



**EXPRESSCLUSTER X SingleServerSafe
4.2 for Windows
Operation Guide**
Release 1

NEC Corporation

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1.1 Who Should Use This Guide

The *Operation Guide* is intended for system administrators who will operate and maintain an introduced system. It describes how to operate EXPRESSCLUSTER X SingleServerSafe.

1.2 How This Guide Is Organized

- *2. EXPRESSCLUSTER X SingleServerSafe command reference*: Describes the usable commands in EXPRESSCLUSTER X SingleServerSafe.
- *3. Notes and restrictions*: Provides information on known problems and restrictions.
- *4. Error messages*: Lists and describes error messages you might encounter when operating EXPRESSCLUSTER X SingleServerSafe.

1.3 Terms Used in This Guide

EXPRESSCLUSTER X SingleServerSafe, which is described in this guide, uses windows and commands common to those of the clustering software EXPRESSCLUSTER X to ensure high compatibility with EXPRESSCLUSTER X in terms of operation and other aspects. Therefore, cluster-related terms are used in parts of the guide.

The terms used in this guide are defined below.

Cluster, cluster system A single server system using EXPRESSCLUSTER X SingleServerSafe

Cluster shutdown, reboot Shutdown or reboot of a system using EXPRESSCLUSTER X SingleServerSafe

Cluster resource A resource used in EXPRESSCLUSTER X SingleServerSafe

Cluster object A resource object used in EXPRESSCLUSTER X SingleServerSafe

Failover group A group of group resources (such as applications and services) used in EXPRESSCLUSTER X SingleServerSafe

1.4 EXPRESSCLUSTER X SingleServerSafe Documentation Set

The EXPRESSCLUSTER X SingleServerSafe manuals consist of the four guides below. The title and purpose of each guide is described below:

EXPRESSCLUSTER X SingleServerSafe Installation Guide

This guide is intended for system engineers who intend to introduce a system using EXPRESSCLUSTER X SingleServerSafe and describes how to install EXPRESSCLUSTER X SingleServerSafe.

EXPRESSCLUSTER X SingleServerSafe Configuration Guide

This guide is intended for system engineers who intend to introduce a system using EXPRESSCLUSTER X SingleServerSafe and system administrators who will operate and maintain the introduced system. It describes how to set up EXPRESSCLUSTER X SingleServerSafe.

EXPRESSCLUSTER X SingleServerSafe Operation Guide

This guide is intended for system administrators who will operate and maintain an introduced system that uses EXPRESSCLUSTER X SingleServerSafe. It describes how to operate EXPRESSCLUSTER X SingleServerSafe.

EXPRESSCLUSTER X SingleServerSafe Legacy Feature Guide

This guide is intended for system engineers who want to introduce systems using EXPRESSCLUSTER X SingleServerSafe and describes EXPRESSCLUSTER X SingleServerSafe 4.0 WebManager and Builder.

1.5 Conventions

In this guide, **Note**, **Important**, **See also** are used as follows:

Note: Used when the information given is important, but not related to the data loss and damage to the system and machine.

Important: Used when the information given is necessary to avoid the data loss and damage to the system and machine.

See also:

Used to describe the location of the information given at the reference destination.

The following conventions are used in this guide.

Convention	Usage	Example
Bold	Indicates graphical objects, such as fields, list boxes, menu selections, buttons, labels, icons, etc.	In User Name, type your name. On the File menu, click Open Database.
Angled bracket within the command line	Indicates that the value specified inside of the angled bracket can be omitted.	<code>clpstat -s [-h <i>host_name</i>]</code>

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Table 1.1 – continued from previous page

Convention	Usage	Example
Monospace (courier)	Indicates path names, commands, system output (message, prompt, etc), directory, file names, functions and parameters.	c:\Program files\ EXPRESSCLUSTER
Monospace (courier)	Indicates the value that a user actually enters from a command line.	Enter the following: clpcl -s -a
<i>Monospace italic</i> (courier)	Indicates that users should replace italicized part with values that they are actually working with.	clpstat -s [-h <i>host_name</i>]

1.6 Contacting NEC

For the latest product information, visit our website below:

<https://www.nec.com/global/prod/expresscluster/>

EXPRESSCLUSTER X SINGLESERVERSAFE COMMAND REFERENCE

This chapter describes the commands available with EXPRESSCLUSTER X SingleServerSafe.

EXPRESSCLUSTER X SingleServerSafe uses commands common to those of the clustering software EXPRESSCLUSTER X to ensure high compatibility with EXPRESSCLUSTER X in terms of operation and other aspects.

This chapter covers:

- 2.1. *Operating the cluster from the command line*
- 2.2. *EXPRESSCLUSTER commands*
- 2.3. *Displaying the status (clpstat command)*
- 2.4. *Operating the service (clppl command)*
- 2.5. *Shutting down the server (clpstdn command)*
- 2.6. *Operating groups (clpgrp command)*
- 2.7. *Collecting logs (clplogcc command)*
- 2.8. *Applying and backing up configuration data (clpcfctrl command)*
- 2.9. *Adjusting time-out temporarily (clptoratio command)*
- 2.10. *Modifying the log level and size (clplogcf command)*
- 2.11. *Managing licenses (clplcncs command)*
- 2.12. *Outputting messages (clplogcmd command)*
- 2.13. *Controlling monitor resources (clpmonctrl command)*
- 2.14. *Controlling group resources (clprsc command)*
- 2.15. *Controlling CPU frequency (clpcpufreq command)*
- 2.16. *Processing inter-cluster linkage (clptrnreq command)*
- 2.17. *Requesting processing to cluster servers (clprexec command)*
- 2.18. *Controlling reboot count (clpregctrl command)*
- 2.19. *Estimating the amount of resource usage (clpprer command)*
- 2.20. *Checking the process health (clphealthchk command)*
- 2.21. *Setting an action for OS shutdown initiated by other than cluster service (clpstdncnf command)*
- 2.22. *Displaying the cluster statistics information (clpperfc command)*
- 2.23. *Checking the cluster configuration information (clpcfchk command)*

2.1 Operating the cluster from the command line

EXPRESSCLUSTER X SingleServerSafe provides various commands for performing operations from the command prompt. These commands are useful in such cases as when you are setting up a cluster or cannot use the Cluster WebUI. You can perform a greater number of operations by using the command line than by using the Cluster WebUI.

Note: If the monitor resource detects an error when you have specified a group resource (such as an application resource) as a recovery target in the settings for error detection by a monitor resource, do not perform the following control operations for any service or group by using a command or the Cluster WebUI during recovery (reactivation -> final action).

- Stopping or suspending a service
- Starting or stopping a group

If you perform the above-mentioned operations while recovery caused by detection of an error by a monitor resource is in progress, other group resources of the group with an error may not stop. However, you can perform them when the final action is completed.

2.2 EXPRESSCLUSTER commands

- Commands for construction

Command	Explanation	Refer to
clpcfctrl.exe	Applies the configuration data created by the Cluster WebUI to servers. Backs up the configuration data to be used by the Cluster WebUI.	<i>2.8. Applying and backing up configuration data (clpcfctrl command)</i>
clplcns.exe	Manages the product or trial version license of this product.	<i>2.11. Managing licenses (clplcns command)</i>
clpcfchk.exe	Checks cluster configuration data.	<i>2.23. Checking the cluster configuration information (clpcfchk command)</i>

- Commands for showing status

Command	Explanation	Refer to
clpstat.exe	Displays the status and configuration data of EXPRESSCLUSTER X SingleServerSafe.	<i>2.3. Displaying the status (clpstat command)</i>
clphealthchk.exe	Check the process health.	<i>2.20. Checking the process health (clphealthchk command)</i>

- Commands for operation

Command	Explanation	Refer to
clpcl.exe	Starts, stops, suspends, or resumes the service.	2.4. <i>Operating the service (clpcl command)</i>
clpstdn.exe	Stops the service and shuts down a server.	2.5. <i>Shutting down the server (clpstdn command)</i>
clpgrp.exe	Starts and stops groups.	2.6. <i>Operating groups (clpgrp command)</i>
clptoratio.exe	Extends or displays the timeout values.	2.9. <i>Adjusting time-out temporarily (clptoratio command)</i>
clpmonctrl.exe	Suspends or resumes monitor resources.	2.13. <i>Controlling monitor resources (clpmonctrl command)</i>
clprsc.exe	Suspends or resumes group resources.	2.14. <i>Controlling group resources (clprsc command)</i>
clpcpufreq.exe	Controls CPU frequency.	2.15. <i>Controlling CPU frequency (clpcpufreq command)</i>
clprexec.exe	Requests a server to execute a process.	2.17. <i>Requesting processing to cluster servers (clprexec command)</i>
clpregctrl.exe	Controls the reboot count limitation.	2.18. <i>Controlling reboot count (clpregctrl command)</i>

- Commands for logs

Command	Explanation	Refer to
clplogcc.exe	Collects logs and OS information.	2.7. <i>Collecting logs (clplogcc command)</i>
clplogcf.exe	Changes and displays the log level and log output file size.	2.10. <i>Modifying the log level and size (clplogcf command)</i>
clpperfc.exe	Displays cluster statistical information on a group or a monitor resource.	2.22. <i>Displaying the cluster statistics information (clpperfc command)</i>

- Commands for scripts

Command	Explanation	Refer to
clplogcmd.exe	Write this command in the script resource script to output messages to any destination.	2.12. <i>Outputting messages (clplogcmd command)</i>

Important: The installation directory contains executable files and script files that are not listed in this guide. Do not execute these files by using any program other than EXPRESSCLUSTER X SingleServerSafe. Any problems caused by not using EXPRESSCLUSTER will not be supported.

- System monitor-related commands (when the System Resource Agent is used)

Command	Explanation	Refer to
clpprer.exe	Estimates the future value from the tendency of the given resource use amount data.	2.19. <i>Estimating the amount of resource usage (clpprer command)</i>

2.3 Displaying the status (clpstat command)

Displays the status and configuration data of EXPRESSCLUSTER X SingleServerSafe.

Command line

```
clpstat -s [--long]
clpstat -g
clpstat -m
clpstat -i [--detail]
clpstat --cl [--detail]
clpstat --sv [--detail]
clpstat --grp [<grpname>] [--detail]
clpstat --rsc [<rscname>] [--detail]
clpstat --mon [<monname>] [--detail]
```

Description

Displays the status and configuration data of EXPRESSCLUSTER X SingleServerSafe.

Option

-s

None

Displays the status.

--long

Displays a name of the cluster name and resource name until the end.

-g

Displays groups.

-m

Displays the status of each monitor resource.

-i

Displays the overall configuration data.

--cl

Displays the configuration data.

--sv

Displays the server configuration information.

--grp [<grpname>]

Displays server group configuration information. By specifying the name of a server group, you can display only the information on the specified server group.

--rsc [<rscname>]

Displays group resource configuration information. By specifying the name of a group resource, you can display only the information on the specified group resource.

--mon [<monname>]

Displays monitor resource configuration information. By specifying the name of a monitor resource, you can display only the information on the specified monitor resource.

--detail

Displays more detailed information on the setting.

Return Value

0	Success
251	Double Activation
Other than the above	Failure

Remarks

According to the combination of options, configuration information shows information in various forms.

Notes

Run this command as a user with Administrator privileges .

The EXPRESSCLUSTER service must be activated on the server where you run this command.

When you run the clpstat command with the -s option or without any option, names such as a cluster or a resource will not be displayed halfway .

Error Messages

Message	Cause/Solution
Log in as administrator.	Log in as a user with Administrator privileges.
Invalid configuration file. Create valid cluster configuration data.	Create valid cluster configuration data by using the Cluster WebUI.
Invalid option.	Specify a valid option.
Could not connect to the server. Check if the cluster service is active	Check if the EXPRESSCLUSTER service is operating.
Invalid server status.	Check if the EXPRESSCLUSTER service is operating.
Server is not active. Check if the cluster service is active.	Check if the EXPRESSCLUSTER service is operating.
Invalid server name. Specify a valid server name in the cluster.	Specify the valid server name in the cluster.
Invalid heartbeat resource name. Specify a valid heartbeat resource name in the cluster.	Specify the valid heart beat resource name in the cluster.
Invalid network partition resource name. Specify a valid network partition resource name in the cluster.	Specify the valid network partition resolution resource name in the cluster.
Invalid group name. Specify a valid group name in the cluster.	Specify the valid name of a group in the cluster.
Invalid group resource name. Specify a valid group resource name in the cluster.	Specify the valid name of a group resource in the cluster.
Invalid monitor resource name. Specify a valid monitor resource name in the cluster.	Specify the valid name of a monitor resource in the cluster.
Connection was lost. Check if there is a server where the cluster service is stopped in the cluster.	Check if there is any server on which the EXPRESSCLUSTER service has stopped in the cluster.
Invalid parameter.	An invalid value may be specified to command argument.

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Table 2.7 – continued from previous page

Message	Cause/Solution
Internal communication timeout has occurred in the cluster server. If it occurs frequently, set a longer timeout.	A time-out occurred in the EXPRESSCLUSTER internal communication. If time-out keeps occurring, set the internal communication time-out longer.
Internal error. Check if memory or OS resources are sufficient.	Check if the memory or OS resource is sufficient.
The cluster is not created.	Create and apply the cluster configuration data.
Could not connect to the server. Internal error. Check if memory or OS resources are sufficient.	Check to see if the memory or OS resource is sufficient.
Cluster is stopped. Check if the cluster daemon is active.	Check if the cluster daemon is activated.
Cluster is suspended. To display the cluster status, use --local option.	Cluster is suspended. To display the cluster status, use --local option.

2.4 Operating the service (clpcl command)

Operates the EXPRESSCLUSTER service.

Command line

```
clpcl -s  
clpcl -t [-w <timeout>] [--apito <timeout>]  
clpcl -r [-w <timeout>] [--apito <timeout>]  
clpcl --return [--apito <timeout>]  
clpcl --suspend [--force] [-w <timeout>] [--apito <timeout>]  
clpcl --resume
```

Description

This command starts, stops, restarts, suspends, or resumes the EXPRESSCLUSTER service.

