## Meaning

The specified value is invalid as an input parameter.

*VALUE:* Set name\_flag value

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

#### **[ERR.] xos IOP-BMC 0031 - *internal-information* Invalid parameter. data\_flag [VALUE]**

#### Meaning

The specified value is invalid as an input parameter.

*VALUE:* Set data\_flag value

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

#### **[ERR.] xos IOP-BMC 0032 - *internal-information* Invalid parameter. wait\_flag [VALUE]**

#### Meaning

The specified value is invalid as an input parameter.

*VALUE:* Set wait\_flag value

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

### Information Message

---

#### **[INFO] xos IOP-BMC 1001 - *internal-information* Sub System status Report. (Panic)**

#### Meaning

The system status changed to the Panic state.

#### Action

No action is necessary.

---

#### **[INFO] xos IOP-BMC 1002 - *internal-information* Sub System status Report. (Shutdown start)**

#### Meaning

The system status changed to the Shutdown start state.

#### Action

No action is necessary.

---

#### **[INFO] xos IOP-BMC 1003 - *internal-information* Sub System status Report. (System Running)**

#### Meaning

The system status changed to the System Running state.

#### Action

No action is necessary.

---

#### **[INFO] xos IOP-BMC 1004 - *internal-information* Shut down the system by the Shutdown notification.**

#### Meaning

The system received a Shutdown notification and is powering off.

Action

No action is necessary.

---

**[INFO] xos IOP-BMC 1005 - *internal-information* Copyright(c) 2018 FUJITSU LIMITED. All rights reserved.**

Meaning

The message displays the copyright to the BMC driver.

Action

No action is necessary.

---

**[INFO] xos IOP-BMC 1006 - *internal-information* BMC driver *VERSION: DATE*.**

Meaning

The message displays the version and build date of the BMC driver.

*VERSION*: Version

*DATE*: Build date

Action

No action is necessary.

---

**[INFO] xos IOP-BMC 1007 - *internal-information* Started the notification of trouble information.**

Meaning

Failure information notification processing has begun.

Action

No action is necessary.

---

**[INFO] xos IOP-BMC 1008 - *internal-information* Started the Emergency dump.**

Meaning

An emergency dump request has begun.

Action

No action is necessary.

---

**[INFO] xos IOP-BMC 1009 - *internal-information* Started loading BMC driver.**

Meaning

The BMC driver is being loaded.

Action

No action is necessary.

---

**[INFO] xos IOP-BMC 1010 - *internal-information* Started the notification of State notification.**

Meaning

Status control has begun.

Action

No action is necessary.

---

**[INFO] xos IOP-BMC 1011 - *internal-information* Command Busy. Another command is executing it.  
[CODE]**

## Meaning

The current state is Busy because another command is being executed.

*CODE:* IPMI command code

## Action

No action is necessary.

---

**[INFO] xos IOP-BMC 1012 - *internal-information* Could not accept the execution of the command under kill termination. [CODE]**

## Meaning

The command cannot be executed because forced termination processing by kill is in progress.

*CODE:* IPMI command code

## Action

No action is necessary.

---

**[INFO] xos IOP-BMC 1013 - *internal-information* Command was killed. [CODE]**

## Meaning

The command was killed.

*CODE:* IPMI command code

## Action

No action is necessary.

---

**[INFO] xos IOP-BMC 1014 - *internal-information* Started unloading BMC driver.**

## Meaning

The BMC driver is being unloaded.

## Action

No action is necessary.

## B.7.2 CPU-MEM-RAS Driver (RAS) Message

---

This section lists messages of the CPU-MEM-RAS driver (component name: RAS).

### Error Message

---

**[ERR.] xos RAS 0000 - *internal-information* Failed to register HOST SOFTWARE ERROR irq.**

## Meaning

Registration of the logical interrupt number of HOST SOFTWARE ERROR failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0001 - *internal-information* HOST SOFTWARE ERROR request\_irq failed. (ERR1)**

## Meaning

Registration of the interrupt handler for HOST SOFTWARE ERROR failed.

*ERR1:* Error code of the interrupt handler registration function

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos RAS 0002 - *internal-information* Failed to register GUEST SOFTWARE ERROR virq.

## Meaning

Registration of the logical interrupt number of GUEST SOFTWARE ERROR failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos RAS 0003 - *internal-information* GUEST SOFTWARE ERROR request\_irq failed. (ERR1)

## Meaning

Registration of the interrupt handler for GUEST SOFTWARE ERROR failed.

*ERR1*: Error code of the interrupt handler registration function

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos RAS 0004 - *internal-information* acpi\_register\_gsi() failed. ret=ERR1

## Meaning

Registration of a logical interrupt number failed.

*ERR1*: Error code of the logical interrupt number registration function

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos RAS 0005 - *internal-information* ioremap failed for GICv3\_GICD.

## Meaning

Memory mapping to the GICv3 Distributor (GICD) area failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos RAS 0006 - *internal-information* ioremap failed for GICv3\_ITS\_CNTL\_REG.

## Meaning

Memory mapping to the GICv3 Distributor (ITS) area failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos RAS 0007 - *internal-information* register\_ras\_handler failed, since the handler has already been registered.



## Meaning

The RAS handler is already registered. Alternatively, registration of the RAS handler failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RAS 0008 - *internal-information* ITS HOST SOFTWARE ERROR detected. GITS\_FJ\_ITS\_ERROR\_STATUS=DATA1**

## Meaning

HOST SOFTWARE ERROR was detected in the ITS setting trigger.

*DATA1*: ITS error status register value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RAS 0009 - *internal-information* ICC HOST SOFTWARE ERROR detected. GICD\_FJ\_ICC\_ERROR\_STATUS=DATA1**

## Meaning

HOST SOFTWARE ERROR was detected in the ICC setting trigger.

*DATA1*: ICC error status register value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RAS 0010 - *internal-information* ICH ICV GUEST SOFTWARE ERROR detected. GICD\_FJ\_ICH\_ICV\_ERROR\_STATUS=DATA1**

## Meaning

GUEST SOFTWARE ERROR was detected in the ICH or ICV setting initiator.

*DATA1*: ICH\_ICV error status register value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RAS 0011 - *internal-information* Uncorrectable Error RAW L1 detected.**

## Meaning

A raw UE detected on the L1 cache was not error-marked.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RAS 0012 - *internal-information* Uncorrectable Error RAW L2 detected.**

## Meaning

A raw UE detected on the L2 cache was not error-marked.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RAS 0013 - *internal-information* Clearing ERR0STATUS.UE failed. ERR0STATUS=DATA1 -> DATA2**

## Meaning

Clearing of an uncorrected error bit failed in the error status register.

*DATA1:* Error status register value before clearing

*DATA2:* Error status register value after clearing

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RAS 0014 - *internal-information* Clearing valid bit failed. ERR0STATUS=DATA1 -> DATA2 -> DATA3**

## Meaning

Clearing of a valid bit failed in the error status register.

*DATA1:* Error status register value before clearing

*DATA2:* Error status register value after clearing the uncorrected error bit

*DATA3:* Error status register value after clearing the effective bit

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RAS 0015 - *internal-information* Assertion failure detected. esr=DATA1 ERR0STATUS=DATA2**

## Meaning

An error was detected in a data path system (arithmetic unit, etc.) in the core.

*DATA1:* ESR register value

*DATA2:* Error status register value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RAS 0016 - *internal-information* Internal data path detected. esr=DATA1 ERR0STATUS=DATA2**

## Meaning

An error was detected in a register outside the range of the IMPLEMENTATION DEFINED error report.

*DATA1:* ESR register value

*DATA2:* Error status register value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RAS 0017 - *internal-information* Internal control register detected. esr=DATA1 ERR0STATUS=DATA2**

## Meaning

An undefined error was detected.

*DATA1*: ESR register value

*DATA2*: Error status register value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0018 - *internal-information* DG L1 TLB detected. esr=DATA1 ERR0STATUS=DATA2**

## Meaning

The L1I cache, L1D cache, and/or TLB was degraded.

*DATA1*: ESR register value

*DATA2*: Error status register value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0019 - *internal-information* DG L2 detected. esr=DATA1 ERR0STATUS=DATA2**

## Meaning

The L2 cache was degraded.

*DATA1*: ESR register value

*DATA2*: Error status register value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0020 - *internal-information* Uncorrectable Address Error (Store) detected. esr=DATA1 ERR0STATUS=DATA2 count=DATA3**

## Meaning

An error due to incorrect memory access (Store) was detected.

*DATA1*: ESR register value

*DATA2*: Error status register value

*DATA3*: Cumulative number of times the error occurred after loading the module

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0021 - *internal-information* GPR, SP register error detected. esr=DATA1 ERR0STATUS=DATA2**

## Meaning

A parity error was detected in GPR or Stackpointer.

*DATA1*: ESR register value

*DATA2*: Error status register value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0022 - *internal-information* FP&SIMD, vector, predicate register error detected. esr=DATA1 ERRORSTATUS=DATA2**

## Meaning

A parity error was detected in the FP&SIMD register.

*DATA1*: ESR register value

*DATA2*: Error status register value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0023 - *internal-information* Invalid error code or type detected when SError occurred. esr=DATA1 ERRORSTATUS=DATA2**

## Meaning

SError occurred.

The error code or error type is invalid.

*DATA1*: ESR register value

*DATA2*: Error status register value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0024 - *internal-information* MARKED\_UE detected. esr=DATA1 ERRORSTATUS=DATA2**

## Meaning

Error-marked data was used.

*DATA1*: ESR register value

*DATA2*: Error status register value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0025 - *internal-information* Uncorrectable Address Error(Load, Instruction access) detected. esr=DATA1 ERRORSTATUS=DATA2**

## Meaning

An error due to incorrect memory access (Load, Instruction access) was detected.

