

ExpressCluster for Linux

Version 3

Web Manager Reference

Revision 6us



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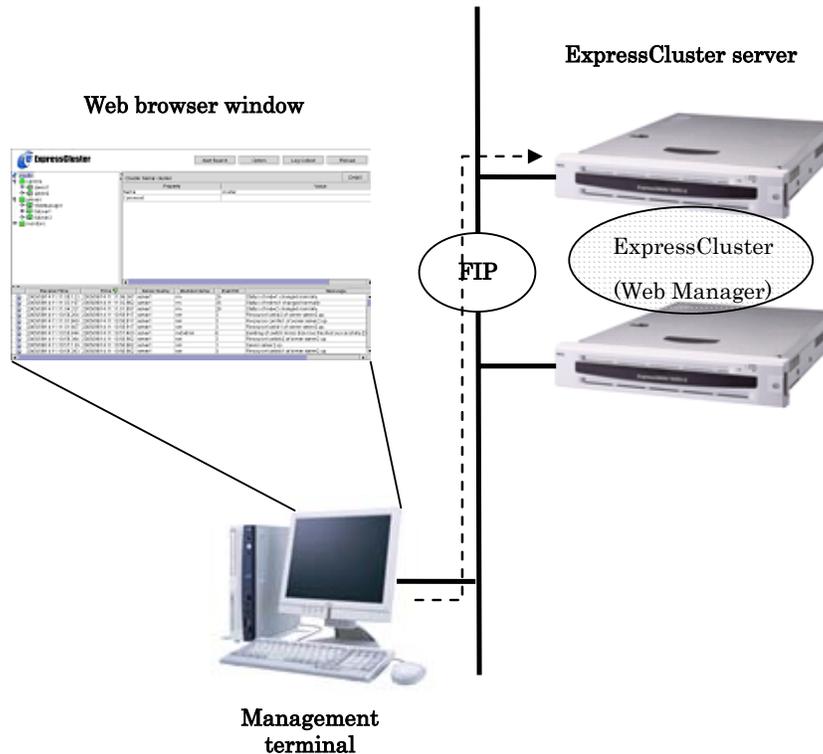
1 What is ExpressCluster Web Manager?

This chapter provides an overview of ExpressCluster Web Manager (In this book, it omits and is written as Web Manager).

1.1 Overview

Using Web Manager allows you to monitor the cluster status and servers/groups startup and stop, and collect cluster operation logs from a management terminal.

A commonly used web browser (hereafter browser) is used to access Web Manager from the management terminal.



Web Manager in the ExpressCluster server is configured to start up when the OS starts up.

If you want to manually stop/start up, see “1.11 Stopping and Starting Web Manager.”

When you set the [ExpressCluster CD] in a Windows management machine, it will auto run and the [ExpressCluster Manager] setup menu will appear. Note that this is unrelated to [Web Manager] described in this book. This is the manager for [ExpressCluster for Linux 2.x].

Do not use this manager in ExpressCluster for Linux 3.x.

1.2 Supported Browsers

You can use the following browsers to access Web Manager.

- * Microsoft® Internet Explorer 6.0 SP1 or later
- * Netscape® 7.1 or later
- * Mozilla 1.1 or later

Note that a browser should have Java™ 2 Runtime Environment, Standard Edition Version 1.4.1 or later in it.

For information on combinations of a browser and OS that have been tested and verified, see a separate guide, “Operational Environment.”

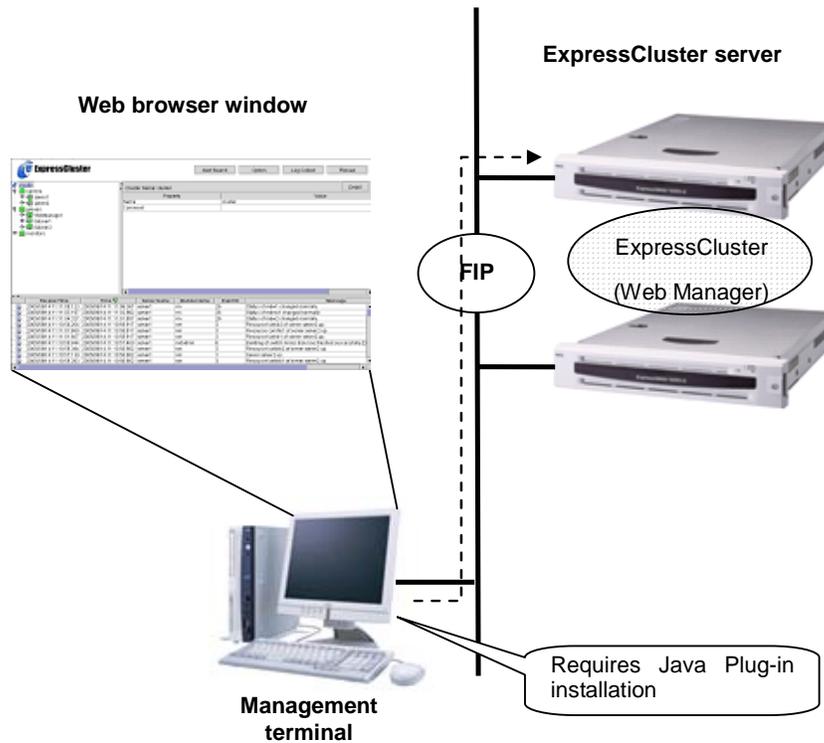
2 Access to Web Manager

This chapter describes how to access Web Manager from a management terminal.