Option

-s
Starts the EXPRESSCLUSTER service.

-t
Stops the EXPRESSCLUSTER service.

-r
Restarts the EXPRESSCLUSTER service.

--return
Returns the EXPRESSCLUSTER service.

--suspend
Suspends the EXPRESSCLUSTER service.

--resume
Resumes the EXPRESSCLUSTER service.

-w <timeout>

When **-t**, **-r**, or **--suspend** option is used, specify the wait time in seconds that the **clpcl** command waits for the EXPRESSCLUSTER service to be completely stopped or suspended.

When *timeout* is not specified, it waits for unlimited time.

When "0" is specified for *timeout*, the command does not wait at all.

When the **-w** option is not specified (default), the command waits for twice the heartbeat timeout time (in seconds).

--force

When used with the **--suspend** option, this option forcefully suspends the service regardless of the server status.

--apito timeout

Specify the time in seconds to wait for the EXPRESSCLUSTER service to be stopped, restarted, or suspended (internal communication timeout). A value between 1 to 9999 can be specified.

When the **--apito** option is not specified, the command waits according to the value set for the internal communication timeout in the cluster property.

Return Value

0	Success
Other than 0	Failure

Remarks

When this command is executed with the **-s** or **--resume** option specified, it returns control when processing starts on the target server.

When this command is executed with the **-t** or **--suspend** option specified, it returns control after waiting for the processing to complete.

When this command is executed with the **-r** option specified, it returns control when the EXPRESSCLUSTER daemon restarts on the target server after stopping once.

Run the **clpstat** command to display the started or resumed status of the EXPRESSCLUSTER daemon.

Notes

This command must be executed by a user with the administrator privilege.

This command cannot be executed while a group is being started or stopped.

Before you suspend the EXPRESSCLUSTER service, the service must be running.

Before you resume the EXPRESSCLUSTER service, use the **clpstat** command to make sure that the service is not running.

- Suspend and Resume

When you want to update the configuration data or EXPRESSCLUSTER X SingleServerSafe, you can stop the EXPRESSCLUSTER service while continuing the operation. This status is called the *suspended status*.

Returning from the suspended status to normal status is called "resume."

The suspend and resume operations request processing of the server. The EXPRESSCLUSTER service must be active when you execute a suspend operation.

The following functions stop when the cluster is suspended because the EXPRESSCLUSTER service stops while active resources stay active.

- All monitor resources stop.
- You cannot perform operations on groups or group resources (start/stop).
- You cannot display or change the status by using the Cluster WebUI or clpstat command.
- The following commands are disabled:
 - * clpstat
 - * clpcl options other than --resume
 - * clpstdn
 - * clpgrp
 - * clptoratio
 - * clpmonctrl

Error Messages

Message	Cause/Solution
Log in as administrator.	Log in as a user with Administrator privileges.
Invalid configuration file. Create valid cluster configuration data.	Create valid cluster configuration data using the Cluster WebUI.
Invalid option.	Specify a valid option
Performed stop processing to the stopped cluster service.	The stopping process has been executed to the stopped EXPRESSCLUSTER service.
Performed startup processing to the active cluster service.	The startup process has been executed to the activated EXPRESSCLUSTER service.
Command timeout.	The command timed out.
Failed to return the server. Check the status of failed server.	Failed to return the server. Check the status of the failed server.
Could not connect to the server. Check if the cluster service is active.	Check if the EXPRESSCLUSTER service is activated.
Failed to obtain the list of nodes. Specify a valid server name in the cluster.	Specify the valid name of a server in the cluster.
Failed to obtain the service name.	Failed to obtain the service name.
Failed to operate the service.	Failed to operate the service.
Resumed the cluster service that is not suspended.	Resumed the EXPRESSCLUSTER service that is not suspended.
invalid server status.	Check if the EXPRESSCLUSTER service is activated.
Server is busy. Check if this command is already run.	This command may be run already. Check it.
Server is not active. Check if the cluster service is active.	Check if the EXPRESSCLUSTER service is activated.
There is one or more servers of which cluster service is active. If you want to perform resume, check if there is any server whose cluster service is active in the cluster.	When you execute the command to resume, check if there is no server in the cluster on which the EXPRESSCLUSTER service is activated.

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Table 2.8 – continued from previous page

Message	Cause/Solution
All servers must be activated. When suspending the server, the cluster service need to be active on all servers in the cluster.	When you execute the command to suspend, the EXPRESSCLUSTER service must be activated in all servers in the cluster.
Resume the server because there is one or more suspended servers in the cluster.	Execute the command to resume because some server(s) in the cluster is suspended.
Invalid server name. Specify a valid server name in the cluster.	Specify the valid name of a server in the cluster.
Connection was lost. Check if there is a server where the cluster service is stopped in the cluster.	Check if there is any server on which the EXPRESSCLUSTER service has stopped in the cluster.
invalid parameter.	The value specified as a command parameter may be invalid.
Internal communication timeout has occurred in the cluster server. If it occurs frequently, set the longer timeout.	A timeout occurred in the EXPRESSCLUSTER internal communication. If time-out keeps occurring, set the internal communication time-out longer.
Processing failed on some servers. Check the status of failed servers.	If stopping process is executed to all servers, there is one or more servers on which the stopping process has failed. Check the status of the server(s) on which the stopping process has failed.
Internal error. Check if memory or OS resources are sufficient.	Check if the memory or OS resource is sufficient.

2.5 Shutting down the server (clpstdn command)

Shuts down the server.

Command line

clpstdn [-r]

Description

This command stops the EXPRESSCLUSTER service of the server and shuts down all servers.

Option

None

Servers are shut down.

-r

Shuts down and then reboots servers.

Return Value

0	Success
Other than 0	Failure

Remarks

This command returns control when the group stop processing is completed.

Notes

This command must be executed by a user with the administrator privilege.
This command cannot be executed while a group is being started or stopped.

Error messages

See "*Operating the service (clpcl command)*".

2.6 Operating groups (clpgrp command)

Operates groups.

Command line

```
clpgrp -s [<grpname>] [--apito timeout]  
clpgrp -t [<grpname>] [--apito timeout]
```

Description

Starts and stops groups.

Option

- s** [<grpname>]
When you specify the name of a group for *grpnam*, only the specified group starts up. If no group name is specified, all groups start up.
- t** [<grpname>]
When you specify the name of a group for *grpname*, only the specified group stops. If no group name is specified, all groups stop.
- apito** timeout

Specify the time in seconds to wait for groups to be started, stopped(internal communication timeout). A value between 1 to 9999 can be specified.

When the --apito option is not specified, the command waits according to the value set for the internal communication timeout in the cluster property.

Return Value

0	Success
Other than 0	Failure

Notes

This command must be executed by a user with the administrator privilege.
The EXPRESSCLUSTER service must be running.

Error messages

Message	Cause/Solution
Log in as administrator.	Log in as a user with Administrator privileges.
Invalid configuration data. Create valid cluster configuration data.	Create valid cluster configuration data using the Cluster WebUI.
Invalid option.	Specify a valid option.
Could not connect to the server. Check if the cluster service is active.	Check if the EXPRESSCLUSTER service is operating.
Invalid server status. Check if the cluster service is active.	Check if the EXPRESSCLUSTER service is operating.
Server is not active. Check if the cluster service is active.	Check if the EXPRESSCLUSTER .service is operating.
Invalid server name. Specify a valid server name in the cluster.	Specify the valid server name in the cluster.
Connection was lost. Check if there is a server where the cluster service is stopped in the cluster.	Check if there is any server on which the EXPRESSCLUSTER service has stopped in the cluster.
Invalid parameter.	The value specified as a command parameter may be invalid.
Internal communication timeout has occurred in the cluster server. If it occurs frequently, set a longer timeout.	A time-out occurred in the EXPRESSCLUSTER internal communication. If time-out keeps occurring, set the internal communication time-out longer.
Invalid server. Specify a server that can run and stop the group, or a server that can be a target when you move the group.	Server that starts and stops the group or to which the group is moved is invalid. Specify a valid server.
Could not start the group. Try it again after the other server is started, or after the Wait Synchronization time is timed out.	Start up the group after waiting for the remote server to start up, or after waiting for the timeout of the start-up wait time.
No operable group exists in the server.	Check if there is any group that is operable in the server which requested the process.
The group has already been started on the local server.	Check the status of the group by using the Cluster WebUI or the clpstat command.
The group has already been started on the other server. To start/stop the group on the local server, use -f option.	Check the status of the group by using the Cluster WebUI or the clpstat command. If you want to start up or stop a group which was started in a remote server from the local server, move the group or run the command with the -f option.
The group has already been stopped.	Check the status of the group by using the Cluster WebUI or the clpstat command.
Failed to start one or more resources. Check the status of group.	Check the status of group by using the Cluster WebUI or the clpstat command.
Failed to stop one or more resources. Check the status of group.	Check the status of group by using the Cluster WebUI or the clpstat command.
The group is busy. Try again later.	The group is now being started or stopped. Wait for a while and try again.

Continued on next page

Table 2.9 – continued from previous page

Message	Cause/Solution
An error occurred on one or more groups. Check the status of group.	Check the status of the group by using the Cluster WebUI or the clpstat command.
Invalid group name. Specify a valid group name in the cluster.	Specify the valid name of a group in the cluster.
Server is isolated.	The server has been suspended. The server is re-booted after it went down.
Some invalid status. Check the status of cluster.	The status is invalid. Check the status of the cluster.
Log in as administrator.	Check if the memory or OS resource is sufficient.
Failed to migrate the group.	If the -l option is used, check whether the type of the specified group is "virtualmachine".
The specified group cannot be migrated.	Check the status of the group.
The specified group is not vm group.	Check if the type of the group is set to the virtual machine.
Migration resource does not exist.	Check if the virtual machine resource exists in the group.
Migration resource is not online.	Check if the virtual machine resource has already started.
Server is not in a condition to start group. Critical monitor error is detected.	Check the status of each server.
There is no appropriate destination for the group. Critical monitor error is detected.	Check the status of each server.

2.7 Collecting logs (clplogcc command)

Collects logs.

Command line

```
clplogcc [-t collect_type] [-o path] [--local] [--evt event_type ...]
```

Description

Collects logs and OS information.

Option

None

Logs are collected.

-t *collect_type*

Specifies a log collection pattern. When this option is omitted, a log collection pattern will be type 1.

-o *path*

Specifies the output destination of collector files. When this option is omitted, logs are output under tmp of the installation path.

--local

Collects logs on the local server without going through the data transfer server.

--evt *event_type*

Specifies the type of the event log to be collected.

When this option is skipped, application logs, system logs and security logs will be collected.

If you specify none, no event log is collected.

This option is enabled only when [--local] option is specified.
For details, see "2.7.3. *Specifying a event log type to collect (--evt option)*".

Return Value

0	Success
Other than 0	Failure

Remarks

Because log files are compressed in the zip format, decompress them by using an appropriate application.

Notes

Run this command as a user with Administrator privileges.

Execution Result

For this command, the following processes are displayed:

Steps in Process	Explanation
Preparing	Initializing
Connecting	Connecting to the server
Compressing	Compressing log files
Transmitting	Sending log files
Disconnecting	Disconnecting from the server
Completion	Finished collecting logs

The following results (server status) are displayed:

Result (server status)	Explanation
Normal	Completed successfully
Canceled	Canceled by the user
Invalid Parameters	Parameters are invalid
Compression Error	There was an error while compressing files.
Communication Error	There was a communication error.
Timeout	Timeout occurred.
Busy	The server is busy.
No Free Space	No free space on the disk.
File I/O Error	There was a file I/O error.
Unknown Error	Failure caused by other errors

Error messages

Message	Cause/Solution
Log in as administrator.	Log in as a user with Administrator privileges.
Invalid option.	Specify a valid option.
Collect type must be specified 'type1' or 'type2' or 'type3' or 'type4' or 'type5' or 'type6'. Incorrect collection type is specified.	Invalid collection type is specified.
Specifiable number of servers are the max number of servers that can constitute a cluster.	The number of servers you can specify is within the maximum number of servers for cluster configuration.
Failed to obtain properties.	Failed to obtain the properties.

Continued on next page

Table 2.12 – continued from previous page

Message	Cause/Solution
Failed to obtain the list of nodes. Specify a valid server name in the cluster.	Specify the valid name of a server in the cluster.
Invalid server name. Specify a valid server name in the cluster.	Specify the invalid server name in the cluster.
Failed to collect log.	Failed to collect logs.
Server is busy. Check if this command is already run.	This command may be run already. Check it.
Internal error. Check if memory or OS resources are sufficient.	Check if the memory or OS resource is sufficient.

2.7.1 Collecting logs by specifying a type (-t option)

To collect only the specified types of logs, run the clplogcc command with the -t option. Specify a type from 1 through 6 for the log collection.

	Type1	Type2	Type3	Type4	Type5	Type6
(1) Default collection information	y	y	y	n	n	n
(2) Event log	y	y	y	y	n	n
(3) Windows Error Report	y	y	y	y	n	n
(4) User dump	y	y	n	n	n	n
(5) Diagnostics report	y	y	n	n	n	n
(6) Registry	y	y	y	n	n	n
(7) Scripts	y	y	y	n	n	n
(8) Logs of ESM-PRO/AC and ESM-PRO/UPSC	y	y	y	n	n	n
(9) Logs of HA	n	y	n	n	n	n
(10) Mirror Statistics	n	n	n	n	n	n

Continued on next page

Table 2.13 – continued from previous page

	Type1	Type2	Type3	Type4	Type5	Type6
(11) Cluster Statistics	n	n	n	n	n	y
(12) System statistics	y	y	y	n	n	y

(y: yes, n: no)

Run this command from the command line as follows.

Example: When collecting logs using type 2

```
# clplogcc -t type2
```

When no option is specified, a log type will be type 1.