*DATA1*: ESR register value

*DATA2*: Error status register value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0026 - *internal-information* A pending error was not detected even though an interrupt was received. GICD\_FJ\_GIC\_HOST\_SOFTWARE\_ERROR\_PENDING=DATA1**

## Meaning

No pending error was detected even though an interrupt was received.

*DATA1*: Error pending register value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0027 - *internal-information* HOST SOFTWARE ERROR detected. GICD\_FJ\_GIC\_HOST\_SOFTWARE\_ERROR\_PENDING=DATA1**

## Meaning

HOST SOFTWARE ERROR was detected.

*DATA1*: Error pending register value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0028 - *internal-information* Invalid error code or type detected when memory abort occurred. esr=DATA1 ERR0STATUS=DATA2**

## Meaning

A memory abort occurred.

The error code or error type is invalid.

*DATA1*: ESR register value

*DATA2*: Error status register value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0029 - *internal-information* Failed to detect the error. [DATA1]**

## Meaning

Error detection failed.

*DATA1*: Function name that failed error detection

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0030 - *internal-information* Failed to hook the function. [DATA1] (ret=DATA2)**

## Meaning

Failed to hook error detection function

*DATA1*: Function name to hook

*DATA2*: Hook function return value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0031 - *internal-information* Failed to create workqueue to suppress Uncorrectable Address Error (Store) log.**

**Meaning**

Failed to create a work queue to suppress Uncorrectable Address Error (Store) log.

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0032 - *internal-information* Unsupported environment.**

**Meaning**

Unsupported environment.

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RAS 0033 - *internal-information* Missing symbol for dependent module.**

**Meaning**

Missing symbol for dependent module.

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

**Information Message**

---

**[INFO] xos RAS 0000 - *internal-information* no need to clear ERR0STATUS register.**

**Meaning**

The error status register does not need to be cleared.

**Action**

No action is necessary.

---

## **B.7.3 IO-RAS Driver (IOP-RAS) Message**

This section lists messages of the IO-RAS driver (component name: IOP-RAS).

**[IO-RAS common message]**

---

**[INFO] xos IOP-RAS 0001 - *internal-information* ioras: IORAS driver started loading.**

**Meaning**

The IORAS driver has been loaded.

**Action**

No action is necessary.

---

**[ERR.] xos IOP-RAS 0002 - *internal-information* ioras: Load was failed.**

**Meaning**

Loading of the IORAS driver failed.

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

#### **[INFO] xos IOP-RAS 0003 - *internal-information* ioras: IORAS driver is ready for interrupts.**

#### Meaning

The IORAS driver is currently on alert for interrupts.

#### Action

No action is necessary.

---

#### **[INFO] xos IOP-RAS 0004 - *internal-information* ioras: IORAS driver unloaded.**

#### Meaning

The IORAS driver has been unloaded.

#### Action

No action is necessary.

---

#### **[INFO] xos IOP-RAS 0005 - *internal-information* ioras: Error reported to The BMC.**

#### Meaning

An error was reported to the BMC.

#### Action

No action is necessary.

---

#### **[ERR.] xos IOP-RAS 0006 - *internal-information* ioras: Failed to report to The BMC.**

#### Meaning

Error reporting to the BMC failed.

#### Action

No action is necessary.

### **[PCIe dedicated message]**

---

#### **[ERR.] xos IOP-RAS 0101 - *internal-information* ioras: PEcore PEU PCIe CE detected. (status = DATA1)**

#### Meaning

A correctable error was detected in PEcore (PEU).

*DATA1*: Detail code of the correctable error

#### Action

No action is necessary. However, if this error frequently occurs, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

#### **[ERR.] xos IOP-RAS 0102 - *internal-information* ioras: PEcore PEU PCIe UE detected. (status = DATA1)**

#### Meaning

An uncorrectable error was detected in PEcore (PEU).

*DATA1*: Detail code of the uncorrectable error

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos IOP-RAS 0103 - *internal-information* ioras: PEcore PBG device-specific CE detected. (PBG\_ERR\_STS=DATA1, ATU\_ERR\_STS=DATA2, IMU\_ERR\_STS=DATA3)**

## Meaning

PEcore (PBG) Correctable error was detected

*DATA1*: Detail code of the PEcore error

*DATA2*: Detail code of the PEcore error

*DATA3*: Detail code of the PEcore error

## Action

No action is necessary. However, if this error frequently occurs, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos IOP-RAS 0104 - *internal-information* ioras: PCIeSW Port#0 PCIe CE detected.**

## Meaning

A correctable error was detected in PCI-SW upstream port.

## Action

No action is necessary. However, if this error frequently occurs, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos IOP-RAS 0105 - *internal-information* ioras: PCIeSW Port#0 PCIe UE detected.**

## Meaning

An uncorrectable error was detected in PCI-SW upstream port.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos IOP-RAS 0106 - *internal-information* ioras: PCIeSW Port#0 device-specific UE detected.**

## Meaning

An internal RAM error was detected in the PCI-SW.

## Action

There is a suspected hardware failure. Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos IOP-RAS 0107 - *internal-information* ioras: PCIeSW Port#NUM1 PCIe CE detected.**

## Meaning

A correctable error was detected in PCI-SW downstream port t.

*NUM1*: Port number of the PCI-SW with the detected correctable error



## Action

No action is necessary. However, if this error frequently occurs, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos IOP-RAS 0108 - *internal-information* ioras: PCIeSW Port#NUM1 PCIe UE detected.

## Meaning

An uncorrectable error was detected in PCI-SW downstream port.

*NUM1*: Port number of the PCI-SW with the detected uncorrectable error

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos IOP-RAS 0109 - *internal-information* ioras: PCIeSW Port#NUM1 speed change detected.

## Meaning

A bandwidth change occurred on the PCIe link between the PCIeSW and EP.

*NUM1*: Port number of the PCI-SW where the bandwidth change occurred

## Action

If this message is output at the start time, no action is necessary. If the message is output after the start, there is a suspected hardware failure. Although no action is necessary, if the error frequently occurs, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

## [NVMe dedicated message]

---

### [ERR.] xos IOP-RAS 0201 - *internal-information* ioras: NVMe PCIe CE detected.

## Meaning

A correctable error was detected in NVM-Express.

## Action

No action is necessary. However, if this error frequently occurs, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos IOP-RAS 0202 - *internal-information* ioras: NVMe PCIe UE detected.

## Meaning

An uncorrectable error was detected in NVM-Express.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos IOP-RAS 0203 - *internal-information* ioras: NVMe device-specific UE detected.

## Meaning

A device-specific error was detected in NVM-Express.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

## [GbE dedicated message]

---

### [ERR.] xos IOP-RAS 0301 - *internal-information* ioras: GbE PCIe CE detected.

#### Meaning

A correctable error was detected in GbE.

#### Action

No action is necessary. However, if this error frequently occurs, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos IOP-RAS 0302 - *internal-information* ioras: GbE PCIe UE detected.

#### Meaning

An uncorrectable error was detected in GbE.

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos IOP-RAS 0303 - *internal-information* ioras: GbE speed change detected. (status = DATA1)

#### Meaning

The GbE link bandwidth has changed.

*DATA1*: Value for the GbE register written with an interrupt factor

#### Action

There is a suspected hardware failure. No action is necessary. However, if this error frequently occurs, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

## [IB dedicated message]

---

### [ERR.] xos IOP-RAS 0401 - *internal-information* ioras: IB PCIe CE detected.

#### Meaning

A correctable error was detected in InfiniBand

#### Action

No action is necessary. However, if this error frequently occurs, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos IOP-RAS 0402 - *internal-information* ioras: IB PCIe UE detected.

#### Meaning

An uncorrectable error was detected in InfiniBand.

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## B.7.4 Memory Dump (FEX) Message

This section lists messages of the memory dump (component name: FEX).

## Error Message

---

### [ERR.] xos FEX 0001 - *internal-information* Could not create a log area.

#### Meaning

Generation of a log file for developers failed, and memory dump driver initialization failed.

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos FEX 0002 - *internal-information* Failed to hook the function.[*FUNC*]

#### Meaning

The function hook process failed.

*FUNC*: Name of the function to be hooked

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos FEX 0003 - *internal-information* Failed to enable an interrupt handler.

#### Meaning

Interrupt handler registration failed.

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos FEX 0004 - *internal-information* Creation failure of sysfs file[*DATA*].

#### Meaning

The configuration file could not be created.

*DATA*: Error code with a written failure factor

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos FEX 0005 - *internal-information* Failed to detect the panic or dump. [*FUNC*]

#### Meaning

Neither a panic nor dump collection could be detected. Emergency dump collection may fail, or it may not be possible to transition to the panic state.

*FUNC*: Name of the inoperable function

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos FEX 0006 - *internal-information* OS dump is failed. [*CODE*]

#### Meaning

Emergency dump transfer failed.

*CODE*: Error code for an emergency dump transfer failure

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos FEX 0007 - *internal-information* Panic report is failed. [CODE]**

#### Meaning

Kernel panic notification failed.

*CODE*: Error code for a kernel panic notification failure

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

## Information Message

---

### **[INFO] xos FEX 1001 - *internal-information* Copyright(c) 2018 FUJITSU LIMITED. All rights reserved.**

#### Meaning

The message displays the copyright to the memory dump driver.

#### Action

No action is necessary.

---

### **[INFO] xos FEX 1002 - *internal-information* Dump driver *VERSION:DATE***

#### Meaning

The message displays the version and build date to the memory dump driver.

*VERSION*: Version

*DATE*: Build date

#### Action

No action is necessary.