Information to be collected by default

- Logs of each module in the EXPRESSCLUSTER Server
- Attribute information on each module (dir) in the EXPRESSCLUSTER Server
 - In bin
 - In alert\bin , In webmgr\bin
 - In %SystemRoot%\system32\drivers
- EXPRESSCLUSTER X SingleServerSafe version information
- OS information
- Update log
- License Information
- Configuration file
- Policy file
- Shared memory dump
- Local node status of EXPRESSCLUSTER (clpstat --local execution result)
- Host name and domain name information (hostname execution result)
- Network information (netstat execution result)
- IP routing table information (route print execution result)
- Process existing status (tasklist execution result)
- ipconfig (ipconfig execution result)
- Shared configuration of files (net share execution result)
- Session information (net session execution result)
- Windows firewall settings (netsh execution result)
- SNP (Scalable Networking Pack) setting (netsh execution result)

- Task schedule settings (schtasks execution result)

Event log

- Application log (AppEvent.Evt, Application.evtx, Application.txt)
- System log (SysEvent.Evt, System.evtx, System.txt)
- Security log (SecEvent.Evt, Security.evtx, Security.txt)

Windows Error Report

- `***.wer`

User dump

- `***.dmp`

Diagnostics report

- The result of running `msinfo32.exe`

Registry

- Registry information of the EXPRESSCLUSTER Server
 - `HKLM\SOFTWARE\NEC\EXPRESSCLUSTER\Alert`
 - `HKLM\SOFTWARE\NEC\EXPRESSCLUSTER\MirrorList`
 - `HKLM\SOFTWARE\NEC\EXPRESSCLUSTER\RC`
 - `HKLM\SOFTWARE\NEC\EXPRESSCLUSTER\VCOM`
 - Registry information of `diskflt`
- Registry information of OS
 - `HKLM\SYSTEM\CurrentControlSet\Services\Disk`
 - `HKLM\SYSTEM\CurrentControlSet\Control\Session Manager\DOS Devices`
 - `HKLM\SYSTEM\MountedDevices`
 - `HKLM\SYSTEM\CurrentControlSet\Enum\SCSI`
 - `HKLM\SYSTEM\CurrentControlSet\Enum\STORAGE`
 - `HKLM\SYSTEM\CurrentControlSet\Services\symc8xx`
 - `HKLM\SYSTEM\CurrentControlSet\Control\FileSystem`

Scripts

Start/stop script for a group that was created with the Cluster WebUI.

If you specify a user-defined script, it is not included in the log collection information. It must be collected separately.

ESMPRO/AC and ESMPRO/UPSC logs

Files collected by running the `acupslog.exe` command

HA logs

- System resource information
- JVM monitor log
- System monitor log

Mirror Statistics

This version does not collect.

Cluster Statistics

- Cluster Statistics
 - In `perf\cluster`

System statistics

- System statistics
 - In `perf\system`

2.7.2 Output paths of log files (-o option)

- Log file is named and saved as `server_name-log.zip`.
- Because log files are compressed in the zip format, decompress them by using an appropriate application.

If not specifying -o option

Logs are output in tmp of installation path.

When the -o option is specified:

If you run the command as follows, logs are located in the specified `c:\tmp` directory.

```
# clplogcc -o C:\tmp
```

2.7.3 Specifying an event log type to collect (--evt option)

You can specify the type of the event log included in the information obtained at the log collection. Specify one or more text strings that represent event log types as shown in the following table after `[--evt]` option.

Event log type	Character string to specify
Application log	app
System log	sys
Security log	sec
No event log to be collected	none

Example) Collecting the system log and the security log

```
# clplogcc --local --evt sys sec
```

- This option is enabled only when the `[--local]` option is specified.

2.7.4 Collecting information on emergency OS shutdown

The OS resource information is collected when the EXPRESSCLUSTER service fails due to termination by an internal status error or a similar problem.

Information to be collected is as follows:

- Server information
 - Some module logs in EXPRESSCLUSTER servers
- Information created by running a command
 - Host name and domain name information (hostname execution result)
 - Network information (netstat execution result)
 - Process existing status (tasklist execution result)
 - ipconfig (ipconfig execution result)
 - Shared configuration of files (net share execution result)
 - Session information (net session execution result)

These are collected by default in the log collection. You do not need to collect them separately.

2.8 Applying and backing up configuration data (clpcfctrl command)

2.8.1 Applying configuration data (clpcfctrl --push)

Applies the configuration data to servers.

Command line

```
clpcfctrl --push [-w] [-x <path>] [-p <portnumber>] [--nocheck]
```

Description

Applies the configuration data created by the Cluster WebUI to servers.

Option

--push

Specify this option when applying the data.
This option cannot be omitted.

-x

Specify this option to apply the configuration data in the specified directory.

-w

Indicates that SJIS encoding is used for the configuration data file.
In general, it is not necessary to specify this option

-p

Specifies the number of the port used to transfer data.

When this option is omitted, the default value is used. In general, it is not necessary to specify this option.

--nocheck

Omits the check on the operation necessary to apply changes.

Return Value

0	Success
Other than 0	Failure

Notes

Run this command as a user with Administrator privileges.

When the configuration data is applied, the current configuration data is compared with the configuration data to be applied.

If there is any change in the configuration data, the following message output. After operating the service or group by following the instructions in the message, execute the command again.

Message	Solution
Please stop EXPRESSCLUSTER Server.	Stop the server.
Please suspend EXPRESSCLUSTER Server.	Suspend the server.
Please stop the following groups.	Stop the group for which the setting has been changed.
Reboot of a cluster is necessary to reflect setting.	Shut down and reboot the cluster to apply the change of settings.
To apply the changes you made, restart the EXPRESSCLUSTER Web Alert service.	Restart the Web Alert service to apply the change of settings.
To apply the changes you made, restart the EXPRESSCLUSTER Manager service.	Restart the EXPRESSCLUSTER Manager service to apply the change of settings.
Start of a cluster is necessary to reflect setting.	This is the message displayed at the initial cluster configuration. Start the cluster.

The --nocheck option is used only for special purposes including a maintenance procedure. Do not use the --nocheck option for normal operations.

Error messages

Message	Cause/Solution
Log in as administrator.	Log in as a user with Administrator privileges.
This command is already run.	This command has already been run.
invalid option.	This option is invalid. Check the option.
Invalid mode. Check if --push or --pull option is specified.	Check if --push is specified.
Invalid host name. Server specified by -h option is not included in the configuration	The server specified with -h is not included in configuration data. Check if the specified server name or IP address is correct.
Failed to initialize the xml library. Check if memory or OS resources are sufficient.	Check if the memory or OS resources are sufficient.
Failed to load the configuration file. Check if memory or OS resources are sufficient.	Check if the memory or OS resources are sufficient.

Continued on next page

Table 2.16 – continued from previous page

Message	Cause/Solution
Failed to change the configuration file. Check if memory or OS resources are sufficient.	Check if the memory or OS resources are sufficient.
Failed to load the all.pol file. Reinstall the RPM cluster.	Reinstall the EXPRESSCLUSTER Server.
Failed to load the cfctrl.pol file. Reinstall the RPM cluster.	Reinstall the EXPRESSCLUSTER Server.
Failed to get the install path. Reinstall the RPM cluster.	Reinstall the EXPRESSCLUSTER Server.
Failed to initialize the trncl library. Check if memory or OS resources are sufficient.	Check if the memory or OS resources are sufficient.
Failed to connect to trnsv. Check if the other server is active.	Accessing the server has failed. Check if the other server has been started up.
Failed to get the list of node. Check if the server specified by -c is a member of the cluster.	Check if the server specified by -c is a cluster member.
File delivery failed. Failed to deliver the configuration data. Check if the other server is active and run the command again.	Delivering configuration data has failed. Check if other server(s) has been started. Run the command again after the server has started up.
Multi file delivery failed. Failed to deliver the configuration data. Check if the other server is active and run the command again.	Delivering configuration data has failed. Check if other server(s) has been started. Run the command again after the server has started up.
Failed to deliver the configuration data. Check if the other server is active and run the command again.	Delivering configuration data has failed. Check if other server(s) has been started. Run the command again after the server has started up.
Failed to upload the configuration file. Check if the other server is active and run the command again.	Delivering configuration data has failed. Check if other server(s) has been started
Canceled to deliver the configuration file since it failed to connect to one or more server. If you want to deliver the configuration file to servers that can be connected, run the command again with "-force" option.	Canceled the delivery of the configuration data. There are some servers that failed to connect. If you want to deliver the configuration data only to the server that can be connected, run the command again by using the --force option.
The directory "work" is not found. Reinstall the RPM.	Reinstall the EXPRESSCLUSTER Server.
Failed to make a working directory.	Check if the memory or OS resources are sufficient.
The directory does not exist.	Check if the memory or OS resources are sufficient.
This is not a directory.	Check if the memory or OS resources are sufficient.
The source file does not exist.	Check if the memory or OS resources are sufficient.
The source file is a directory.	Check if the memory or OS resources are sufficient.
The source directory does not exist.	Check if the memory or OS resources are sufficient.
The source file is not a directory.	Check if the memory or OS resources are sufficient.
Failed to change the character code set (EUC to SJIS).	Check if the memory or OS resources are sufficient.

Continued on next page

Table 2.16 – continued from previous page

Message	Cause/Solution
Failed to change the character code set (SJIS to EUC).	Check if the memory or OS resources are sufficient.
Failed to allocate memory.	Check if the memory or OS resources are sufficient.
Failed to change the directory.	Check if the memory or OS resources are sufficient.
Failed to make a directory.	Check if the memory or OS resources are sufficient.
Failed to remove the directory.	Check if the memory or OS resources are sufficient.
Failed to remove the file.	Check if the memory or OS resources are sufficient.
Failed to open the file.	Check if the memory or OS resources are sufficient.
Failed to read the file.	Check if the memory or OS resources are sufficient.
Failed to copy the file.	Check if the memory or OS resources are sufficient.
Failed to create the mutex.	Check if the memory or OS resources are sufficient.
Internal error. Check if memory or OS resources are sufficient.	Check if the memory or OS resources are sufficient.
Failed to check server property. Check if the server name or ip addresses are correct.	Check if the server name and the IP address of the configuration information are correctly set.
Please stop the following resources.	Stop the resource of which the configuration has been changed.

2.8.2 Backing up configuration data (clpcfctrl --pull)

Backs up the configuration data.

Command line

```
clpcfctrl --pull [-w] [-x <path>] [-p <portnumber>]
```

Description

Backs up the configuration data to be used by the Cluster WebUI.

Option

--pull

Specify this option when performing backup.
This option cannot be omitted.

-x

Specify this option when backing up configuration data in the specified directory.

-w

Save the configuration data with character encoding, SJIS.

-p

Specifies the number of the port used to transfer data.

When this option is omitted, the default value is used. In general, it is not necessary to specify this option.

Return Value

0	Success
Other than 0	Failure

Notes

Run this command as a user with Administrator privileges.

Error messages

Message	Cause/Solution
Log in as administrator.	Log on as a user with Administrator privileges.
This command is already run.	This command has already been run.
invalid option.	The option is invalid. Check the option.
Invalid mode. Check if --push or --pull option is specified.	Check if --pull is specified.
Failed to initialize the xml library. Check if memory or OS resources are sufficient.	Check if the memory or OS resources are sufficient.
Failed to load the configuration file. Check if memory or OS resources are sufficient.	Check if the memory or OS resources are sufficient.
Failed to change the configuration file. Check if memory or OS resources are sufficient.	Check if the memory or OS resources are sufficient.
Failed to load the all.pol file. Reinstall the cluster.	Reinstall the EXPRESSCLUSTER Server.
Failed to load the cfctrl.pol file. Reinstall the cluster.	Reinstall the EXPRESSCLUSTER Server.
Failed to get the install path. Reinstall the cluster.	Reinstall the EXPRESSCLUSTER Server.
Failed to initialize the trncl library. Check if memory or OS resources are sufficient	Check if the memory or OS resources are sufficient.
Failed to connect to trnsv. Check if the other server is active.	Accessing the server has failed. Check if other server(s) has been started.
The directory "work" is not found. Reinstall the cluster.	Reinstall the EXPRESSCLUSTER Server.
Failed to make a working directory.	Check if the memory or OS resources are sufficient.
The directory does not exist.	Check if the memory or OS resources are sufficient.
This is not a directory.	Check if the memory or OS resources are sufficient.
The source file does not exist.	Check if the memory or OS resources are sufficient.
The source file is a directory.	Check if the memory or OS resources are sufficient.
The source directory does not exist.	Check if the memory or OS resources are sufficient.
The source file is not a directory.	Check if the memory or OS resources are sufficient.
Failed to change the character code set (EUC to SJIS).	Check if the memory or OS resources are sufficient.
Failed to change the character code set (SJIS to EUC).	Check if the memory or OS resources are sufficient.
Failed to allocate memory.	Check if the memory or OS resources are sufficient.
Failed to change the directory.	Check if the memory or OS resources are sufficient.
Failed to make a directory.	Check if the memory or OS resources are sufficient.
Failed to remove the directory.	Check if the memory or OS resources are sufficient.
Failed to remove the file.	Check if the memory or OS resources are sufficient.
Failed to open the file.	Check if the memory or OS resources are sufficient.
Failed to read he file.	Check if the memory or OS resources are sufficient.
Failed to write the file.	Check if the memory or OS resources are sufficient.
Failed to copy the file.	Check if the memory or OS resources are sufficient.
Failed to create the mutex.	Check if the memory or OS resources are sufficient.
Internal error. Check if memory or OS resources are sufficient.	Check if the memory or OS resources are sufficient.

2.9 Adjusting time-out temporarily (clptoratio command)

Extends or displays the current timeout ratio.

Command line

```
clptoratio -r <ratio> -t <time>
clptoratio -i
clptoratio -s
```

Description

Temporarily extends the following timeout values:

- Monitor resource
- Alert synchronous service
- WebManager service

The current timeout ratio is displayed.

Option

-r ratio

Specifies the timeout ratio. Use 1 or larger integer. The maximum timeout ratio is 10,000.

If you specify "1," you can restore the original ratio as when using the -i option.

-t time

Specifies the extension period.

You can specify minutes for m, hours for h, and days for d. The maximum period of time is 30 days.

Example:

2m, 3h, 4d

-i

Sets back the modified timeout ratio.