---

### **[INFO] xos FEX 1003 - *internal-information* Finished loading the dump driver.**

#### Meaning

The memory dump driver has been unloaded.

#### Action

No action is necessary.

## B.7.5 Remote Dump (RDMP) Message

---

This section lists messages of the remote dump (component name: RDMP).

### Error Message

---

### **[ERR.] xos RDMP 0008 - *internal-information* Module parameter(dump\_mode) is invalid.**

#### Meaning

A module parameter (dump\_mode) is invalid.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 0009 - *internal-information* Module parameter(after\_rdump\_mode) is invalid.**

## Meaning

A module parameter (after\_rdump\_mode) is invalid.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 0010 - *internal-information* Failed to allocate memory for steering (stag=NUM) of remote dump.**

## Meaning

Securing memory for remote dump steering failed.

*NUM*: Steering number

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 0011 - *internal-information* Alloc steering(stag=NUM) failed.[CODE]**

## Meaning

Steering registration failed.

*NUM*: Steering number

*CODE*: Error code for a steering registration failure

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 0012 - *internal-information* Free steering(stag=NUM) failed.[CODE]**

## Meaning

Steering release failed.

*NUM*: Steering number

*CODE*: Error code when steering release fails

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 0013 - *internal-information* Symbol(FUNC) not found.**

## Meaning

The symbol could not be found.

*FUNC*: Function name

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RDMP 0014 - *internal-information* The elfcorehdr information is invalid.**

**Meaning**

The elfcorehdr information is invalid.

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RDMP 0015 - *internal-information* Failed to walk iomem resource.**

**Meaning**

Failed to walk the iomem resource.

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RDMP 0016 - *internal-information* Information on multiple crashkernels exists in the iomem resource.**

**Meaning**

The iomem resource contains information about multiple crash kernels.

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RDMP 0017 - *internal-information* The argument of the callback function is NULL.**

**Meaning**

The callback function argument is null.

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RDMP 5001 - *internal-information* Error RCODE=DATE1 : STATUS.flip=DATA2 ID=DATA3 PA=DATA4 PB=DATA5 PC=DATA6 RX=DATA7 RY=DATA8 RZ=DATA9 RA=DATA10 RB=DATA11 RC=DATA12 RI=DATA13 I=DATA14 EDATA=DATA15 LENGTH=DATA16 RCQID=DATA17 RSTAG=DATA18 ROFF=DATA19 LCQID=DATA20 LSTAG=DATA21 LOFF=DATA22**

**Meaning**

Failed to receive MRQ.

- DATA1*: Return code
- DATA2*: flip
- DATA3*: Command ID
- DATA4*: A coordinate of the route
- DATA5*: B coordinate of the route
- DATA6*: C coordinate of the route
- DATA7*: Remote X coordinate
- DATA8*: Remote Y coordinate
- DATA9*: Remote Z coordinate
- DATA10*: Remote A coordinate
- DATA11*: Remote B coordinate
- DATA12*: Remote C coordinate

*DATA13*: Remote IF address  
*DATA14*: Initial packet flag  
*DATA15*: Command embedded data  
*DATA16*: Packet data length  
*DATA17*: Remote CQ number  
*DATA18*: Remote STag  
*DATA19*: Remote termination offset  
*DATA20*: Local CQ number  
*DATA21*: Local STag  
*DATA22*: Write start offset of the corresponding packet + data length

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5002 - *internal-information* The type of MRQ reception result is invalid.(type=DATA)**

#### Meaning

The type of MRQ reception result is invalid.

*DATA*: Type

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5003 - *internal-information* Failed to receive MRQ.**

#### Meaning

Failed to receive MRQ.

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5004 - *internal-information* The ID of the MRQ reception result does not exist.(id=DATA)**

#### Meaning

The ID of the MRQ reception result does not exist.

*DATA*: ID

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5005 - *internal-information* The Tofu coordinates of the MRQ reception result are invalid. (raddr[DATA1.DATA2.DATA3.DATA4.DATA5.DATA6])**

#### Meaning

The Tofu coordinates of the MRQ reception result are invalid.

*DATA1*: X coordinate  
*DATA2*: Y coordinate  
*DATA3*: Z coordinate  
*DATA4*: A coordinate  
*DATA5*: B coordinate  
*DATA6*: C coordinate

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos RDMP 5006 - *internal-information* Failed to allocate memory.(size=DATA)

## Meaning

Failed to allocate memory.

*DATA*: The size of the memory tried to allocate

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos RDMP 5007 - *internal-information* Alloc steering failed.(ret=CODE, stag=DATA1, bufp=DATA2, size=DATA3, readonly=DATA4)

## Meaning

Steering registration failed.

*CODE*: Error code when steering registration fails

*DATA1*: Steering number to register

*DATA2*: Start address of memory area to be registered for steering

*DATA3*: Size of memory area to be registered for steering

*DATA4*: Writeability setting value of memory area to be registered for steering

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos RDMP 5008 - *internal-information* Free steering failed.(ret=CODE, stag=DATA)

## Meaning

Steering release failed.

*CODE*: Error code

*DATA*: Steering number

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos RDMP 5009 - *internal-information* There is no cache of applicable Tofu coordinates. (cache=PTR, raddr=[DATA1.DATA2.DATA3.DATA4.DATA5.DATA6])

## Meaning

There is no cache for the corresponding Tofu coordinates.

*PTR*: Cache area pointer

*DATA1*: X coordinate

*DATA2*: Y coordinate

*DATA3*: Z coordinate

*DATA4*: A coordinate

*DATA5*: B coordinate

*DATA6*: C coordinate



## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5010 - *internal-information* The cache list is empty.**

## Meaning

The cache list is empty.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5011 - *internal-information* The settings for RDMA are invalid.(route=*PTR1*, raddr=*PTR2*, wp=*PTR3*)**

## Meaning

The settings for RDMA are invalid.

*PTR1*: Structure pointer of root

*PTR2*: Structure pointer of Tofu coordinates

*PTR3*: Structure pointer of wait

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5012 - *internal-information* The command for RDMA is invalid.(cmd=*DATA*)**

## Meaning

The command for RDMA is invalid.

*DATA*: Command value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5013 - *internal-information* Enqueue to TOQ failed.(ret=*CODE*)**

## Meaning

Enqueue to TOQ failed.

*CODE*: Error code when enqueue to TOQ fails

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5014 - *internal-information* No route was found for RDMA.**

## Meaning

No route found for RDMA.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RDMP 5015 - *internal-information* The wait for the MRQ callback has been interrupted.**

**Meaning**

MRQ callback wait was interrupted.

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RDMP 5016 - *internal-information* The setting value for steering number search for kernel memory is invalid.(offset=PTR1, length=PTR2)**

**Meaning**

The setting value for steering number search for kernel memory is invalid.

*PTR1*: Offset variable pointer

*PTR2*: Variable pointer of length

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RDMP 5017 - *internal-information* The area specified for RDMA was not the area registered for steering.(paddr=DATA1, length=DATA2)**

**Meaning**

The area specified for RDMA was not the area registered in the steering.

*DATA1*: Physical address specified for RDMA

*DATA2*: Size specified for RDMA

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RDMP 5018 - *internal-information* The alignment setting for RDMA is invalid.(paddr=PTR1, length=PTR2)**

**Meaning**

The alignment setting for RDMA is invalid.

*PTR1*: Variable pointer to the physical address to align for RDMA

*PTR2*: Variable pointer of size to align for RDMA

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RDMP 5019 - *internal-information* The value of the setting process for RDMA is invalid.(stag=PTR1, length=PTR2, offset=PTR3)**

**Meaning**

The value of the setting process for RDMA is invalid.

*PTR1*: Steering number variable pointer

*PTR2*: Variable pointer of size

*PTR3*: Offset variable pointer

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5020 - *internal-information* Failed to align for RDMA.**

## Meaning

Failed to align for RDMA.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5021 - *internal-information* Failed to search for the steering number for RDMA.**

## Meaning

Failed to search for the steering number for RDMA.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5022 - *internal-information* Failed to RDMA settings.(target=*DATA*)**

## Meaning

Failed to set RDMA.

*DATA*: A value that indicates the target of RDMA

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5023 - *internal-information* The cache for RDMA is invalid.**

## Meaning

Invalid cache for RDMA.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5024 - *internal-information* Failed to prepare buffer for RDMA.**

## Meaning

Failed to prepare buffer for RDMA.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5025 - *internal-information* Failed to prepare for wait for RDMA.**

## Meaning

Failed to prepare for wait for RDMA.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5026 - *internal-information* RDMA has failed.**

## Meaning

RDMA communication has failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5027 - *internal-information* copy\_to\_user failed.(dest=DATA1, src=DATA2, size=DATA3)**

## Meaning

Failed to execute kernel function copy\_to\_user.

*DATA1*: Copy source address

*DATA2*: Copy destination address

*DATA3*: Copy size

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5028 - *internal-information* copy\_from\_user failed.(dest=DATA1, src=DATA2, size=DATA3)**

## Meaning

Failed to execute kernel function copy\_from\_user.

*DATA1*: Copy source address

*DATA2*: Copy destination address

*DATA3*: Copy size

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5029 - *internal-information* The offset for RDMA is not an aligned value.(offset=DATA)**

## Meaning

Offset for RDMA is not an aligned value.

*DATA*: Offset value

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos RDMP 5030 - *internal-information* The value before being set in RDMA is different than expected.(value=DATA1, exp=DATA2)**

## Meaning

The value before being set in RDMA is different than expected.

*DATA1*: Value before set by RDMA  
*DATA2*: Expected value

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RDMP 5031 - *internal-information* The cache is already in use.  
(raddr=[*DATA1*.*DATA2*.*DATA3*.*DATA4*.*DATA5*.*DATA6*])**

#### Meaning

The cache is already in use.