-s

Refers to the current timeout ratio.

Return Value

0	Success
Other than 0	Failure

Remarks

When the server is shut down, the timeout ratio you specified becomes ineffective.

With the -s option, you can only refer to the current timeout ratio. You cannot see other information such as remaining time of extended period.

You can see the original timeout value by using the status display command.

Monitor resource timeout

```
# clpstat --mon monitor_resource_name --detail
```

Notes

This command must be executed by a user with the administrator privilege.
 The EXPRESSCLUSTER service must be running when you execute this command.
 When you set the timeout ratio, make sure to specify the extension period. However, if you set "1" for the timeout ratio, you cannot specify the extension period.
 You cannot specify a combination such as "2m3h," for the extension period.

Examples

Example 1: Doubling the timeout ratio for three days

```
# clptoratio -r 2 -t 3d
```

Example 2: Setting back the timeout ratio to original

```
# clptoratio -i
```

Example 3: Referring to the current timeout ratio

```
# clptoratio -s
present toratio : 2
```

The current timeout ratio is set to 2.

Error messages

Message	Cause/Solution
Log in as administrator.	Log on as a user with Administrator privileges.
Invalid configuration file. Create valid cluster configuration data.	Create valid cluster configuration data by using the Cluster WebUI.
invalid option.	Specify a valid option.
Specify a number in a valid range.	Specify a number within a valid range.
Specify a correct number.	Specify a valid number.
Scale factor must be specified by integer value of 1 or more.	Specify 1 or larger integer for ratio.
Specify scale factor in a range less than the maximum scale factor.	Specify a ratio that is not larger than the maximum ratio.
Set the correct extension period. ex) 2m, 3h, 4d	Set a valid extension period.
Set the extension period in a range less than the maximum extension period.	Set the extension period which does not exceed the maximum extension period.
Could not connect to the server. Check if the cluster service is active.	Check that the EXPRESSCLUSTER service is operating.
Server is not active. Check if the cluster service is active.	Check that the EXPRESSCLUSTER service is operating.
Connection was lost. Check if there is a server where the cluster service is stopped in the cluster.	Check if there is any server in the cluster that the EXPRESSCLUSTER service stopped.
Invalid parameter.	The value specified as the command parameter may be invalid.

Continued on next page

Table 2.18 – continued from previous page

Message	Cause/Solution
Internal communication timeout has occurred in the cluster server. If it occurs frequently, set a longer timeout.	A time-out occurred in the EXPRESSCLUSTER internal communication. If time-out keeps occurring, set the internal communication time-out longer.
Processing failed on some servers. Check the status of failed servers.	There is a server in which the processing has failed. Check the statuses of servers in the cluster. Run the command with all servers in the cluster activated.
Internal error. Check if memory or OS resources are sufficient.	Check if the memory or OS resources are sufficient.

2.10 Modifying the log level and size (clplogcf command)

Modifies and displays log level and log output file size.

Command line

```
clplogcf -t <type> -l <level> -s <size>
```

Description

Modifies the settings of the log level and log output file size.

Displays the currently specified values.

Option

-t

Specifies a module type whose settings will be changed.

If both -l and -s are omitted, the information set to the specified module will be displayed. See the list of "Types that can be specified to the -t option" for types which can be specified.

-l

Specifies a log level.

You can specify one of the following for a log level.

1, 2, 4, 8, 16, 32

You can see more detailed information as the log level increases.

-s

Specifies the size of a file for log output.

The unit is byte.

None

Displays the entire configuration information currently set.

Return Value

0	Success
Other than 0	Failure

Remarks

Each type of log output by EXPRESSCLUSTER X SingleServerSafe uses two log files. Therefore, it is necessary to have twice the disk space specified by -s.

Notes

Run this command as a user with Administrator privileges.

To run this command, the EXPRESSCLUSTER Event service must be started.

Rebooting the server restores the settings to their pre-change values.

Examples

Example 1: Modifying the pm log level

```
# clplogcf -t pm -l 8
```

Example 2: Seeing the pm log level and log file size

```
# clplogcf -t pm
TYPE, LEVEL, SIZE
pm, 8, 1000000
```

Example 3: Displaying the values currently configured

```
# clplogcf
TYPE, LEVEL, SIZE
trnsv, 4, 1000000
xml, 4, 1000000
logcf, 4, 1000000
```

Error messages

Message	Cause/Solution
Log in as administrator.	Log on as a user with Administrator privileges.
invalid option.	The option is invalid. Check the option.
Failed to change configuration. Check if the event service is running.	clpevent may not have been started.
invalid level	The specified level is invalid.
invalid size	The specified size is invalid.
Failed to initialize the xml library. Check if memory or OS resources are sufficient.	Check if the memory or OS resources are sufficient.
Failed to print current configuration. Check if the event service is running.	clpevent may not be started yet.

Types that can be specified for the -t option (y=yes, n=no)

Type	Module	Description
alert	clpaltinsert.exe	Alert
apicl	clpapi.dll	API client library
apicl_rc	clpapi.dll	API client library
apisv	clpapisv.dll	API server
appli	clpappli.dll	Application resource
appliw	clpappliw.dll	Application monitor resource
armdrive	armdrive.exe	Drive letter setting command
bwctrl	clpbwctrl.exe	Cluster activation synchronization wait processing control command
cfchk	clpcfchk.exe	Command to check the cluster configuration
cfctrl	clpcfctrl.exe	Cluster generation, cluster information and backup command
cl	clpcl.exe	Cluster startup and stop command
clpdnld	clpdnld.exe	Downloader
clpgetsvstat	clptrnsv.exe	Transaction server
clpshmstat	clpshmstat.dll	Node status management library
clsv	clpclsv.dll	Client server
commcl	clpcommcl.dll	Common communication client library
cpufreq	clpcpufreq.exe	CPU frequency control command
diskperf	clpdiskperf.dll	Disk performance log library
diskutil	clpdiskutil.dll	Mirror disk/disk shared library
diskw	clpdiskw.dll	Disk RW monitor resource
down	clpdown.exe	Server shutdown command
event	clpevent.dll	Event log
exping	clpexpng.dll	PING execution management
genw	genw.dll	Custom monitor resource
grp	clpgrp.exe	Group startup, stop, move, and migration command
hblog	clplanhb.dll	Kernel-mode LAN heartbeat resource
healthchk	clphealthchk.exe	Process health check command
ibsv	clpibsv.exe	Information Base service
ipw	clpipw.dll	IP monitor resource
lankhb	clplanhb.dll	Kernel-mode LAN heartbeat resource
lens	clplens.dll	License library
ledctrl	clpledctrl.exe	Chassis identify control command
logc	clplogcc.exe	Log collection library
logcc	clplogcc.exe	Collect logs command
logcf	clplogcf.exe	Log level and size modification command
logcmd	clplogcmd.exe	Alert producing command
mail	clpmail.exe	Mail Notification
monctrl	clpmonctrl.exe	Monitor resource control command
mgmtagt	clpmgmtmib.dll	Library for SNMP Service
miiw	clpmiiw.dll	NIC Link Up/Down monitor resource
monctrl	clpmonctrl.exe	Monitor resource control command
mrw	clpmrw.dll	Message receive monitor resource
mtw	clpmtw.dll	Multi target monitor resource
nm	clpnm.exe	Node map management
oldapi	clpoldapi.exe	Compatible API
oldapi_cnf	clpoldapi.exe	Compatible API
oldapi_evt	clpoldapi.exe	Compatible API
oldapi_if	clpoldapi.exe	Compatible API
oldapi_sts	clpoldapi.exe	Compatible API

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Table 2.20 – continued from previous page

Type	Module	Description
perfc	clpperfc.exe	Command to display cluster statistical information
pm	clppm	Process management
pmsvc	clppmsvc.exe	Process management
psw	clppsw.dll	Process name monitor resource
ptun	clpptun.dll	Parameter tuning
ptunlib	clpptun.dll	Parameter tuning
rc	clprc.exe	Group and group resource management
rc_ex	clprc.exe	Group and group resource management
regctrl	clpregctrl.exe	Reboot count control command
resdllc	clpresdllc.dll	Resource control library
rm	clprm.dll	Monitor management
script	clpscript.dll	Script resource
scrpc	clpscrpc.exe	Script
scrpl	clpscrpl.ece	Script
sem	clpsem.dll	Semaphore library
service	clpservice.dll	Service resource
servicew	clpservicew.dll	Service monitor resource
shmcm	clpshmcm.dll	Shared memory library
shmevt	clpshmevt.dll	Event library
shnm	clpshnm.dll	Shared memory library
shmr	clpshmr.dll	Shared memory library
snmpmgr	clpsnmpmgr.dll	SNMP trap reception library
startup	clpstartup.exe	Startup
stat	clpstat.exe	Status display command
stdn	clpstdn.exe	Cluster shutdown command
toratio	clptoratio.exe	Time-out ratio modification command
trncl	clptrncl.dll	Transaction library
trap	claptrap.exe	SNMP trap command
trnreq	clptrnreq.exe	Inter-cluster processing request command
rexec	clprexec.exe	External monitoring link processing request command
trnsv	clptrnsv.exe	Transaction server
userw	clpuserw.dll	User space monitor resource
webalert	clpald.exe	Alert synchronization
webmgr	clpwebmc.exe	WebManager service
xml	xlpxml.dll	XML library
vm	clpvm.dll	VM resource
vmw	clpvmw.dll	VM monitor resource
vmctrl	clpvmctrl.dll	VMCtrl library

Default log levels and log file sizes

Type	Level	Size (byte)
alert	4	1000000
apicl	4	5000000
apicl_rc	4	5000000
apisv	4	5000000
appli	4	1000000
appliw	4	1000000
armdrive	4	1000000

Continued on next page

Table 2.21 – continued from previous page

Type	Level	Size (byte)
bwctrl	4	1000000
cfchk	4	1000000
cfctrl	4	1000000
cl	4	1000000
clpdnld	4	1000000
clpgetsvstat	4	1000000
clpshmstat	4	1000000
clsv	4	1000000
commcl	4	80000000
cpufreq	4	1000000
diskperf	8	2000000
diskutil	4	1000000
diskw	4	1000000
down	4	1000000
event	4	1000000
exping	4	1000000
genw	4	1000000
grp	4	1000000
hblog	4	1000000
healthchk	4	1000000
ibsv	4	5000000
ipw	4	1000000
lankhb	4	1000000
lcns	4	1000000
logc	4	1000000
logcc	4	1000000
logcf	4	1000000
logcmd	4	1000000
mail	4	1000000
mgmtagt	4	1000000
miiw	4	1000000
monctrl	4	1000000
mrw	4	1000000
mtw	4	1000000
nm	4	2000000
oldapi	4	1000000
oldapi_cnf	4	1000000
oldapi_evt	4	1000000
oldapi_if	4	1000000
oldapi_sts	4	1000000
perfc	4	1000000
pm	4	1000000
pmsvc	4	2000000
psw	4	1000000
ptun	4	1000000
ptunlib	4	1000000
rc	4	5000000
rc_ex	4	5000000
regctrl	4	1000000

Continued on next page

Table 2.21 – continued from previous page

Type	Level	Size (byte)
resdllc	4	2000000
rm	4	5000000
script	4	1000000
scrpc	4	1000000
scrpl	4	1000000
sem	4	1000000
service	4	1000000
servicew	4	1000000
shmcm	4	1000000
shmevt	4	1000000
shmmn	4	1000000
shmrn	4	1000000
snmpmgr	4	1000000
startup	4	1000000
stat	4	1000000
stdn	4	1000000
toratio	4	1000000
trap	4	1000000
trncl	4	2000000
trnsv	4	2000000
trnreq	4	1000000
userw	4	1000000
rexec	4	1000000
webalert	4	1000000
webmgr	4	1000000
xml	4	1000000
vm	4	1000000
vmw	4	1000000
vmctrl	4	1000000
Total		198000000 * 2

Monitoring Agent Types that can be specified for the -t option

Type	Module	Description
db2w	clp_db2w.dll	DB2 Monitor (Database Agent)
ftpw	clp_ftpw.dll	FTP Monitor (Internet Server Agent)
httpw	clp_httpw.dll	HTTP Monitor (Internet Server Agent)
imap4w	clp_imap4w.dll	IMAP4 Monitor (Internet Server Agent)
jra	clpjrasvc.exe	JVM Monitor (Java Resource Agent)
jraw	clpjraw.dll	JVM Monitor (Java Resource Agent)
odbcw	clp_odbcw.dll	ODBC Monitor (Database Agent)
oraclew	clp_oraclew.dll	Oracle Monitor (Database Agent)
otxw	clp_otxw.dll	WebOTX Monitor (Application Server Agent)
pop3w	clp_pop3w.dll	POP3 Monitor (Internet Server Agent)
psqlw	clp_psqlw.dll	PostgreSQL Monitor (Database Agent)
smtpw	clp_smtpw.dll	SMTP Monitor (Internet Server Agent)
sqlserverw	clp_sqlserverw.dll	SQL Server Monitor (Database Agent)
sra	clpsraserviceproc.exe	System Monitor/Process resource monitor (System Resource Agent)

Continued on next page

Table 2.22 – continued from previous page

Type	Module	Description
sraw	clpsraw.dll	System Monitor (System Resource Agent)
psrw	clppsrw.dll	Process resource monitor(System Resource Agent)
tuxw	clp_tuxw.dll	Tuxedo Monitor (Application Server Agent)
wasw	clp_wasw.dll	Websphere Monitor (Application Server Agent)
wlsw	clp_wlsw.dll	Weblogic Monitor (Application Server Agent)

Monitoring Agent Default Values of Log Level/Log File Size

Type	Level	Size (byte)
db2w	4	4000000
ftpw	4	1000000
httpw	4	1000000
imap4w	4	1000000
jra	4	1000000
jraw	4	1000000
odbcw	4	4000000
oraclew	4	4000000
otxw	4	1000000
pop3w	4	1000000
psqlw	4	4000000
smtpw	4	1000000
sqlserverw	4	4000000
sra	8	1000000
sraw	4	1000000
psrw	4	1000000
tuxw	4	1000000
wasw	4	1000000
wlsw	4	1000000
	Total	34000000 * 2

2.11 Managing licenses (clplcncs command)

the clplcncs command manages licenses.

Command line

```
clplcncs -i [licensefile ...]
clplcncs -l [-a]
clplcncs -d serialno [-q]
clplcncs -d -t [-q]
clplcncs -d -a [-q]
clplcncs --reregister licensefile...
```

Description

This command registers, refers to and remove the licenses of the product version and trial version of this product.

Option

-i [licensefile ...]

When a license file is specified, license information is acquired from the file for registration. You can specify multiple licenses. If nothing is specified, you need to enter license information interactively.

-l [-a]

References the registered license.

The name of displayed items are as follows.

Item	Explanation
Serial No	Serial number (product version only)
User name	User name (trial version only)
Key	License key
Licensed Number of CPU	The number of license (per CPU)
Licensed Number of Computers	The number of license (per node)
Start date	Start date of valid period ^{1 2}
End date	End date of valid period ^{1 2}

- Status

Status of the license

Status	Explanation
valid	valid
invalid	invalid
unknown	unknown
inactive	Before valid period ^{1 2}
expired	After valid period ^{1 2}

When -a option not specified, the license status of "invalid", "unknown" and "expired" are not displayed.

When specifying -a option, all the licenses are displayed regardless of the license status.

-d <param>

- <param>

- serialno

Deletes the license with the specified serial number.

- -t

Deletes all the registered licenses of the trial version.

- -a

Deletes all the registered licenses.

-q

Deletes licenses without displaying a warning message. This is used with -d option.

¹ Displayed in the case of the fixed term license

² Displayed in the case of the license of trial version

--reregister licensefile...

Reregisters a fixed-term license. Usually, it is unnecessary to execute the command with this option.

Return Value

0	Normal termination
1	Cancel
3	Initialization error
5	Invalid option
8	Other internal error

Example of a command entry for registration

- **Registering the license interactively**

```
# clplcncs -i
```

- **Product Version/Product Version (Fixed Term)**

- Select a product division.

```
Selection of License Version
 1. Product Version
 2. Trial Version
 e. Exit
Select License Version. [1, 2, or e (default:1)] ...
```

- Enter a serial number.

Enter serial number [Ex. XXXXXXXXX000000] ...

- Enter a license key.

Enter license key [Ex. XXXXXXXXX-XXXXXXXXX-XXXXXXXXX-XXXXXXXXX] ...

- **Trial Version**

- Select a product division.

```
Selection of License Version
 1. Product Version
 2. Trial Version
 e. Exit
Select License Version. [1, 2, or e (default:1)] ...
```

- Enter a user name.

```
Enter user name [ 1 to 63byte ] .
```

- Enter a license key.

```
Enter license key
[Ex. XXXXX-XXXXXXXXX-XXXXXXXXX-XXXXXXXXX] ...
```

- **Specify a license file**

```
# clplcncs -i c:\tmp\licensefile
```

- **for referring to the license**

```
# clplcnscl -l
```

1. Product version

```
< EXPRESSCLUSTER X SingleServerSafe <PRODUCT> >

Seq... 1
Key..... A1234567-B1234567-C1234567-D1234567
Licensed Number of CPU... 2
Status... valid

Seq... 2
Serial No..... AAAAAAAAAA000002
Key..... E1234567-F1234567-G1234567-H1234567
Licensed Number of Computers... 1
Status... valid
```

2. Product version (fixed term)

```
< EXPRESSCLUSTER X SingleServerSafe <PRODUCT> >

Seq... 1
Serial No..... AAAAAAAAAA000001
Key..... A1234567-B1234567-C1234567-D1234567
Start date..... 2018/01/01
End date..... 2018/01/31
Status..... valid

Seq... 2
Serial No..... AAAAAAAAAA000002
Key..... E1234567-F1234567-G1234567-H1234567
Status..... inactive
```

3. Trial version

```
< EXPRESSCLUSTER X SingleServerSafe <TRIAL> >
Seq... 1
Key..... A1234567-B1234567-C1234567-D1234567
User name... NEC
Start date..... 2018/01/01
End date..... 2018/02/28
Status..... valid
```

- **for deleting the license**

```
# clplcnscl -d AAAAAAAAAA000001 -q
```

- **for deleting the license**

```
# clplcnscl -d -t -q
```

- **for deleting the license**

```
# clplcnscl -d -a
```

Deletion confirmation

```
Are you sure to remove the license? [y/n] ...
```

Notes

Run this command as the Administrator user.

Furthermore, when you use -d option and -a option together, all the trial version licenses and product version licenses will be deleted. To delete only the trial license, also specify the -t option. If the licenses including the product license have been deleted, register the product license again.

When you refer to a license which includes multiple licenses, all included licenses information are displayed.

Error messages

Message	Cause/Solution
Processed license num (success : %d, error : %d).	The number of processed licenses (success:%d, error:%d) If error is not 0, check if the license information is correct.
Command succeeded.	The command ran successfully.
Command failed.	The command did not run successfully.
Log in as administrator.	Log on as the Administrator user.
Invalid cluster configuration data. Check the cluster configuration information.	The cluster configuration data is invalid. Check the cluster configuration data by using the Cluster WebUI.
Initialization error. Check if memory or OS resources are sufficient.	Check to see if the memory or OS resource is sufficient.
The command is already run.	The command is already running.
The license is not registered.	The license has not been registered yet.
Could not open the license file. Check if the license file exists on the specified path.	Input/Output cannot be done to the license file. Check to see if the license file exists in the specified path.
Could not read the license file. Check if the license file exists on the specified path.	Input/Output cannot be done to the license file. Check to see if the license file exists in the specified path.
The field format of the license file is invalid. The license file may be corrupted. Check the destination from where the file is sent.	The field format of the license file is invalid. The license file may be corrupted. Check it with the file sender.
The cluster configuration data may be invalid or not registered.	The cluster configuration data may be invalid or not registered. Check the configuration data.
Failed to terminate the library. Check if memory or OS resources are sufficient.	Check to see if the memory or OS resource is sufficient.
Failed to register the license. Check if the entered license information is correct.	Check to see if the entered license information is correct.
Failed to open the license. Check if the entered license information is correct.	Check to see if the entered license information is correct.
Failed to remove the license.	License deletion failed. Parameter error may have occurred or resources (memory or OS) may not be sufficient.

Continued on next page

Table 2.26 – continued from previous page

Message	Cause/Solution
This license is already registered.	This license has already been registered. Check the registered license.
This license is already activated.	This license has already been used. Check the registered license.
This license is unavailable for this product.	This license cannot be used for this product. Check the license.
The maximum number of licenses was reached.	The maximum number of registered licenses has been reached. Delete invalid licenses.
Internal error. Check if memory or OS resources are sufficient.	Check to see if the memory or OS resource is sufficient.

2.12 Outputting messages (clplogcmd command)

Registers the specified message with Alert logs.

Command line

```
clplogcmd -m message [--alert] [--mail] [-i ID] [-l level]
```

Note: It is not necessary to run this command during normal setup or operation. You need to write the command in the script resource script.

Description

Write this command in the script resource script to output messages to any destination.

Messages are produced in the following format:

```
[ID] message
```

Option

```
-m message
```

Specifies a message. This option cannot be omitted. The maximum size of message is 498 bytes. You may use alphabets, numbers, and symbols³.

³ Notes on using symbols in the message:

- The symbols below must be enclosed in double quotes (" ")

```
& | < >
```

--alert

--mail

Specify the output destination from alert and mail. (Multiple destinations can be specified.)
This parameter can be omitted. The alert will be the output destinations when the parameter is omitted.
For more information on output destinations, see "Directory structure of EXPRESSCLUSTER" in "The system maintenance information" in the "EXPRESSCLUSTER X Maintenance Guide".

-i ID

Specify message ID.
This parameter can be omitted. The default value 1 is set for the ID when the parameter is omitted.

-l level

Level of alert to output.
Select a level of alert output from ERR, WARN, or INFO. The icon on the alert logs of the Cluster WebUI is determined according to the level you select here.
This parameter can be omitted. The default value INFO is set to level when the parameter is omitted.
For details, see the online manual.

Return Value

0	Success
Other than 0	Failure

Notes

This command must be executed by a user with the administrator privilege.

The specification of the -i option is different from that of the Linux version. In the Windows version, the event ID displayed in an alert cannot be changed.

Examples of command execution

Example 1: When specifying message, message ID, and level:

When the following is written in the script resource script, the message is displayed in the Alert logs.

```
clplogcmd -m test1 -i 100 -l ERR
```

Example 2: When specifying message, output destination, event ID, and level (output destination is mail):

(For example, if you specify "&" in the message, & is output.)

- The symbols below must have a backslash \ at the beginning

```
\
```

(For example, if you specify \\ in the message, \ is output.)

- When there is a space in the **message**, it must be placed in enclosed in double quotes (" ").

When the following is written in the Script resource script, the message is sent to the mail address set in the **Cluster Properties**. For more information on the mail address settings, see "Alert Service tab" in "Cluster properties" in "Parameter details" in the "EXPRESSCLUSTER X Reference Guide".

```
clplogcmd -m test2 --mail -i 100 -l ERR
```

The following information is sent to the mail destination:

```
Message:test2  
Type: logcmd  
ID: 100  
Host: server1  
Date: 2004/09/01 14:00:00
```

2.13 Controlling monitor resources (clpmonctrl command)

Controls the monitor resources.

Command line

```
clpmonctrl -s [-m resource name ...] [-w wait time]  
clpmonctrl -r [-m resource name ...] [-w wait time]  
clpmonctrl -c [-m resource name ...]  
clpmonctrl -v [-m resource name ...]  
clpmonctrl -e -m resource name  
clpmonctrl -n [-m resource name]
```

Description

Suspends or resumes monitor resources.

Option

- s, --suspend**
Suspends monitoring
- r, --resume**
Resumes monitoring
- c, --clear**
Initializes the recovery operation count.
- v, --view**
Displays the recovery operation count.
- e, --error**
Enables dummy failure. Be sure to specify a monitor resource name with the -m option.
- n, --normal**
Disables dummy failure. When a monitor resource name is specified with the -m option, the function is disabled only for the resource. When the -m option is omitted, the function is disabled for all monitor resources.

-m, --monitor

Specifies one or more monitor resources to be controlled.

This option can be omitted. All monitor resources are controlled when the option is omitted.

-w, --wait

Waits for control monitoring on a monitor resource basis. (in seconds)

This option can be omitted. The default value 5 is set when the option is omitted.

Return Value

0	Completed successfully.
1	Privilege for execution is invalid.
2	The option is invalid.
3	Initialization error
4	The configuration data is invalid.
5	Monitor resource is not registered.
6	The specified monitor resource is invalid.
10	EXPRESSCLUSTER is not running.
11	The EXPRESSCLUSTER service is suspended
90	Monitoring control wait timeout
128	Duplicated activation
255	Other internal error

Remarks

If you suspend an already suspended monitor resource or resume an already started one, this command abends without changing the status of the monitor resource.

Notes

Run this command as a user with the administrator privilege.

Check the status of monitor resource by using the status display command or Cluster WebUI.

Before you run this command, use the clpstat command or Cluster WebUI to verify that the status of monitor resources is in either "Online" or "Suspend."

In the case of a monitor resource of which monitor timing is "Active", if a target resource stops temporarily in the active status, and then the target resource or the group which the target resource belongs to is activated, the monitor resource which has been stopped temporarily cannot detect an error. This is because the monitor resource does not start monitoring.

The following are examples of the case described above:

1. Stops an application monitor that is monitoring application resource temporarily.
2. Reactivate the application resource or the group that the application resource belongs to.

This reactivation procedure applies both manual and automatic when a monitor resource detects an error and reactivates an application by the recovery operation.

If you execute clpmnctrl command with the -v option, "FinalAction Count" is script execution count before final action for following setting.

- The **Execute Script before Final Action** check box is selected.
- **Final Action is No operation.**

Error Messages

Message	Causes/Solution
Command succeeded.	The command ran successfully.
You are not authorized to run the command. Log in as Administrator.	You are not authorized to run this command. Log in as a user with Administrator privileges.
Initialization error. Check if memory or OS resources are sufficient.	Check if the memory or OS resource is sufficient.
Invalid cluster configuration data. Check the cluster configuration information.	The cluster configuration data is invalid. Check the cluster configuration data by using the Cluster WebUI.
Monitor resource is not registered.	The monitor resource is not registered.
Specified monitor resource is not registered. Check the cluster configuration information.	The specified monitor resource is not registered. Check the cluster configuration data by using the Cluster WebUI.
The cluster has been stopped. Check the active status of the cluster service by using the command such as ps command.	The cluster has been stopped. Check the activation status of the EXPRESSCLUSTER service by using the ps command.
The cluster has been suspended. The cluster service has been suspended. Check activation status of the cluster service by using a command such as the ps command.	The EXPRESSCLUSTER service has been suspended. Check the activation status of the EXPRESSCLUSTER service by using a command such as ps command.
Waiting for synchronization of the cluster. The cluster is waiting for synchronization. Wait for a while and try again.	Synchronization of the cluster is awaited. Try again after synchronization of the cluster is completed.
Monitor %1 was unregistered, ignored. The specified monitor resources %1 is not registered, but continues processing. Check the cluster configuration data.	There is an unregistered monitor resource in the specified monitor resources, but it is ignored and the process is continued. Check the cluster configuration data by using the Cluster WebUI. %1: Monitor resource name
The command is already executed. Check the execution state by using the "ps" command or some other command.	The command has already been run. Check the status by using the ps command.

Continued on next page

Table 2.27 – continued from previous page

Message	Causes/Solution
Internal error. Check if memory or OS resources are sufficient.	Check if the memory or OS resource is sufficient.