*DATA1*: X coordinate  
*DATA2*: Y coordinate  
*DATA3*: Z coordinate  
*DATA4*: A coordinate  
*DATA5*: B coordinate  
*DATA6*: C coordinate

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RDMP 5032 - *internal-information* There is no free space in the cache.**

#### Meaning

There is no free space in the cache.

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RDMP 5033 - *internal-information* An unknown ioctl was requested.(command=*DATA*)**

#### Meaning

An unknown ioctl was requested.

*DATA*: Requested ioctl value

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RDMP 5034 - *internal-information* alloc\_chrdev\_region failed.(ret=*CODE*)**

#### Meaning

Failed to execute kernel function alloc\_chrdev\_region.

*CODE*: Return code

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos RDMP 5035 - *internal-information* cdev\_add failed.(ret=*CODE*)**

## Meaning

Failed to execute kernel function cdev\_add.

*CODE*: Return code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos RDMP 5036 - *internal-information* class\_create failed.(ret=CODE)

## Meaning

Failed to execute kernel function class\_create.

*CODE*: Return code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos RDMP 5037 - *internal-information* device\_create failed.(ret=CODE)

## Meaning

Failed to execute kernel function device\_create.

*CODE*: Return code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos RDMP 5038 - *internal-information* Failed to create the device file.

## Meaning

Failed to create the device file.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos RDMP 5039 - *internal-information* The TNI or CQ of the TCQ or MRQ reception result is invalid. (TNI=DATA1, CQ=DATA2)

## Meaning

The TNI or CQ of the TCQ or MRQ reception result is invalid.

*DATA1*: TNI number

*DATA2*: CQ number

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

## Warning Message

---

### [WARN] xos RDMP 6001 - *internal-information* The remaining receive size of the MRQ receive process is negative.(length=DATA)

## Meaning

The remaining receive size of the MRQ receive process is negative.

*DATA:* Remaining receive size

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[WARN] xos RDMP 6002 - *internal-information* The wait for the MRQ callback has timed out.**

## Meaning

The wait for the MRQ callback has timed out.

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## **B.7.6 Sector Cash Driver (SEC) Message**

This section lists messages of the sector cash driver (component name: SEC).

### **Error Message**

---

#### **[ERR.] xos SEC 0001 - *internal-information* alloc\_chrdev\_region() failed.**

## Meaning

Execution of the alloc\_chrdev\_region kernel function failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

#### **[ERR.] xos SEC 0002 - *internal-information* cdev\_add() failed.**

## Meaning

Execution of the cdev\_add kernel function failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

#### **[ERR.] xos SEC 0003 - *internal-information* CPU max way size or cache size is incorrect. (L1\_linesize=value1, L1\_numsets=value2, L1\_associativity=value3, L2\_linesize=value4, L2\_numsets=value5, L2\_associativity=value6)**

## Meaning

The maximum way size or cache size for the CPU is incorrect.

*value1:* L1 cache size

*value2:* L1 set size

*value3:* L1 associativity size

*value4:* L2 cache size

*value5:* L2 set size

*value6:* L2 associativity size

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos SEC 0008 - *internal-information copy\_from\_user() failed.(rc=value)*

## Meaning

Execution of the copy\_from\_user kernel function failed.

*value*: Return code

## Action

There may be insufficient memory. Eliminate the memory shortage, and try again.

If this error occurs even after the above action is taken, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos SEC 0009 - *internal-information copy\_to\_user() failed.(rc=value)*

## Meaning

Execution of the copy\_to\_user kernel function failed.

*value*: Return code

## Action

There may be insufficient memory. Eliminate the memory shortage, and try again.

If this error occurs even after the above action is taken, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos SEC 0010 - *internal-information kmalloc() failed.*

## Meaning

Execution of the kmalloc kernel function failed.

## Action

There may be insufficient memory. Eliminate the memory shortage, and try again.

If this error occurs even after the above action is taken, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos SEC 0011 - *internal-information The mode is different.(mode=value)*

## Meaning

The sector cache driver uses a mode different from the intended mode.

*value*: Mode identification number

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos SEC 0013 - *internal-information This driver is not available on this architecture.*

## Meaning

This CPU architecture cannot use this driver.



## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos SEC 0020 - *internal-information* Failed to get module.(module=name)

## Meaning

Failed to get module.

*name*: Module name

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## B.7.7 Inter-core Hardware Barrier Driver (HWB) Message

This section lists messages of the inter-core hardware barrier driver (component name: HWB).

### Error Message

---

#### [ERR.] xos HWB 0005 - *internal-information* kmalloc() failed.

## Meaning

Execution of the kmalloc kernel function failed.

## Action

There may be insufficient memory. Eliminate the memory shortage, and try again.

If this error occurs even after the above action is taken, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

#### [ERR.] xos HWB 0006 - *internal-information* copy\_from\_user() failed.

## Meaning

Execution of the copy\_from\_user kernel function failed.

## Action

There may be insufficient memory. Eliminate the memory shortage, and try again.

If this error occurs even after the above action is taken, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

#### [ERR.] xos HWB 0007 - *internal-information* copy\_to\_user() failed.

## Meaning

Execution of the copy\_to\_user kernel function failed.

## Action

There may be insufficient memory. Eliminate the memory shortage, and try again.

If this error occurs even after the above action is taken, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

#### [ERR.] xos HWB 0008 - *internal-information* alloc\_chrdev\_region() failed.(rc=value)

## Meaning

Execution of the alloc\_chrdev\_region kernel function failed.

*value*: Return code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos HWB 0009 - internal-information cdev\_add() failed.(rc=*value*)**

## Meaning

Execution of the cdev\_add kernel function failed.

*value*: Return code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos HWB 0010 - internal-information xos\_cmng\_core\_id\_to\_node\_core\_id() failed.(rc=*value1*, cmng\_num=*value2*, cmng\_core\_id=*value3*, jobid=*value4*, ncm=*value5*)**

## Meaning

Execution of the xos\_cmng\_core\_id\_to\_node\_core\_id function failed.

*value1*: Return code

*value2*: CMG number

*value3*: Core number in the CMG

*value4*: Job ID

*value5*: Pointer to internal information management data

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos HWB 0011 - internal-information This driver is not available on this architecture.**

## Meaning

This CPU architecture cannot use this driver.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos HWB 0018 - internal-information Failed to get module.(module=*name*)**

## Meaning

Failed to get module.

*name*: Module name

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

## Information Message

---

**[INFO] xos HWB 1001 - *internal-information* OS logical core number to physical core number mapping information. OS Core#*value1* [NUMA Node#*value2* Core#*value3*]**

**Meaning**

Displays the mapping information from the logical core number of the OS to the physical core number.

OS Core#*value1* [NUMA Node#*value2* Core#*value3*] is displayed for the number of cores.

*value1*: OS core number

*value2*: NUMA node number

*value3*: Core number in NUMA

**Action**

No action is necessary.

---

## **B.7.8 HPC Tag Address Override Function (FHE) Message**

---

This section lists messages of the HPC tag address override function (component name: FHE).

**Error Message**

---

**[ERR.] xos FHE 0001 - *internal-information* alloc\_chrdev\_region failed.(rc=*value*)**

**Meaning**

Execution of the alloc\_chrdev\_region kernel function failed.

*value*: Return code

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos FHE 0002 - *internal-information* cdev\_add failed.(rc=*value*)**

**Meaning**

Execution of the cdev\_add kernel function failed.

*value*: Return code

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos FHE 0003 - *internal-information* this driver is not available on this architecture.**

**Meaning**

This CPU architecture cannot use this driver.

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos FHE 0004 - *internal-information* copy from user function failed.**

**Meaning**

Execution of the copy from user kernel function failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos FHE 0007 - *internal-information failed to create sysfs.(rc=value)*

## Meaning

sysfs could not be created.

*value*: Return code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

## Information Message

---

### [INFO] xos FHE 1101 - *jobid jobid hpc tag address override function is enabled with core mask coremask*

## Meaning

Tag address override is enabled for the core specified in *coremask*.

*jobid*: Job ID

*coremask*: A valid bit is set to 1 in order in the core number starting with 0 at the least significant bit. For example, "0xffffffff000" in *coremask* means that tag address override of core numbers 12 to 59 is enabled.

## Action

No action is necessary.

---

### [INFO] xos FHE 1102 - *jobid jobid hpc tag address override function is disabled with core mask coremask*

## Meaning

Tag address override is disabled for the core specified in *coremask*.

*jobid*: Job ID

*coremask*: An invalid bit is set to 1 in order in the core number starting with 0 at the least significant bit. For example, "0xffffffff000" in *coremask* means that tag address override of core numbers 12 to 59 is disabled.

## Action

No action is necessary.

---

### [INFO] xos FHE 1105 - *jobid jobid hpc hardware prefetch assist setting to default. target core mask coremask*

## Meaning

Hardware prefetch assist is the default for the core specified in the *coremask*.

*jobid*: Job ID

*coremask*: An invalid bit is set to 1 in order in the core number starting with 0 at the least significant bit. For example, "0xffffffff000" in *coremask* means that tag address override of core numbers 12 to 59 is disabled.

## Action

No action is necessary.

---

## B.7.9 Power Control Driver (HPCPWR) Message

This section lists messages of the power control driver (component name: HPCPWR).

## Error Message

---

### [ERR.] xos HPCPWR 1001 - *internal-information* a fault occurs during execution of kp->pre\_handler.

#### Meaning

An error occurred during Kprobes pre\_handler execution.

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos HPCPWR 1002 - *internal-information* acpi\_register\_gsi failed. ret=*info*

#### Meaning

Registration of the logical interrupt number failed.