Monitor resource types that can be specified for the -m option

Type	Suspending/Resume	Reset Recovery Count	Dummy Failure Possibility
appliw	✓	✓	✓
diskw	✓	✓	✓
ipw	✓	✓	✓
miiw	✓	✓	✓
mtw	✓	✓	✓
servicew	✓	✓	✓
genw	✓	✓	✓
vmw	✓	✓	
mrw	✓	✓	
db2w	✓	✓	✓
ftpw	✓	✓	✓
httpw	✓	✓	✓
imap4w	✓	✓	✓
✓dbcw	✓	✓	✓
✓raclew	✓	✓	✓
pop3w	✓	✓	✓
psqlw	✓	✓	✓
smtpw	✓	✓	✓
sqlserverw	✓	✓	✓
tuxw	✓	✓	✓
wasw	✓	✓	✓
wlsw	✓	✓	✓
✓txw	✓	✓	✓
jraw	✓	✓	✓
sraw	✓	✓	✓
psrw	✓	✓	✓
userw	✓	✓	✓
psw	✓	✓	✓

2.14 Controlling group resources (clprsc command)

Controls group resources

Command line

```
clprsc -s resource_name [-f] [--apito timeout]
clprsc -t resource_name [-f] [--apito timeout]
```

Description

This command starts and stops group resources.

Option

-s Starts group resources.

-t Stops group resources.

-f

When the group resource is running, all group resources that the specified group resource depends start up.

When the group resource is not running, all group resources that the specified group resource depends stop.

--apito timeout

Specify the time in seconds to wait for group resources to be started or stopped (internal communication timeout). A value between 1 to 9999 can be specified.

When the **--apito** option is not specified, the command waits according to the value set for the internal communication timeout in the cluster property.

Return Value

0	Completed successfully.
Other than 0	Terminated due to a failure.

Notes

This command must be executed by a user with the administrator privilege.

Check the status of the group resources by using the status display command or the Cluster WebUI.

Error Messages

Message	Causes/Solution
Log in as Administrator.	Run this command as a user with Administrator privileges.
Invalid cluster configuration data. Check the cluster configuration information.	The cluster construction information is not correct. Check the cluster construction information by Cluster WebUI.
Invalid option.	Specify a correct option.
Could not connect server. Check if the cluster service is active.	Check if the EXPRESSCLUSTER is activated.
Invalid server status. Check if the cluster service is active.	Check if the EXPRESSCLUSTER is activated.
Server is not active. Check if the cluster service is active.	Check if the EXPRESSCLUSTER is activated.

Continued on next page

Table 2.29 – continued from previous page

Message	Causes/Solution
Invalid server name. Specify a valid server name in the cluster.	Specify a correct server name in the cluster.
Connection was lost. Check if there is a server where the cluster service is stopped in the cluster.	Check if there is any server with EXPRESSCLUSTER service stopped in the cluster.
Internal communication timeout has occurred in the cluster server. If it occurs frequently, set the longer timeout.	Timeout has occurred in internal communication in the EXPRESSCLUSTER. Set the internal communication timeout longer if this error occurs frequently.
The group resource is busy. Try again later.	Because the group resource is in the process of starting or stopping, wait for a while and try again.
An error occurred on group resource. Check the status of group resource.	Check the group resource status by using the cluster WebUI or the clpstat command.
Could not start the group resource. Try it again after the other server is started, or after the Wait Synchronization time is timed out.	Wait till the other server starts or the wait time times out, then start the group resources.
No operable group resource exists in the server.	Check there is a processable group resource on the specified server.
The group resource has already been started on the local server.	Check the group resource status by using the Cluster WebUI or clpstat command.
The group resource has already been started on the other server. To start the group resource on the local server, stop the group resource.	Check the group resource status by using the Cluster WebUI or clpstat command.
	Stop the group to start the group resources on the local server.
The group resource has already been stopped.	Check the group resource status by using the Cluster WebUI or clpstat command.
Failed to start group resource. Check the status of group resource.	Check the group resource status by using the Cluster WebUI or clpstat command.
Failed to stop resource. Check the status of group resource.	Check the group resource status by using the Cluster WebUI or clpstat command.
Depending resource is not offline. Check the status of resource.	Because the status of the depended group resource is not offline, the group resource cannot be stopped. Stop the depended group resource or specify the -f option.
Depending resource is not online. Check the status of resource.	Because the status of the depended group is not online, the group resource cannot be started. Start the depended group resource or specify the -f option.
Invalid group resource name. Specify a valid group resource name in the cluster.	The group resource is not registered.
Server is isolated.	The server is suspended. (Rebooting after down)
Internal error. Check if memory or OS resources are sufficient.	Not enough memory space or OS resource. Check if there is enough space.
Server is not in a condition to start resource. Critical monitor error is detected.	Check the status of the server.

2.15 Controlling CPU frequency (clpcpufreq command)

Controls CPU frequency.

Command line

```
clpcpufreq --high
clpcpufreq --low
clpcpufreq -i
clpcpufreq -s
```

Description

This command enables or disables power-saving mode by CPU frequency control.

Option

--high

Sets the highest CPU frequency.

--low

Sets the lowest CPU frequency to switch to the power-saving mode.

-i

Passes the CPU frequency control to EXPRESSCLUSTER X SingleServerSafe.

-s

Displays the current CPU frequency level.

- high The CPU frequency is at its highest.
- low The CPU frequency has been decreased because the CPU is in the power-saving mode.

Return Value

0	Completed successfully.
Other than 0	Terminated due to a failure.

Remarks

If the **Use CPU Frequency Control** check box is not selected in the **Extension** tab settings in **Cluster Properties**, this command results in an error.

Notes

This command must be executed by a user with the administrator privilege.

When you use CPU frequency control, it is required that frequency is changeable in the BIOS settings, and that the CPU supports frequency control by Windows OS power management function.

Error Messages

Message	Cause/Solution
Log in as Administrator.	Log in as a user with Administrator privileges.
This command is already run.	This command has already been run.
Invalid option.	This option is invalid. Check the option.

Continued on next page

Table 2.30 – continued from previous page

Message	Cause/Solution
Invalid mode. Check if --high or --low or -i or -s option is specified.	Check if either of the --high, --low, -I or -s option is specified.
Failed to initialize the xml library. Check if memory or OS resources are sufficient.	Check to see if the memory or OS resource is sufficient.
Failed to change CPU frequency settings.	Check the BIOS settings and the OS settings. Check if the cluster is started. Check if the setting is configured so that CPU frequency control is used.
Failed to acquire CPU frequency settings.	Check the BIOS settings and the OS settings. Check if the cluster is started. Check if the setting is configured so that CPU frequency control is used.
Failed to create the mutex.	Check if the memory or OS resource is sufficient.
Internal error. Check if memory or OS resources are sufficient.	Check if the memory or OS resource is sufficient.

2.16 Processing inter-cluster linkage (clptrnreq command)

The clptrnreq command requests a server to execute a process.

Command line

```
clptrnreq -t request_code -h IP [-r resource_name] [-s script_file] [-w timeout]
```

Description

The command issues the request to execute specified process to the server in another cluster.

Option

-t *request_code*

Specifies the request code of the process to be executed. The following request codes can be specified:

GRP_FAILOVER Group failover

EXEC_SCRIPT Execute script

-h *IP*

Specifies the server to issue the request to execute the process with IP address. You can specify more than one server by separating by commas. The maximum number of IP addresses you can specify is 32.

When you specify group failover for request code, specify the IP addresses of all the servers in the cluster.

-r resource_name

Specifies the resource name which belongs to the target group for the request for process when GRP_FAILOVER is specified for request code.

If GRP_FAILOVER is specified, -r cannot be omitted.

-s script_file

Specifies the file name (within 30 characters) of the script to be executed (e.g. batch file or executable file) when EXEC_SCRIPT is specified for request code. The script needs to be created in the worktrnreq folder in the folder where EXPRESSCLUSTER is installed in each server specified with -h.

If EXEC_SCRIPT is specified, -s cannot be omitted.

-w timeout

Specifies the timeout value of the command by the second. The minimum value is 5 seconds.

If the -w option is not specified, it waits for 30 seconds.

Return Value

0	Completed successfully.
Other than 0	Terminated due to a failure.

Notes

This command must be executed by a user with the administrator privilege.

It is required that EXPRESSCLUSTER for Windows of internal version 10.02 or later, or EXPRESSCLUSTER for Linux of internal version 2.0.2_1 or later is set up in the server which executes this command and the server with the IP address specified by -h.

Examples

Example 1: When performing a failover on the group having the appli1 resource of another cluster

```
# clptrnreq -t GRP_FAILOVER -h 10.0.0.1,10.0.0.2 -r appli1
GRP_FAILOVER 10.0.0.1: Success
GRP_FAILOVER 10.0.0.2: Success
```

Example 2: When executing the scrpit1.bat script by the server with IP address 10.0.0.1

```
# clptrnreq -t EXEC_SCRIPT -h 10.0.0.1 -s script1.bat
EXEC_SCRIPT 10.0.0.1: Success
```

Error messages

Message	Cause/solution
Log in as Administrator.	Log in as a user with Administrator privileges.
Invalid option.	The command line option is invalid. Specify the correct option.
All servers are busy. Check if this command is already run.	This command may be run already. Check it.
Internal error. Check if memory or OS resources are sufficient.	Check if the memory or OS resource is sufficient.

Continued on next page

Table 2.31 – continued from previous page

Message	Cause/solution
Command timeout	The cause may be heavy load on OS and so on. Check this.
Failed to obtain the list of nodes. Specify a valid server name in the cluster.	Failed to obtain the list of nodes. Specify a valid IP address.
Could not connect to all data transfer server. Check if the server has started up.	Could not connect to all IP addresses specified. Check the IP addresses and the status of the target server.
Could not connect to the data transfer server. Check if the server has started up.	Could not connect to the IP address specified. Check the IP address and the status of the target server.
GRP_FAILOVER IP: Group that specified resource (resource_name) belongs to is offline.	Failover process is not performed because the group to which the specified resource belongs is not started on the target server.
EXEC_SCRIPT IP: Specified script (script_file) does not exist.	The script does not exist on the specified server. Check it.
EXEC_SCRIPT IP: Specified script (script_file) is not executable.	The specified script could not be executed.
	Check that execution is permitted.
request_code IP : This server is not permitted to execute clptnreq.	The server that executed the command does not have permission. Check that the server is registered to the connection restriction IP list of Cluster WebUI.
request_code IP : REQUEST_TYPE failed in execute.	The execution processing of the request type failed. (Either of a present request type Failover or Script is specified.)

2.17 Requesting processing to cluster servers (clprexec command)

Issues a processing execution request to another server on which EXPRESSCLUSTER is installed.

Command line

```
clprexec --script script_file -h IP [-p port_number] [-w timeout] [-o logfile_path]
clprexec --notice [mrw_name] -h IP [-k category[keyword]] [-p port_number] [-w timeout] [-o logfile_path]
clprexec --clear [mrw_name] -h IP [-k category[keyword]] [-p port_number] [-w timeout] [-o logfile_path]
```

Description

This command is an expansion of the existing clptnreq command and has additional functions such as issuing a processing request (error message) from the external monitor to the EXPRESSCLUSTER server.

Option

--script script_name

Requests script execution.

For *script_name*, specify the file name of the script to execute (such as a shell script or executable file).

The script must be created in the work/trnreq folder, which is in the folder where EXPRESSCLUSTER is installed, on each server specified using -h.

--notice

Sends an error message to the EXPRESSCLUSTER server.

Specify a message reception monitor resource name for *mrw_name*.

When not specifying the monitor resource name, specify the monitor type and monitor target of the message reception monitor resource by using the -k option.

--clear

Requests changing the status of the message reception monitor resource from "Abnormal" to "Normal."

Specify a message reception monitor resource name for *mrw_name*.

When not specifying the monitor resource name, specify the monitor type and monitor target of the message reception monitor resource by using the -k option.

-h IP Address

Specify the IP addresses of EXPRESSCLUSTER servers that receive the processing request.

Up to 32 IP addresses can be specified by separating them with commas.

* If this option is omitted, the processing request is issued to the local server.

-k category[.keyword]

For *category*, specify the category specified for the message receive monitor when the --notice or --clear option is specified.

To specify the keyword of the message receive monitor resource, specify them by separating them with period after *category*.

-p port_number

Specify the port number.

For *port_number*, specify the data transfer port number specified for the server that receives the processing request.

The default value, 29002, is used if this option is omitted.

-o logfile_path

For *logfile_path*, specify the file path along which the detailed log of this command is output.

The file contains the log of one command execution.

* If this option is not specified on a server where EXPRESSCLUSTER is not installed, the log is always output to the standard output.

-w timeout

Specify the command timeout time. The default, 180 seconds, is used if this option is not specified.

A value from 5 to 999 can be specified.

Return Value

0	Completed successfully.
Other than 0	Terminated due to a failure.

Notes

When issuing error messages by using the `clprexec` command, the message reception monitor resources for which executing an action when an error occurs is specified in EXPRESSCLUSTER server must be registered and started.

The server that has the IP address specified for the `-h` option must satisfy the following conditions:

= EXPRESSCLUSTER X3.0 or later must be installed.

= EXPRESSCLUSTER must be running.
(When an option other than `--script` is used)

= `mrw` must be set up and running.
(When the `--notice` or `--clear` option is used)

When using the **Limiting the access by using client IP addresses** function, add the IP address of the device in which the `clprexec` command is executed to the **IP Addresses of the Accessible Clients** list.

For details of the **Limiting the access by using client IP addresses** function, see "WebManager tab" of "Cluster properties" in "Other setting details" in the EXPRESSCLUSTER X SingleServerSafe Configuration Guide.

Examples

Example 1: This example shows how to issue a request to execute the script (`script1.bat`) on EXPRESSCLUSTER server 1 (10.0.0.1):

```
# clprexec --script script1.bat -h 10.0.0.1
```

Example 2: This example shows how to issue an error message to EXPRESSCLUSTER server 1 (10.0.0.1):

* `mrw1` set, *category*: earthquake, *keyword*: scale3

- This example shows how to specify a message reception monitor resource name:

```
# clprexec --notice mrw1 -h 10.0.0.1 -w 30 -p /tmp/clprexec/clprexec.log
```

- This example shows how to specify the category and keyword specified for the message reception monitor resource:

```
# clprexec --notice -h 10.0.0.1 -k earthquake,scale3 -w 30 -p /tmp/clprexec/  
↪ clprexec.log
```

Example 3: This example shows how to issue a request to change the monitor status of `mrw1` to EXPRESSCLUSTER server 1 (10.0.0.1):

* mrwl set, *category*: earthquake, *keyword*: scale3

- This example shows how to specify a message reception monitor resource name:

```
# clprexec --clear mrwl -h 10.0.0.1
```

- This example shows how to specify the category and keyword specified for the message reception monitor resource:

```
# clprexec --clear -h 10.0.0.1 -k earthquake,scale3
```

Error Messages

Message	Cause/solution
Success	-
Invalid option.	Check the command argument.
Could not connect to the data transfer servers. Check if the servers have started up.	Check whether the specified IP address is correct and whether the server that has the IP address is running.
Could not connect to all data transfer server.	Check whether the specified IP address is correct and whether the server that has the IP address is running.
Command timeout.	Check whether the processing is complete on the server that has the specified IP address.
All servers are busy. Check if this command is already run.	This command might already be running.
Group(%s) is offline.	Check the processing result on the server that received the request.
Group that specified resource(%s) belongs to is offline.	Check the group status.
Specified script(%s) does not exist.	Check if the specified script exist.
Specified resource(%s) is not exist.	Check the resource name or monitor resource name.
Specified resource(Category:%s, Keyword:%s) is not exist.	Check the resource name or monitor resource name.
Specified group(%s) does not exist.	Check the group name.
This server is not permitted to execute clprexec.	Check whether the IP address of the server that executes the command is registered in the list of client IP addresses that are not allowed to connect to the Cluster WebUI.
%s failed in execute.	Check the status of the EXPRESSCLUSTER server that received the request.

2.18 Controlling reboot count (clpregctrl command)

Controls reboot count limitation.

Command line

```
clpregctrl --get
clpregctrl -g
clpregctrl --clear -t type -r registry
clpregctrl -c -t type -r registry
```

Description

Displays or initializes the reboot count on a server.

Option

- g, --get**
Displays reboot count information.
- c, --clear**
Initializes reboot count.
- t type**
Specifies the type to initialize the reboot count. The type that can be specified is *rc* or *rm*
- r registry**
Specifies the registry name. The registry name that can be specified is *haltcount*.

Return Value

0	Completed successfully.
1	Privilege for execution is invalid.
2	Duplicated activation
3	The option is invalid.
4	The configuration data is invalid.
10 to 17	Internal error
20 to 22	Obtaining reboot count information has failed.
90	Allocating memory has failed.

Notes

This command must be executed by a user with the administrator privilege.

Examples

- Display of reboot count information

```
# clpregctrl -g
*****
-----
type : rc
registry : haltcount
comment : halt count
kind : int
value : 0
default : 0
-----
type : rm
registry : haltcount
comment : halt count
kind : int
value : 3
default : 0
*****
success. (code:0)

#
```

The reboot count is initialized in the following examples.

Example 1: When initializing the count of reboots caused by a group resource error:

```
# clpregctrl -c -t rc -r haltcount  
success. (code:0)  
#
```

Example 2: When initializing the count of reboots caused by a monitor resource error:

```
# clpregctrl -c -t rm -r haltcount  
success. (code:0)  
#
```

Error Messages

Message	Cause/solution
Command succeeded.	The command ran successfully.
Log in as Administrator.	You are not authorized to run this command. Run this command as a user with Administrator privileges.
The command is already executed.	The command is already running.
Invalid option.	Specify a valid option.
Internal error. Check if memory or OS resources are sufficient.	Not enough memory space or OS resource.

2.19 Estimating the amount of resource usage (clpprer command)

Estimates the future value from changes in the resource usage amount written to the input file and outputs the result to a file. It can also be used to check the result of threshold judgment for estimated data.

Command line

```
clpprer -i <inputfile> -o <outputfile> [-p <number>] [-t <number> [-l]]
```

Description

Estimates the future value from the tendency of the given resource use amount data.

Option

- i** <inputfile>
The clpprer command specifies the resource data for which a future value is to be obtained.
- o** <outputfile>
Specifies the name of the file to which the estimate result is output.
- p** <number>
Specifies the number of estimate data items. If omitted, 30 items of estimate data are obtained.
- t** <number>
Specifies the threshold to be compared with the estimate data.
- l**
Valid only when the threshold is set with the -t option. Judges the status to be an error when the data value is less than the threshold.

Return Value

0	Normal end without threshold judgment
1	Error occurrence
2	As a result of threshold judgment, the input data is determined to have exceeded the threshold.
3	As a result of threshold judgment, the estimate data is determined to have exceeded the threshold.
4	As a result of threshold judgment, the data is determined to have not exceeded the threshold.
5	If the number of data items to be analyzed is less than the recommended number of data items to be analyzed (120), the input data is determined to have exceeded the threshold as a result of threshold judgment.
6	If the number of data items to be analyzed is less than the recommended number of data items to be analyzed (120), the estimate data is determined to have exceeded the threshold as a result of threshold judgment.
7	If the number of data items to be analyzed is less than the recommended number of data items to be analyzed (120), the data is determined to have not exceeded the threshold as a result of threshold judgment.

Notes

This command can be used only when the license for the system monitor resource (System Resource Agent) is registered. (If the license is registered, you do not need to configure system monitor resources for the cluster configuration.)

The maximum number of input data items of the resource data file specified with the `-i` option is 500. A certain number of input data items are required to estimate the amount of resource usage. However, if the number of input data items is large, it takes a considerable amount of time to perform the analysis. So, it is recommended that the number of input data items be restricted to about 120. Moreover, the maximum number of output data items that can be specified in option `-p` is 500.

If the time data for the input file is not arranged in ascending order, the estimate will not be appropriate. In the input file, therefore, set the time data arranged in ascending order.

Input file

The input file format is explained below. You need to have an input file, written in the following format, for the resource usage amount for which you want to estimate a result.

The input file format is CSV. One piece of data is coded in the form of *date and time, numeric value*. Moreover, the data and time format is YYYY/MM/DD hh:mm:ss.

File example

```
2012/06/14 10:00:00,10.0
2012/06/14 10:01:00,10.5
2012/06/14 10:02:00,11.0
```

Examples

The estimation of the future value is explained using a simple example.

When an error is detected in the input data:

If the latest value of the input data exceeds the threshold, an error is assumed and a return value of 2 is returned. If the number of input data items is less than the recommended value (=120), a return value of 5 is returned.

When an error is detected in the estimate data:

If the estimate data exceeds the threshold, an error is assumed and a return value of 3 is returned. If the number of input data items is less than the recommended value (=120), a return value of 6 is

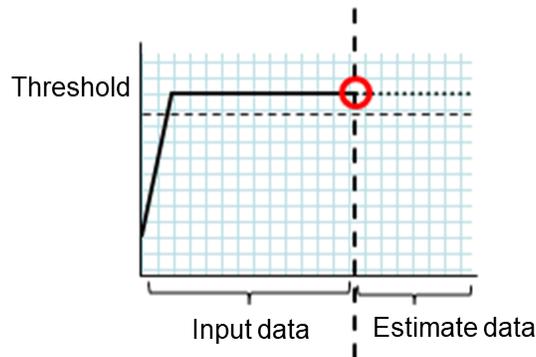


Fig. 2.1: Error detection in the input data

returned.

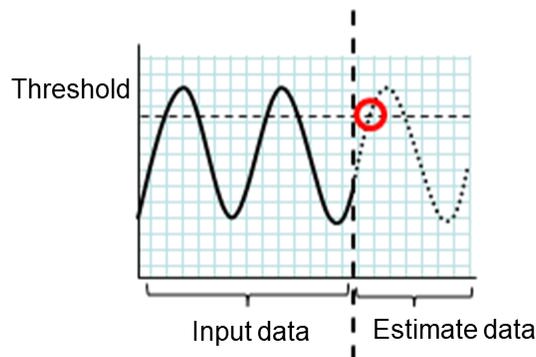


Fig. 2.2: Error detection in the estimate data

When no threshold error is detected:

If neither the input data nor the estimate data exceeds the threshold, a return value of 4 is returned.
If the number of input data items is less than the recommended value (=120), a return value of 7 is returned.

When the -l option is used:

If the -l option is used, an error is assumed when the data is less than the threshold.

Examples

If you use a file written in the specified format and run the `clpprer` command, you can output the estimate result to a file and check it.

Input file `test.csv`

```
2012/06/14 10:00:00,10.0  
2012/06/14 10:01:00,10.5  
2012/06/14 10:02:00,11.0
```

```
# clpprer -i test.csv -o result.csv
```

Output result `result.csv`

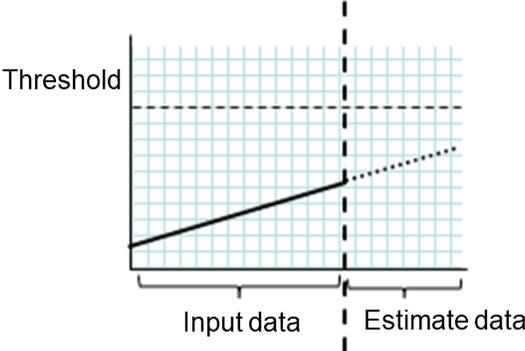


Fig. 2.3: When no threshold error is detected

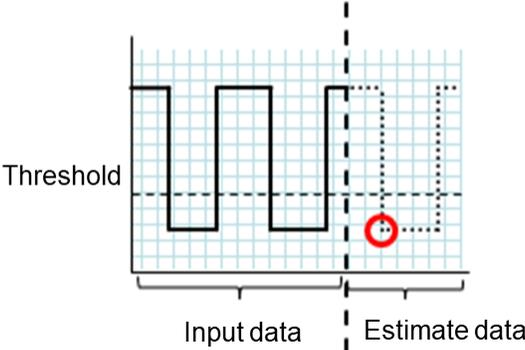


Fig. 2.4: Use of the -l option

```
2012/06/14 10:03:00,11.5
2012/06/14 10:04:00,12.0
2012/06/14 10:05:00,12.5
2012/06/14 10:06:00,13.0
2012/06/14 10:07:00,13.5
:
```

If you set a threshold for option, you can check the result of threshold judgment for estimate data at the command prompt.

```
# clpprer -i test.csv -o result.csv -t 12.5
```

Execution result

```
Detect over threshold. datetime = 2012/06/14 10:06:00, data = 13.00, threshold = 12.5
```

Error Messages

Message	Causes/Solution
Normal state.	As a result of threshold judgment, no data exceeding the threshold is detected.
Detect over threshold. datetime = %s, data = %s, threshold = %s	As a result of threshold judgment, data exceeding the threshold is detected.
Detect under threshold. datetime = %s, data = %s, threshold = %s	As a result of threshold judgment with the -l option, data less than the threshold is detected.
License is nothing.	The license for the valid System Resource Agent is not registered. Check to see the license.
Inputfile is none.	The specified input data file does not exist.
Inputfile length error.	The path for the specified input data file is too long. Specify no more than 1023 bytes.
Output directory does not exist.	The directory specified with the output file does not exist. Check whether the specified directory exists.
Outputfile length error.	The path for the specified output file is too long. Specify no more than 1023 bytes.
Invalid number of -p.	The value specified in the -p option is invalid.
Invalid number of -t.	The value specified in the -t option is invalid.
Not analyze under threshold(not set -t) .	The -t option is not specified. When using the -I option, also specify the -t option.
File open error [%s]. errno = %s	The file failed to open. The amount of memory or OS resources may be insufficient. Check for any insufficiency.
Inputfile is invalid. cols = %s	The number of input data items is not correct. Set the number of input data items to 2 or more.
Inputfile is invalid. rows = %s	The input data format is incorrect. One line needs to be divided into two rows.
Invalid date format. [expected YYYY/MM/DD HH:MM:SS]	The date of the input data is not of the correct format. Check to see the data.
Invalid date format. Not sorted in ascending order.	Input data is not arranged in ascending order of date and time. Check the data.
File read error.	An invalid value is set in the input data. Check the data.
Too large number of data [%s]. Max number of data is %s.	The number of input data items exceeds the maximum value (500). Reduce the number of data items.

Continued on next page

Table 2.34 – continued from previous page

Message	Causes/Solution
Input number of data is smaller than recommendable number.	The number of input data items is less than the recommended number of data items to be analyzed (120). * Data is analyzed even if the recommended number of data items to be analyzed is small.
Internal error.	An internal error has occurred.

2.20 Checking the process health (clphealthchk command)

Checks the process health.

Command line

```
clphealthchk [ -t pm | -t rc | -t rm | -t nm | -h]
```

Note: This command must be run on the server whose process health is to be checked because this command checks the process health of a single server.

Description

This command checks the process health of a single server.

Option

None

Checks the health of all of pm, rc, rm, and nm.

-t <param>

- <param>

- pm

Checks the health of pm.

- rc

Checks the health of rc.

- rm

Checks the health of rm.

- nm

Checks the health of nm.

-h

Displays the usage.

Return Value

0	Normal termination.
1	Privilege for execution is invalid.
2	Duplicated activation.
3	Initialization error.
4	The option is invalid.
10	The process stall monitoring function has not been enabled.
11	The cluster is not activated (waiting for the cluster to start or the cluster has been stopped.)
12	The cluster daemon is suspended.
100	There is a process whose health information has not been updated within a certain period. If the -t option is specified, the health information of the specified process is not updated within a certain period.
255	Other internal error.

Examples

Example 1: When the processes are healthy

```
# clphealthchk
pm OK
rc OK
rm OK
nm OK
```

Example 2: When clprc is stalled

```
# clphealthchk
pm OK
rc NG
rm OK
nm OK
# clphealthchk -t rc
rc NG
```

Example 3: When the cluster has been stopped

```
# clphealthchk
The cluster has been stopped
```

Remarks

If the cluster has been stopped or suspended, the process is also stopped.

Notes

Run this command as a user with Administrator privileges.