*info*: Internal information for maintenance

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos HPCPWR 1003 - *internal-information* search virq failed.

#### Meaning

The search for a logical interrupt number failed.

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos HPCPWR 1004 - *internal-information* request irq failed. ret=*info*

#### Meaning

Registration of the interrupt handler failed.

*info*: Internal information for maintenance

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos HPCPWR 1005 - *internal-information* unsupported device.

#### Meaning

An unsupported device was detected.

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos HPCPWR 1006 - *internal-information* device file creation failed. ret=*info*

#### Meaning

The device file could not be created.

*info*: Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos HPCPWR 1007 - *internal-information total watt initialization failed. ret=info*

## Meaning

Power consumption measurement initialization failed.

*info:* Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos HPCPWR 1008 - *internal-information cpufreq initialization failed. ret=info*

## Meaning

CPU frequency setting initialization failed.

*info:* Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos HPCPWR 1010 - *internal-information setting default value failed. ret=info*

## Meaning

The setting of a default value for the register failed.

*info:* Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos HPCPWR 1011 - *internal-information setup retention mode failed. ret=info*

## Meaning

The setting of retention mode failed.

*info:* Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos HPCPWR 1012 - *internal-information sysfs file creation failed. ret=info*

## Meaning

sysfs could not be created.

*info:* Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos HPCPWR 1013 - *internal-information* setup overflow handling failed.**

**Meaning**

The setting of overflow handling failed.

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos HPCPWR 1014 - *internal-information* Couldn't map SPEED\_CONTROL@*info***

**Meaning**

Memory mapping to the Speed Control Register area failed.

*info*: Internal information for maintenance

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos HPCPWR 1015 - *internal-information* Couldn't map MAC0\_CH0\_HBM\_POWER\_MANAGEMENT\_BASE@*info***

**Meaning**

Memory mapping to the MAC#0 registers for NS access area failed.

*info*: Internal information for maintenance

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos HPCPWR 1016 - *internal-information* Couldn't map MAC1\_CH0\_HBM\_POWER\_MANAGEMENT\_BASE@*info***

**Meaning**

Memory mapping to the MAC#1 registers for NS access area failed.

*info*: Internal information for maintenance

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos HPCPWR 1017 - *internal-information* Couldn't map MAC2\_CH0\_HBM\_POWER\_MANAGEMENT\_BASE@*info***

**Meaning**

Memory mapping to the MAC#2 registers for NS access area failed.

*info*: Internal information for maintenance

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos HPCPWR 1018 - *internal-information* Couldn't map MAC3\_CH0\_HBM\_POWER\_MANAGEMENT\_BASE@*info***

## Meaning

Memory mapping to the MAC#3 registers for NS access area failed.

*info*: Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos HPCPWR 1019 - *internal-information* Couldn't map ENERGY\_MONITOR\_BASE@info**

## Meaning

Memory mapping to the Energy Monitor Registers area failed.

*info*: Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos HPCPWR 1020 - *internal-information* Couldn't map NODE\_ENERGY\_ELEMENT\_BASE@info**

## Meaning

Memory mapping to the South Bride Energy Monitor area failed.

*info*: Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos HPCPWR 1021 - *internal-information* Couldn't map BOB\_ENERGY\_WATCH@info**

## Meaning

Memory mapping to the BoB Energy Watch Register area failed.

*info*: Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos HPCPWR 1022 - *internal-information* setup self-refresh failed. (CMG=cmg) ret=info**

## Meaning

The setting of a default self-refresh value for broadband memory failed.

*cmg*: Target CMG number

*info*: Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos HPCPWR 1023 - *internal-information* setup power down failed. (CMG=cmg) ret=info**

## Meaning

The setting of a default power-down value for broadband memory failed.



*cmg*: Target CMG number  
*info*: Internal information for maintenance

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos HPCPWR 1024 - *internal-information* setup throttling state failed. (CMG=*cmg*) ret=*info***

#### Meaning

The setting of a default value for the bus rate in throttling for broadband memory failed.

*cmg*: Target CMG number  
*info*: Internal information for maintenance

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos HPCPWR 1025 - *internal-information* setup throttling time failed. (CMG=*cmg*) ret=*info***

#### Meaning

The setting of a default value for the number of clock cycles to control throttling for broadband memory failed.

*cmg*: Target CMG number  
*info*: Internal information for maintenance

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos HPCPWR 1026 - *internal-information* setup freq failed. ret=*info***

#### Meaning

The setting of a default CPU frequency value failed.

*info*: Internal information for maintenance

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos HPCPWR 1027 - *internal-information* invalid freq table. ret=*info***

#### Meaning

The CPU frequency configuration table is incorrect.

*info*: Internal information for maintenance

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos HPCPWR 1028 - *internal-information* get major number failed. ret=*info***

#### Meaning

Retrieval of the major number of the device failed.

*info*: Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos HPCPWR 1029 - *internal-information* create class failed(*name*). ret=*info***

## Meaning

The device class could not be created.

*name*: Device name

*Info*: Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos HPCPWR 1030 - *internal-information* add cdev failed(*name*). ret=*info***

## Meaning

Device registration failed.

*name*: Device name

*info*: Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos HPCPWR 1031 - *internal-information* create device failed(*name*). ret=*info***

## Meaning

Device creation failed.

*name*: Device name

*info*: Internal information for maintenance

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos HPCPWR 1032 - *internal-information* Frequency table does not exist.**

## Meaning

No frequency table exists.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[ERR.] xos HPCPWR 1033 - *internal-information* The frequency table is illegal format.**

## Meaning

A frequency table is invalid.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos HPCPWR 1034 - *internal-information* Module parameter to power driver is invalid.****Meaning**

A module parameter to power driver is invalid.

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**B.7.10 TofuD Driver (TOF) Message**

---

This section lists messages of the TofuD driver (component name: TOF).

**[Basic communication block messages]****Panic Message**

---

**[ERR.] xos TOF 0001 - *internal-information* TNINUM1CQNUM2 TCQ error Data1 (TOQ Data2 Data3 Data4 Data5)****Meaning**

An exception occurred when the Tofu interconnect sent data.

*NUM1*: TNI number

*NUM2*: CQ number

*DATA1*: Bytes 0 to 7 of the TCQ

*DATA2*: Bytes 0 to 7 of the TCQ

*DATA3*: Bytes 8 to 15 of the TCQ

*DATA4*: Bytes 16 to 23 of the TCQ

*DATA5*: Bytes 24 to 31 of the TCQ

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos TOF 0002 - *internal-information* prq write exception****Meaning**

An exception occurred when the Tofu interconnect wrote data in the receive buffer specified by the TofuD driver.

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos TOF 0003 - *internal-information* interrupt from *DEV1*, IRR = *DATA1*****Meaning**

There was an exception notification interrupt from the resource indicated at *DEV1*.

*DEV1*: One of the resources named Tofu, TNR, BG, or CQ

*DATA1*: Interrupt factor bitmap

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos TOF 0004 - *internal-information* CQ enable timeout**

---

## Meaning

Processing to enable the CQ did not complete within the stipulated time and timed out.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] xos TOF 0005 - *internal-information CQ disable timeout*

### Meaning

Processing to disable the CQ did not complete within the stipulated time and timed out.

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] xos TOF 0006 - *internal-information internal error*

### Meaning

The CQ was disabled or in user mode when changing the subnet value.

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] xos TOF 0007 - *internal-information fetch stop timeout*

### Meaning

Processing to stop packet transmission did not complete within the stipulated time and timed out.

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] xos TOF 0008 - *internal-information cache flush timeout: tni=NUM1 cqid=NUM2*

### Meaning

Cache flush processing in the Tofu interconnect did not complete within the stipulated time and timed out.

*NUM1*: TNI number

*NUM2*: CQ number

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] xos TOF 0009 - *internal-information TNI error state*

### Meaning

Processing to enable the TNI failed because the TNI is in an error state.

### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] xos TOF 0010 - *internal-information TNINUM1 disable timeout*

## Meaning

Processing to disable the TNI did not complete within the stipulated time and timed out.

*NUM1*: TNI number

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos TOF 0011 - *internal-information* failed to add PBQ TNINUM1

## Meaning

The PBQ cannot be added because the number of packet buffers has reached the upper limit or because of a failure to secure packet buffers.

*NUM1*: TNI number

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos TOF 0012 - *internal-information* cannot allocate net\_device: NAME1

## Meaning

Securing memory for the network device structure failed.

*NAME1*: Tofu device name

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos TOF 0013 - *internal-information* cannot register net\_device(ERR1): NAME1

## Meaning

Network device registration failed.

*ERR1*: Error code received from the network device registration function

*NAME1*: Tofu device name

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos TOF 0014 - *internal-information* invalid parameter

## Meaning

The TFAP packet transmission process failed because of a parameter error detected in the TofuD driver.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos TOF 0015 - *internal-information* tof\_tfap\_sendbuf\_init

## Meaning

The TFAP initialization process failed because a send buffer could not be secured.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos TOF 0016 - *internal-information illegal length*

## Meaning

The SEND command failed to send due to a problem with the length of the send data.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

## Error Message

---

### [ERR.] xos TOF 1001 - *internal-information tof\_smmu\_find\_devices DATA1*

## Meaning

No Tofu device resource entry was found in the ACPI table, and SMMU initialization failed.

*DATA1*: Error code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos TOF 1002 - *internal-information SMMUv3 driver not found*

## Meaning

The SMMUv3 device driver structure was not found, and SMMU initialization failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos TOF 1003 - *internal-information unknown option: arg==DATA1 virq=NUM1*

## Meaning

Interrupt registration failed. The parameter cannot be referenced.

*DATA1*: Parameter

*NUM1*: Virtual interrupt number

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos TOF 1004 - *internal-information unknown option: fwspec->param\_count=DATA1 virq=NUM1*

## Meaning

Interrupt registration failed. The number of parameters is incorrect.

*DATA1*: Number of parameters

*NUM1*: Virtual interrupt number

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos TOF 1005 - *internal-information* double booking of hwirq NUM1**

**Meaning**

Interrupt registration was requested with an already registered interrupt number.

*NUM1*: Hardware interrupt number

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos TOF 1006 - *internal-information* failed to irq\_domain\_alloc\_irqs\_parent res=DATA1**

**Meaning**

Interrupt registration failed. The domain cannot be created.

*DATA1*: Error code

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos TOF 1007 - *internal-information* failed to \_\_irq\_domain\_alloc\_irqs**

**Meaning**

Virtual interrupt numbers cannot be generated.

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos TOF 1008 - *internal-information* There is no associated irq\_data: irq\_domain=DATA1 virq=NUM1**

**Meaning**

The interrupt cannot be enabled.

*DATA1*: Interrupt domain address

*NUM1*: Virtual interrupt number

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos TOF 1009 - *internal-information* failed to tof\_irq\_prepare DATA1**

**Meaning**

Registration of a virtual interrupt number failed.

*DATA1*: Error code

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[ERR.] xos TOF 1010 - *internal-information* failed to request\_irq res=DATA1**

## Meaning

Interrupt registration failed.

*DATA1*: Error code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] xos TOF 1011 - *internal-information* failed to tof\_init\_irq\_domain

## Meaning

Interrupt domain initialization failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] xos TOF 1012 - *internal-information* SMMUv3 device not found

## Meaning

SMMUv3 device detection failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] xos TOF 1013 - *internal-information* cannot find Tofu device

## Meaning

Tofu device detection failed.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] xos TOF 1014 - *internal-information* failed to send signal, ret=*value1* pid=*value2* error=*value3* id=*value4*

## Meaning

Interrupt sending failed.

*value1*: Return code

*value2*: Process ID

*value3*: Error number

*value4*: ID number

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

## [ERR.] xos TOF 1015 - *internal-information* Invalid port number, TDID=*DATA1* Port=*DATA2*

## Meaning

Invalid port number in Tofu register is set.

*DATA1*: TD number

*DATA2*: Port number



## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

## Warning Message

---

### [WARN] xos TOF 2001 - *internal-information* unknown command

#### Meaning

The TCQ or MRQ was notified of an unknown command.

#### Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 2002 - *internal-information* TNINUM1CQNUM2 MRQ error DATA1 DATA2 DATA3 DATA4

#### Meaning

The MRQ was notified of an exception.

*NUM1*: TNI number

*NUM2*: CQ number

*DATA1*: Bytes 0 to 7 of the MRQ

*DATA2*: Bytes 8 to 15 of the MRQ

*DATA3*: Bytes 16 to 23 of the MRQ

*DATA4*: Bytes 24 to 31 of the MRQ

#### Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 2003 - *internal-information* prq l=DATA1, e=DATA2, rcode=DATA3, pa=DATA4

#### Meaning

The PRQ was notified of an exception.

*DATA1*: Result of a packet length consistency check

*DATA2*: Result of an ECRC, TYPE, and LEN consistency check

*DATA3*: PRQ return code

*DATA4*: Physical address of the packet buffer

#### Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 2004 - *internal-information* callback not assigned

#### Meaning

There is no notification destination for a received packet buffer.

#### Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[WARN] xos TOF 2005 - internal-information interrupt from NAME1, IRR = DATA1****Meaning**

An exception notification interrupt occurred.

*NAME1*: Resource name

*DATA1*: Bitmap of a reported exception

**Action**

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[WARN] xos TOF 2006 - internal-information IRQ not handled DATA1****Meaning**

The system was notified of an unknown exception.

*DATA1*: Bitmap of a reported exception

**Action**

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[WARN] xos TOF 2007 - internal-information Inactive BG: from (DATA1, DATA2, DATA3, DATA4, DATA5, DATA6) TNINUM1BGNUM2 to TNINUM3BGNUM4****Meaning**

Barrier settings may have an error. Alternatively, a barrier packet may have been received when the BG was not yet configured.

*DATA1*: X coordinate of setting source

*DATA2*: Y coordinate of setting source

*DATA3*: Z coordinate of setting source

*DATA4*: A coordinate of setting source

*DATA5*: B coordinate of setting source

*DATA6*: C coordinate of setting source

*NUM1*: TNI number of setting source

*NUM2*: BG number of setting source

*NUM3*: TNI number of setting source

*NUM4*: BG number of setting source

**Action**

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[WARN] xos TOF 2008 - internal-information GPID Unmatch: from (DATA1, DATA2, DATA3, DATA4, DATA5, DATA6) TNINUM1BGNUM2 to TNINUM3BGNUM4****Meaning**

Barrier settings may have an error. The set GPID for the BG does not match the GPID of the remotely received barrier packet.

*DATA1*: X coordinate of setting source

*DATA2*: Y coordinate of setting source

*DATA3*: Z coordinate of setting source

*DATA4*: A coordinate of setting source

*DATA5*: B coordinate of setting source

*DATA6*: C coordinate of setting source

*NUM1*: TNI number of setting source  
*NUM2*: BG number of setting source  
*NUM3*: TNI number of setting source  
*NUM4*: BG number of setting source

#### Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[WARN] xos TOF 2009 - *internal-information* Interrupt on BG:TNUM1BGNUM2 IRRDATA1**

#### Meaning

A barrier-related event was received. However, the event was discarded because a handler was not registered.

*NUM1*: TNI number  
*NUM2*: BG number  
*DATA1*: Interrupt bitmask

#### Action

No action is necessary. However, if it happens frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[WARN] xos TOF 2010 - *internal-information* Interrupt on CQ:TNUM1CQNUM2 IRRDATA1**

#### Meaning

A CQ-related event was received. However, the event was discarded because a handler was not registered.

*NUM1*: TNI number  
*NUM2*: BG number  
*DATA1*: Interrupt bitmask

#### Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[WARN] xos TOF 2011 - *internal-information* BG disable timeout**

#### Meaning

Processing to disable barrier settings did not complete within the stipulated time and timed out.

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[WARN] xos TOF 2012 - *internal-information* BCH disable timeout**

#### Meaning

Processing to disable barrier channel settings did not complete within the stipulated time and timed out.

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[WARN] xos TOF 2013 - *internal-information* BCH ready timeout**

## Meaning

After barrier channel settings were disabled, the status remains BUSY.

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 2014 - *internal-information* prq buffer: DATA1 DATA2 DATA3 DATA4 DATA5 DATA6

## Meaning

The PRQ was notified of an exception.

*DATA1*: Value of the first 8 bytes  
*DATA2*: Value of the second 8 bytes  
*DATA3*: Value of the third 8 bytes  
*DATA4*: Value of the fourth 8 bytes  
*DATA5*: Value of the fifth 8 bytes  
*DATA6*: Value of the sixth 8 bytes

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 2015 - *internal-information* no registered callback for *value*

## Meaning

There was no callback function to register.

*value*: Callback number

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 2016 - *internal-information* Failed to memory allocate for MBPT, ret= *value*

## Meaning

MBPT memory allocation failed.

*value*: Return code

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 2017 - *internal-information* CQ disable timeout, try=*value1*/*value2*

## Meaning

Processing to disable the CQ timed out.

*Value1*: Current retry count  
*value2*: Allowable retry count

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 2018 "cache flush timeout: tni=NUM1 cqid=NUM2"

## Meaning

The TofuD driver has detected the cache flush timeout.

*NUM1*: TNI number where detected it.

*NUM2*: CQ number where detected it.

## Action

No action is necessary.

## Information Message

---

### [INFO] xos TOF 3001 - *internal-information* DATA1 virq=NUM1

## Meaning

Interrupt registration has completed.

*DATA1*: Interrupt name

*NUM1*: Virtual interrupt number

## Action

No action is necessary.

## [File I/O communication block messages]

### Error Message

---

### [ERR.] xos TOF 5001 - *internal-information* Failed to allocate memory of steering area

## Meaning

Failed to acquire resources (memory).

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos TOF 5002 - *internal-information* Failed to allocate memory of memory block area

## Meaning

Failed to acquire resources (memory).

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos TOF 5003 - *internal-information* Failed to allocate memory of stag list area

## Meaning

Failed to acquire resources (memory).

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos TOF 5004 - *internal-information* Failed to allocate memory of qp manage area

## Meaning

Failed to acquire resources (memory).

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [ERR.] xos TOF 5005 - *internal-information* Failed to allocate memory of util aligned area

## Meaning

Failed to acquire resources (memory).

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

## Warning Message

---

### [WARN] xos TOF 6001 - *internal-information* Unexpected packet (different from cached fragment)

## Meaning

An unexpected packet was received. The packet that arrived has a different sequence number than the packet currently being received.

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 6002 - *internal-information* ACK received, but no match

## Meaning

An unexpected packet was received. The packet that arrived is the response for a packet not yet sent.

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 6003 - *internal-information* QP is not ready. (qpno = NUM1) tof\_ib\_tfap\_rcv\_locked. qp == NULL tlp = DATA1/DATA2/DATA3/DATA4/DATA5/DATA6/DATA7/DATA8

## Meaning

The QP is not in the active state.

The values of TLP is as follows. TLP is a packet that is forwarded over the Tofu network.

*NUM1*: QP number

*DATA1*: Bytes 0 to 7 of the tlp

*DATA2*: Bytes 8 to 15 of the tlp

*DATA3*: Bytes 16 to 23 of the tlp

*DATA4*: Bytes 24 to 31 of the tlp

*DATA5*: Bytes 32 to 39 of the tlp

*DATA6:* Bytes 40 to 47 of the tlp  
*DATA7:* Bytes 48 to 55 of the tlp  
*DATA8:* Bytes 56 to 63 of the tlp

#### Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

#### Note

The message after "...tof\_ib\_tfap\_rcv\_locked." may not be omitted.