Error Messages

Message	Cause/Solution
Log in as Administrator.	Log in as a user with Administrator privileges.
Initialization error. Check if memory or OS resources are sufficient.	Check to see if the memory or OS resource is sufficient.
Invalid option.	Specify a valid option.
The function of process stall monitor is disabled.	The process stall monitoring function has not been enabled.
The cluster has been stopped.	The cluster has been stopped.

Continued on next page

Table 2.35 – continued from previous page

Message	Cause/Solution
The cluster has been suspended.	The cluster has been suspended.
This command is already run.	The command has already been started.
Internal error. Check if memory or OS resources are sufficient.	Check to see if the memory or OS resource is sufficient.

2.21 Setting an action for OS shutdown initiated by other than cluster service (clpstdncnf command)

Sets an action for OS shutdown initiated by other than cluster service..

Command line

```
clpstdncnf -e [time]
clpstdncnf -d
clpstdncnf -v
```

Description

This command sets an action for OS shutdown initiated by other than cluster service.

Option

-e [time]

Waits for cluster services to be stopped when OS shutdown is initiated by other than cluster service. You can specify a timeout value in minutes (A value between 1 to 1440 can be specified). It is necessary to specify the timeout value at first execution. From the second execution on, if you don't specify the timeout value, the current value is used.

-d

Does not wait for cluster services to be stopped when OS shutdown is initiated by other than cluster service.

-v

shows the current setting.

Return Value

0	Success
Other than 0	Failure

Notes

Run this command as a user with Administrator privileges.

In case of a virtual environment, such as cloud environment, when OS shutdown is initiated from the virtual infrastructure, power-off may be executed depending on the virtual infrastructure.

Example of command execution

Example 1: Waits for cluster service to be stopped (timeout = 30 minutes)

```
# clpstdncnf -e 30
Command succeeded.
# clpstdncnf -v
Mode : wait
Timeout : 30 min
```

Example 2: Does not wait for cluster service to be stopped

```
# clpstdncnf -d
Command succeeded.
# clpstdncnf -v
Mode : no wait
Timeout : 30 min
```

2.22 Displaying the cluster statistics information (clpperfc command)

the clpperfc command displays the cluster statistics information.

Command line

```
clpperfc --starttime -g group_name
clpperfc --stoptime -g group_name
clpperfc -g [group_name]
clpperfc -m monitor_name
```

Description

This command displays the median values (millisecond) of the group start time and group stop time.

This command displays the monitoring processing time (millisecond) of the monitor resource.

Option

```
--starttime -g group_name
    Displays the median value of the group start time.

--stoptime -g group_name
    Displays the median value of the group stop time.

-g [group_name]
    Displays the each median value of the group start time and group stop time.
    If groupname is omitted, it displays the each median value of the start time and stop time of all the groups.

-m monitor_name
    Displays the last monitor processing time of the monitor resource.
```

Return value

0	Normal termination
1	Invalid command option
2	User authentication error
3	C onfiguration information load error
4	C onfiguration information load error
5	Initialization error
6	Internal error
7	I nternal communication initialization error
8	I nternal communication connection error
9	I nternal communication processing error
10	T arget group check error
12	Timeout error

Example of Execution

When displaying the median value of the group start time:

```
# clpperfc --starttime -g failover1
200
```

When displaying each median value of the start time and stop time of the specific group:

```
# clpperfc -g failover1
          start time    stop time
failover1         200         150
```

When displaying the monitor processing time of the monitor resource:

```
# clpperfc -m monitor1
100
```

Remarks

The time is output in millisecond by this commands.

If the valid start time or stop time of the group was not obtained, - is displayed.

If the valid monitoring time of the monitor resource was not obtained, 0 is displayed.

Notes

Execute this command as a root user.

Error Messages

Message	Cause/Solution
Log in as Administrator.	Run this command as an Administrator user.
Invalid option.	The command option is invalid. Check the command option.
Command timeout.	Command execution timed out .
Internal error.	Check if memory or OS resources are sufficient.

2.23 Checking the cluster configuration information (clpcfchk command)

This command checks the cluster configuration information.

Command line

```
clpcfchk -o path [-i conf_path]
```

Description

This command checks the validness of the setting values based on the cluster configuration information.

Option

- o path
Specifies the directory to store the check results.
- i conf_path
Specifies the directory which stored the configuration information to check.
If this option is omitted, the applied configuration information is checked.

Return Value

0	Normal termination
Other	than 0 Termination with an error

Example of Execution

When checking the applied configuration information:

```
# clpcfchk -o /tmp  
server1 : PASS
```

When checking the stored configuration information:

```
# clpcfchk -o /tmp -i /tmp/config  
server1 : PASS
```

Execution Result

For this command, the following check results (total results) are displayed.

Check Results (Total Results)	Description
PASS	No error found.
FAIL	An error found. Check the check results.

Remarks

Only the total results of each server are displayed.

Notes

Run this command as a root user.

When checking the configuration information exported through Cluster WebUI, decompress it in advance.

Error Messages

Message	Cause/Solution
Log in as Administrator.	Log in as an Administrator user.
Invalid option.	Specify a valid option.
Could not opened the configuration file. Check if the configuration file exists on the specified path.	The specified path does not exist. Specify a valid path.
Server is busy. Check if this command is already run.	This command has been already activated.
Failed to obtain properties.	Failed to obtain the properties.
Failed to check validation.	Failed to check the cluster configuration.
Internal error. Check if memory or OS resources are sufficient.	The amount of memory or OS resources may be insufficient. Check for any insufficiency.

NOTES AND RESTRICTIONS

This chapter provides cautions on using EXPRESSCLUSTER X SingleServerSafe, as well as the known problems and how to prevent them.

This chapter covers:

- 3.1. *After starting operating EXPRESSCLUSTER X SingleServerSafe*

3.1 After starting operating EXPRESSCLUSTER X SingleServerSafe

This section provides notes on situations you might encounter after starting to operate EXPRESSCLUSTER.

3.1.1 Restrictions during recovery operation

Do not perform the following operations by using the Cluster WebUI or command line while recovery processing is changing (reactivation -> last operation), if a group resource (an application resource, service resource, or other resource) is specified as a recovery target and when a monitor resource detects an error.

- Stopping/suspending the cluster
- Starting or stopping a group

If you perform the above-mentioned operations while recovery caused by detection of an error by a monitor resource is in progress, other group resources of the group with an error may not stop.

However, you can perform them when the final action is completed.

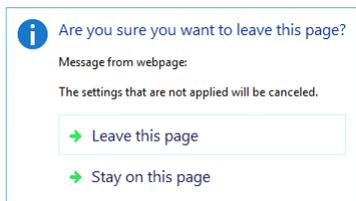
3.1.2 Executable format files and script files not described in the command reference

The installation directory contains executable files and script files that are not described in "EXPRESSCLUSTER command reference" in the "EXPRESSCLUSTER X Reference Guide". Do not execute these files by using any program other than EXPRESSCLUSTER X SingleServerSafe.

Any problems caused by not using EXPRESSCLUSTER will not be supported.

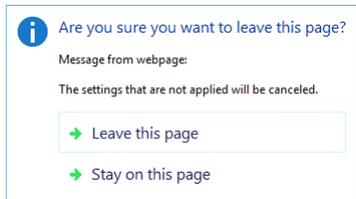
3.1.3 Notes on the Cluster WebUI

- If the Cluster WebUI is operated in the state that it cannot communicate with the connection destination, it may take a while until the control returns.
- When going through the proxy server, make the settings for the proxy server be able to relay the port number of the Cluster WebUI.
- When going through the reverse proxy server, the Cluster WebUI will not operate properly.
- When updating EXPRESSCLUSTER X SingleServerSafe, close all running browsers. Clear the browser cache and restart the browser.
- Cluster configuration data created using a later version of this product cannot be used with this product.
- When closing the Web browser, the dialog box to confirm to save may be displayed.



When you continue to edit, click the **Stay on this page** button.

- Reloading the Web browser (by selecting **Refresh button** from the menu or tool bar), the dialog box to confirm to save may be displayed.



When you continue to edit, click the **Stay on this page** button.

- For notes and restrictions of Cluster WebUI other than the above, see the online manual.

3.1.4 EXPRESSCLUSTER Disk Agent service

The EXPRESSCLUSTER Disk Agent service is not used for EXPRESSCLUSTER X SingleServerSafe. Do not start this service.

3.1.5 Issues with User Account Control (UAC) in Windows Server 2012 or later environment

In Windows Server 2012 or later or later environment, User Account Control (UAC) is enabled by default. When UAC is enabled, there are following issues.

Monitor Resource

Following resource has issues with UAC.

Oracle Monitor Resource

For the Oracle monitor resource, if you select **OS Authentication** for **Authentication Method** and then set any user other than those in the Administrators group as the monitor user, the Oracle monitoring processing will fail.

When you set **OS Authentication** in **Authentication Method**, the user to be set in **Monitor User** must belong to the Administrators group.

3.1.6 Screen display of application resource / script resource

Because the processes started from the application resource or script resource of EXPRESSCLUSTER are executed in session 0, when you start a process having GUI, the **Interactive services dialog detection** pop-up menu is displayed. Unless you select **Show me the message**, GUI is not displayed.

3.1.7 Environment in which the network interface card (NIC) is duplicated

In an environment in which the NIC is duplicated, NIC initialization at OS startup may take some time. If the cluster starts before the NIC is initialized, the starting of the kernel mode LAN heartbeat resource (lankhb) may fail. In such cases, the kernel mode LAN heartbeat resource cannot be restored to its normal status even if NIC initialization is completed. To restore the kernel mode LAN heartbeat resource, you must first suspend the cluster and then resume it. In that environment, we recommend to delay startup of the cluster by following setting or command.

- Network Initialization complete wait time
You can configure this setting in **Timeout** tab of **Cluster Properties**. If NIC initialization is completed within timeout, the cluster service starts up.
- ARMDELAY command (armdelay.exe)
The cluster service starts up after the time that you set with the command from OS startup.

For more details of above setting and command, please refer to the "Legacy Feature Guide" for EXPRESSCLUSTER X.

3.1.8 EXPRESSCLUSTER service login account

The EXPRESSCLUSTER service login account is set in **Local System Account**. If this account setting is changed, EXPRESSCLUSTER might not properly operate as a cluster.

3.1.9 Monitoring the EXPRESSCLUSTER resident process

The EXPRESSCLUSTER resident process can be monitored by using software monitoring processes. However, recovery actions such as restarting a process when the process abnormally terminated must not be executed.

3.1.10 JVM monitor resources

- When restarting the monitoring-target Java VM, you must first suspend JVM monitor resources or stop the cluster.
- When changing the JVM monitor resource settings, you must suspend and resume the cluster.
- JVM monitor resources do not support a delay warning of monitor resources.

3.1.11 System monitor resources, Process resource monitor resource

- To change a setting, the cluster must be suspended.
- System monitor resources do not support a delay warning for monitor resources.
- If the date or time setting on the OS is changed while a system monitor resource is operating, that system monitor resource may fail to operate normally.

If you have changed the date or time setting on the OS, suspend and then resume the cluster.

- No error is detected even after the specified duration for detecting errors has passed.
 - An error is detected before the specified duration for detecting errors has elapsed.
- Up to 26 disks that can be monitored by the disk resource monitoring function of System monitor resources.

3.1.12 Display of the Interactive services dialog detection pop-up menu

To allow the **Interactive services dialog detection** pop-up menu to be displayed by setting the **Allow to Interact with Desktop** of the application resource or script resource the "Interactive Service Detection" service must have been started.

The startup of the "Interactive Service Detection" service with its default settings is invalid. Follow the procedure below to validate the service.

See also:

[http://msdn.microsoft.com/en-us/library/windows/desktop/ms683502\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/windows/desktop/ms683502(v=vs.85).aspx)

-> Using an Interactive Service

ERROR MESSAGES

This chapter provides information on error messages you might encounter when operating EXPRESSCLUSTER X SingleServerSafe.

This chapter covers:

- 4.1. *Messages reported by event log and alert*

4.1 Messages reported by event log and alert

The messages that are output to event logs and alerts are the same as those of EXPRESSCLUSTER X. For details of these messages, see the Reference Guide for EXPRESSCLUSTER X.

The messages specific to EXPRESSCLUSTER X SingleServerSafe are as follows.

Module Type	Event Type	Event ID	Message	Explanation	Solution	Alert	Event log	Usrlog
sss	Error	20004	Failed to get the system drive letter.	The system drive letter could not be acquired.	The system may not be able to operate properly.			✓
sss	Error	20005	Failed to get the server name.	The server name could not be acquired.	The system may not be able to operate properly.			✓
sss	Info	20006	The server name has been updated.	The server name has been updated.	--	✓		✓
sss	Error	20007	Failed to update the configuration file.	The configuration file could not be updated.	Check the configuration data.	✓		✓
sss	Info	20008	The configuration file has been updated.	The configuration file has been updated.	--			✓
sss	Error	20009	The content of the configuration file is invalid.	The content of the configuration file is invalid.	Check the configuration data.			✓
sss	Error	20010	Failed to start %1 service.	The %1 service could not be started.	The system may not be able to operate properly.	✓		✓
sss	Info	20012	%1 service has been started.	The %1 service has been started.	--			✓

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Table 4.1 – continued from previous page

Module Type	Event Type	Event ID	Message	Explanation	Solution	Alert	Eventlog	Usage
sss	Info	20013	%1 service has been stopped.	The %1 service has been stopped.	--			✓
sss	Info	20014	The redundant module of the LAN board has been started.	The redundant module of the LAN board has been started.	Memory or OS resources may not be sufficient. Check them.			✓
sss	Error	20015	Failed to start the redundant module of the LAN board.	The redundant module of the LAN board could not be started.	--	✓		✓
ncctl	Error	20101	An error was detected in LAN board %1.	An error was detected in LAN board %1.	Check whether the settings of the standby LAN board are correct.	✓		✓
ncctl	caution	20102	Changing LAN board %1 to LAN board %2.	LAN board %1 will now be switched to LAN board %2.	--	✓		✓
ncctl	Error	20103	The operation of LAN board %1 failed.	The operation of LAN board %1 failed.	--	✓		✓

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