---

**[WARN] xos TOF 6004 - *internal-information* Unexpected packet: lqjno=NUM1 rqpno=NUM2 node\_seqno=NUM3 packet\_seqno=NUM4**

#### Meaning

An unexpected packet was received. The packet that arrived has the unexpected sequence number.

*NUM1:* Local QP Number  
*NUM2:* Remote QP Number  
*NUM3:* Sequence number of the node  
*NUM4:* Sequence number of the receive packet

#### Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[WARN] xos TOF 6005 - *internal-information* No receive buffer. (qpno = NUM1, rcv\_seqno = NUM2, retry = NUM3)**

#### Meaning

No receive buffer has been secured.

*NUM1:* QP number  
*NUM2:* Sequence number of the receive packet  
*NUM3:* Receive packet retry count on the sender side

#### Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[WARN] xos TOF 6006 - *internal-information* Receive buffer is too small. (qpno = NUM1)**

#### Meaning

The receive buffer is smaller than the receive packet size.

*NUM1:* QP number

#### Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[WARN] xos TOF 6007 - *internal-information* No receive CQ**

## Meaning

Notification of receive completion cannot be sent because resources have been depleted.

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[WARN] xos TOF 6008 - *internal-information* Unexpected RDMA packet (qpno = NUM1)**

## Meaning

The RDMA packet was discarded because no QP had been secured.

*NUM1*: QP number

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[WARN] xos TOF 6009 - *internal-information* Unexpected RDMA packet. [seqno/retry unmatched] (mrq = DATA1/DATA2/DATA3/DATA4, ack = NUM1, retry = NUM2)**

## Meaning

An unexpected RDMA packet was received. The packet that arrived had an unexpected sequence number or retry count.

*DATA1*: Bytes 0 to 7 of the MRQ

*DATA2*: Bytes 8 to 15 of the MRQ

*DATA3*: Bytes 16 to 23 of the MRQ

*DATA4*: Bytes 24 to 31 of the MRQ

*NUM1*: Response packet number

*NUM2*: Expected retry count

## Action

No action is necessary. However, if this warning appears frequently, Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[WARN] xos TOF 6010 - *internal-information* Unexpected RDMA packet. [ID unmatched] (mrq = DATA1/DATA2/DATA3/DATA4)**

## Meaning

An unexpected packet was received. An unexpected TLP arrived. TLP is a packet that is forwarded over the Tofu network.

*DATA1*: Bytes 0 to 7 of the MRQ

*DATA2*: Bytes 8 to 15 of the MRQ

*DATA3*: Bytes 16 to 23 of the MRQ

*DATA4*: Bytes 24 to 31 of the MRQ

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[WARN] xos TOF 6011 - *internal-information* The number of connection to (DATA1, DATA2, DATA3, DATA4, DATA5, DATA6) reaches the limit**



## Meaning

Notification of receive completion cannot be sent because resources have been depleted.

*DATA1*: X coordinate  
*DATA2*: Y coordinate  
*DATA3*: Z coordinate  
*DATA4*: A coordinate  
*DATA5*: B coordinate  
*DATA6*: C coordinate

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[WARN] xos TOF 6012 - *internal-information* WC Underflow**

## Meaning

Notification of receive completion cannot be sent because resources have been depleted.

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[WARN] xos TOF 6013 - *internal-information* Cannot allocate STag**

## Meaning

The STag cannot be secured because there is no available steering provided for IB.

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[WARN] xos TOF 6014 - *internal-information* Unexpected route check packet (qno = NUM1)**

## Meaning

Route check packet sending failed.

*NUM1*: QP number

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **[WARN] xos TOF 6015 - *internal-information* Retry count error(wr\_id=NUM1, seqno=NUM2, retry=NUM3)**

## Meaning

Packet sending failed because the retry count reached the stipulated value.

*NUM1*: Request number  
*NUM2*: Sequence number  
*NUM3*: Retry count

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 6016 - *internal-information* Already received: ACK again

## Meaning

Responding again because the response to the received SEND command has failed.

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 6017 - *internal-information* tof\_ib\_wc\_put\_error start notify=NUM1

## Meaning

An error is set in the reception completion information. (Start of error setting process)

*NUM1*: Notification number

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 6018 - *internal-information* tof\_ib\_wc\_put\_error end notify=NUM1

## Meaning

An error is set in the reception completion information. (End of error setting process)

*NUM1*: Notification number

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 6019 - *internal-information* tof\_ib\_tfap\_rcv\_locked notify=NUM1

## Meaning

Could not receive TFAP packet.

*NUM1*: Notification number

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 6020 - *internal-information* tof\_ib\_modify\_qp\_err notify=NUM1

## Meaning

Failed to modify QP.

*NUM1*: Notification number

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 6021 - *internal-information* tof\_ib\_post\_send\_gsi notify=NUM1

## Meaning

Failed to post SEND GSI packet.

*NUM1*: Notification number

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 6022 - *internal-information* tof\_ib\_post\_rc\_send\_core notify=NUM1

## Meaning

Failed to post RC (SEND CORE) packet.

*NUM1*: Notification number

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 6023 - *internal-information* start wc index=NUM1 flg=NUM2 grh=NUM3 status=NUM4 opcode=NUM5 wr\_id=NUM6

## Meaning

Completion information (WC) at the time of failure.

*NUM1*: Index number

*NUM2*: Flag

*NUM3*: Path

*NUM4*: Status

*NUM5*: Opcode

*NUM6*: WR\_ID

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 6024 - *internal-information* wc\_index=NUM1 work wr\_id=NUM2 opcode=NUM3

## Meaning

Completion information (WC) that is set.

*NUM1*: Index number of WC

*NUM2*: WR\_ID

*NUM3*: Opcode

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 6025 - *internal-information* No CQ

## Meaning

There was no CQ to set the completion information.

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 6026 - *internal-information* Invalid header type=NUM1 index=NUM2 retry=NUM3 length=NUM4 lqyno=NUM5 rqpno=NUM6 seqno=NUM7 wc\_index=NUM8

## Meaning

The header content of the transmitted TFAP packet is invalid.

- NUM1: Type
- NUM2: Index number
- NUM3: Retry count
- NUM4: Length
- NUM5: Local QP number
- NUM6: Remote QP number
- NUM7: Sequence number
- NUM8: Index number of WC

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 6027 - *internal-information* tof\_ib\_tfap\_recv\_ack type=NUM1 index=NUM2 retry=NUM3 length=NUM4 lqyno=NUM5 rqpno=NUM6 seqno=NUM7 wc\_index=NUM8

## Meaning

Received ACK of TFAP packet. (Content of header)

- NUM1: Type
- NUM2: Index number
- NUM3: Retry count
- NUM4: Length
- NUM5: Local QP number
- NUM6: Remote QP number
- NUM7: Sequence number
- NUM8: Index number of WC

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### [WARN] xos TOF 6028 - *internal-information* tof\_ib\_tfap\_recv\_ack status == IB\_WC\_SUCCESS tlp = DATA1/DATA2/DATA3/DATA4/DATA5/DATA6/DATA7/DATA8

## Meaning

Received ACK of TFAP packet.

The values of TLP is as follows. TLP is a packet that is forwarded over the Tofu network.

*DATA1*: Bytes 0 to 7 of tlp  
*DATA2*: Bytes 8 to 15 of tlp  
*DATA3*: Bytes 16 to 23 of tlp  
*DATA4*: Bytes 24 to 31 of tlp  
*DATA5*: Bytes 32 to 39 of tlp  
*DATA6*: Bytes 40 to 47 of tlp  
*DATA7*: Bytes 48 to 55 of tlp  
*DATA8*: Bytes 56 to 63 of tlp

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[WARN] xos TOF 6029 - internal-information Unexpected packet. tlp = DATA1/DATA2/DATA3/DATA4/DATA5/DATA6/DATA7/DATA8**

## Meaning

An unexpected TFAP packet was received.

The values of TLP is as follows. TLP is a packet that is forwarded over the Tofu network.

*DATA1*: Bytes 0 to 7 of tlp  
*DATA2*: Bytes 8 to 15 of tlp  
*DATA3*: Bytes 16 to 23 of tlp  
*DATA4*: Bytes 24 to 31 of tlp  
*DATA5*: Bytes 32 to 39 of tlp  
*DATA6*: Bytes 40 to 47 of tlp  
*DATA7*: Bytes 48 to 55 of tlp  
*DATA8*: Bytes 56 to 63 of tlp

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[WARN] xos TOF 6030 - internal-information duplicated wr\_id NUM1 wc\_index=NUM2**

## Meaning

Duplicate WR\_ID was detected.

*NUM1*: WR\_ID  
*NUM2*: Index number of WC

## Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[WARN] xos TOF 6031 - internal-information tof\_ib\_post\_rc\_send\_core(wr\_id=NUM1, seqno=NUM2 retry=NUM3, target=(DATA1,DATA2,DATA3,DATA4,DATA5,DATA6), lqno=NUM4, rqno=NUM5)**

## Meaning

Post an RC (SEND CORE) packet.

*NUM1*: WR\_ID  
*NUM2*: Sequence number  
*NUM3*: Retry count  
*DATA1*: X coordinate  
*DATA2*: Y coordinate  
*DATA3*: X coordinate  
*DATA4*: A coordinate  
*DATA5*: B coordinate  
*DATA6*: C coordinate  
*NUM4*: Local QP number  
*NUM5*: Remote QP number

#### Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**[WARN] xos TOF 6032 - *internal-information* tof\_ib\_post\_rc\_rdma\_core(wr\_id=NUM1, seqno=NUM2 retry=NUM3, target=(DATA1,DATA2,DATA3,DATA4,DATA5,DATA6), lqyno=NUM4, rqpno=NUM5)**

#### Meaning

Post an RC (RDMA CORE) packet.

*NUM1*: WR\_ID  
*NUM2*: Sequence number  
*NUM3*: Retry count  
*DATA1*: X coordinate  
*DATA2*: Y coordinate  
*DATA3*: X coordinate  
*DATA4*: A coordinate  
*DATA5*: B coordinate  
*DATA6*: C coordinate  
*NUM4*: Local QP number  
*NUM5*: Remote QP number

#### Action

No action is necessary. However, if this warning appears frequently, collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

### Information Message

---

**[INFO] xos TOF 7001 - *internal-information* Updating the tof\_ib\_outstanding\_toq(NUM1)**

#### Meaning

The number of TOQs that can be issued consecutively has been updated.

*NUM1*: Allowable number of TOQs issued consecutively

#### Action

No action is necessary.

---

**[INFO] xos TOF 7002 - *internal-information* SG is not contiguous**

#### Meaning

The specified list of buffers is different from the scatter list specifications.

## Action

No action is necessary.

---

### [INFO] xos TOF 7003 - *internal-information* Too late

## Meaning

Timer monitoring ended already.

## Action

No action is necessary.

---

### [INFO] xos TOF 7004 "interrupt from *NUM*, IRR = *DATA* (Stage2 translation fault)" [INFO] xos TOF 7004 "interrupt from *NUM*, IRR = *DATA* (Payload Read/Write Exception fault)"

## Meaning

- The first message  
The TofuD driver has received an interrupt for Stage2 translation fault on a Tofu device.
- The second message  
The TofuD driver has received an interrupt for Payload Read/Write Exception on a Tofu device.

*NUM*: TNI number where the interrupt occurred.

*DATA*: IRR value of hex.

## Action

No action is necessary.

## B.8 Tofu Library (TOF) Messages

---

The Job Operation Software provides a Tofu library (component name: TOF) that performs the internal processing of Tofu interconnect communications. This section lists messages output by this Tofu library.

### Error Message

---

#### [ERR.] [TOF] 0001 Performing the Tofu communication again failed 3 times.(rank=*rank*)(ecode=*ecode*) (line=*line*)(jobid=*jobid*)

## Meaning

Tofu interconnect communication was retried and failed three times.

*rank*: Rank number

*ecode*: Error code

*line*: Line number of the source code of the Tofu library

*jobid*: Job ID

## Action

Submit the job again. After being resubmitted, the job is allocated to another node.

---

#### [ERR.] [TOF] 0002 There was no available path to perform a Tofu communication again.(rank=*rank*) (ecode=*ecode*)(line=*line*)(jobid=*jobid*)

## Meaning

No communication paths were available for retrying Tofu interconnect communication.

*rank*: Rank number

*ecode*: Error code

*line*: Line number of the source code of the Tofu library

*jobid*: Job ID

## Action

If automatic re-execution of the job is enabled, it is automatically re-queued. If automatic re-execution of the job is disabled for the job, submit the job again.

After being resubmitted, the job is executed on a node using another path that does not have any links down.

---

**[ERR.] [TOF] 0003 Performing the Tofu communication again failed because of time-out error.(rank=*rank*)(ecode=*ecode*)(line=*line*)(jobid=*jobid*)**

## Meaning

Tofu interconnect communication was retried and failed due to a timeout error.

*rank*: Rank number

*ecode*: Error code

*line*: Line number of the source code of the Tofu library

*jobid*: Job ID

## Action

Submit the job again. After being resubmitted, the job is allocated to another node.

## Information Message

---

**[INFO] [TOF] 0901 One of Tofu communication was performed again because a Tofu link-down had been detected.(rank=*rank*)(retry=*retry*)(line=*line*)(jobid=*jobid*)**

## Meaning

One of the Tofu interconnect communications was retried because a link was detected to be down.

*rank*: Rank number

*retry*: Retry count

*line*: Line number of the source code of the Tofu library

*jobid*: Job ID

## Action

No action is necessary. Processing continues.

---

**[INFO] [TOF] 0902 The Tofu library is searching for a path to perform a Tofu communication again.(rank=*rank*)(retry=*retry*)(line=*line*)(jobid=*jobid*)**

## Meaning

The Tofu library is searching for a path to retry Tofu interconnect communication.

*r rank*: Rank number

*retry*: Retry count

*line*: Line number of the source code of the Tofu library

*jobid*: Job ID

## Action

No action is necessary. Processing continues.

## B.9 Other Messages

---

Aside from Job Operation Software messages, messages regarding software, drivers, etc. installed on the system may be output to system logs.

This section describes messages regarding the software, drivers, etc. installed on the system and the actions to take for them.



## B.9.1 Kernel

---

The following messages are output during kernel boot. This manual describes FX server-specific messages. No action is necessary for these messages.

---

**psci: failed to boot CPU4 (-22)**  
**CPU4: failed to boot: -22**  
**CPU4: failed in unknown state : 0x0**  
**psci: failed to boot CPU5 (-22)**  
**CPU5: failed to boot: -22**  
**CPU5: failed in unknown state : 0x0**  
**psci: failed to boot CPU6 (-22)**  
**CPU6: failed to boot: -22**  
**CPU6: failed in unknown state : 0x0**  
**psci: failed to boot CPU7 (-22)**  
**CPU7: failed to boot: -22**  
**CPU7: failed in unknown state : 0x0**  
**psci: failed to boot CPU8 (-22)**  
**CPU8: failed to boot: -22**  
**CPU8: failed in unknown state : 0x0**  
**psci: failed to boot CPU9 (-22)**  
**CPU9: failed to boot: -22**  
**CPU9: failed in unknown state : 0x0**  
**psci: failed to boot CPU10 (-22)**  
**CPU10: failed to boot: -22**  
**CPU10: failed in unknown state : 0x0**  
**psci: failed to boot CPU11 (-22)**  
**CPU11: failed to boot: -22**  
**CPU11: failed in unknown state : 0x0**

### Meaning

An attempt to enable CPU4 to CPU11 failed. The FX server cannot use the CPU4 to CPU11 cores. Consequently, these messages are output every time the OS starts.

### Action

No action is necessary.

---

### **BUG: arch topology broken the MC domain not a subset of the DIE domain**

### Meaning

The NUMA topology configuration information has an inconsistency. The FX server uses the NUMA information in the ACPI table to virtually change the NUMA configuration. Consequently, the kernel detects a discrepancy when comparing that information with the information obtained from CPUs.

### Action

No action is necessary.

---

### **arm-smmu-v3 arm-smmu-v3. value.auto: failed to allocate MSIs**

### Meaning

MSI allocation to the SMMU failed. The MSIs cannot be used in the SMMU.

*value*: SMMU number

### Action

No action is necessary.

---

**OS logical core number to physical core number mapping information.**  
**OS Core#*value1* [NUMA Node#*value2* Core#*value3*]**

**Meaning**

The information maps physical core numbers (NUMA node numbers and core numbers in NUMA) to OS logical core numbers. Messages are displayed on lines beginning with "OS Core#*value...*" There are as many messages as the number of cores recognized by the OS.

*value1*: OS logical core number  
*value2*: NUMA node number  
*value3*: Core number in NUMA

**Action**

No action is necessary.

---

**ARCH\_DMA\_MINALIGN smaller than CTR\_EL0.CWG (128 < 256)**  
**WARNING: CPU: *value1* PID: *value2* at arch/arm64/mm/dma-mapping.c:510 arm64\_dma\_init+0x88/0x98**

**Meaning**

The cache line size value read from a CPU register does not match that defined in the kernel.

*Value1*: Detected CPU number  
*Value2*: Detected process ID number

**Action**

No action is necessary.

## **B.9.2 OFED Messages**

OFED supporting IB HCA cards is installed on the nodes that use InfiniBand (IB). Therefore, OFED-related messages may be output. OFED-related messages have the following format.

```
mlx5_core device: message-text
```

*device* is the output device identifier.

This section lists OFED messages.

---

**mlx5\_core device: Firmware over 2000 MS in initializing state, aborting**

**Meaning**

Loading of the adapter firmware for the HCA card failed.

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**mlx5\_core device: device's health compromised - reached miss count**

**Meaning**

A health check of the HCA card detected a device error.

**Action**

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

**mlx5\_core device: handling bad device here**

## Meaning

A health check of the HCA card detected a device error.

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **mlx5\_core device: command(opecode) timeout. Will cause a leak of a command resource**

## Meaning

An HCA command timeout was detected.

*command:* HCA command

*opecode:* Operation code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **mlx5\_core device: command failed, op command(opecode), status status(statuscode)**

## Meaning

An HCA command status error was detected.

*command:* HCA command

*opecode:* Operation code

*status:* Status

*statuscode:* Status code

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **mlx5\_core device: link down event detected on port portno**

## Meaning

An IB port link was detected as being down.

*portno:* Port number

## Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.

---

### **mlx5\_core device: link up event detected on port portno**

## Meaning

An IB port link is now up.

*portno:* Port number

## Action

No action is necessary.

---

### **mlx5\_core device: link width degradation detected on port portno (current:width speed)**

## Meaning

A reduced IB port bandwidth was detected.

*portno*: Port number  
*width*: Link width  
*speed*: Link speed

#### Action

Collect investigation data according to the "Job Operation Software Administrator's Guide for Maintenance," and then contact a Fujitsu systems engineer (SE) or Fujitsu Support Desk with the collected data together with the output message.