1.3 Setting Up a Management Terminal

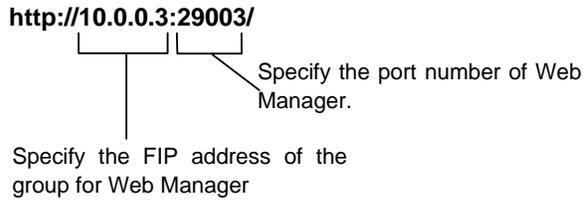
In order to access Web Manager, Java Plug-in must be installed in the web browser in a management terminal.

To install Java Plug-in in a web browser, see the web browser's help and the JavaVM installation guide.



1.4 Access

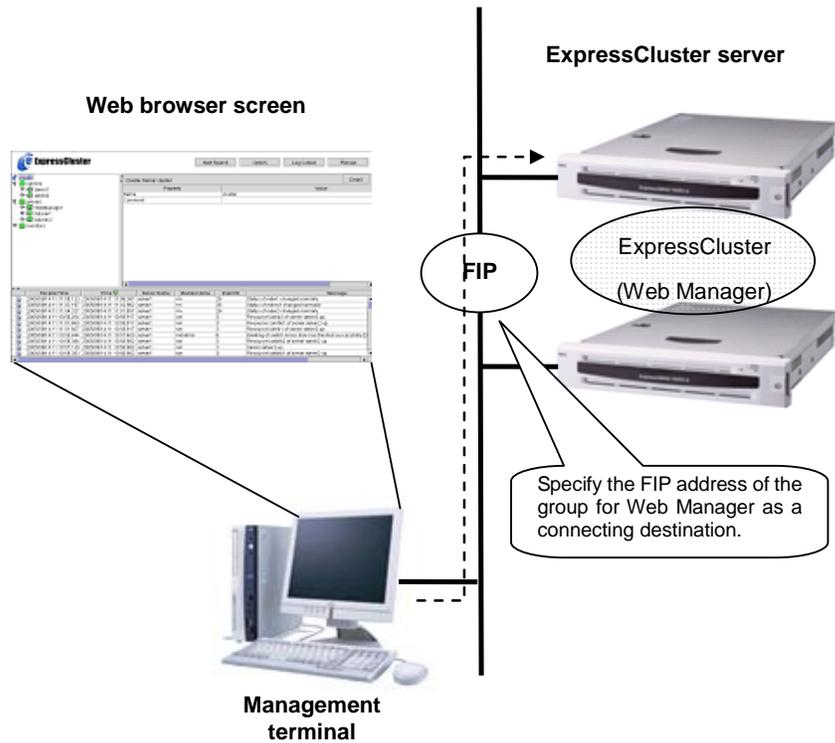
Specify the following as the URL to access Web Manager from your management terminal.



For the IP address of an access destination, specify the FIP address of a group for Web Manager.

If an FIP address has been specified, a connection will switch from the original access destination server to other working server when the original server fails.

Specify the port number that has been configured in [WebManager HTTP Port Number]. To configure [WebManager HTTP Port Number], choose [Cluster Property] in [ExpressCluster Configuration Tool], and then [Port No.].



3 Window

This chapter provides information about the Web Manager window.

The information in this chapter is based on the window representation in the English environment. The language representation on the screen will depend on the locale of a management terminal OS.

1.5 Main Window

The Web Manager window consists of four views.



(1) Title View

Four buttons in this view allow you to:

- + Search for alert logs
- + Show/hide split bars.
- + Collect ExpressCluster operation logs
- + Reload the window.

For more information, see "1.6 Title View."

(2) Tree View

This view allows you to see status of each cluster's resources such as server or group resources.

For more information, see "1.7 Tree View."

(3) List View

This view provides information about the cluster resources selected in the tree view.

If you click the [Detail] button located at the upper right of the view, further information will be displayed in a dialogue.

For more information, see "1.8 List View."

(4) Alert View

This view shows messages describing ExpressCluster operating status.

For more information, see "1.9 Alert View."

1.6 Title View

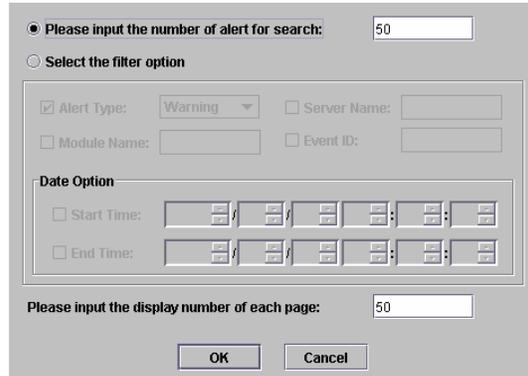
The buttons in the title view allows you four types of operations.



3.1.2 Alert Search

When you click the [Alert Search] button, the following dialog box appears allowing you to search alert logs.

For the information on alert logs, see “1.9 Alert View” as well.



The dialog box is titled "Alert Search" and contains the following elements:

- A radio button labeled "Please input the number of alert for search:" with a text input field containing the value "50".
- A radio button labeled "Select the filter option".
- A section containing:
 - A checked checkbox "Alert Type:" with a dropdown menu showing "Warning".
 - An unchecked checkbox "Server Name:" with an empty text input field.
 - An unchecked checkbox "Module Name:" with an empty text input field.
 - An unchecked checkbox "Event ID:" with an empty text input field.
- A section titled "Date Option" containing:
 - An unchecked checkbox "Start Time:" with a date and time picker.
 - An unchecked checkbox "End Time:" with a date and time picker.
- A text label "Please input the display number of each page:" with a text input field containing the value "50".
- Two buttons at the bottom: "OK" and "Cancel".

* **Please input the number of alert for search**

Enter the number of past alert logs you want to look up. A maximum value you can enter is the number you configured in [Preserve Maximum Alert Record Number]. To configure [Preserve Maximum Alert Record Number], choose [Cluster Property] in [ExpressCluster Configuration Tool], and then [Alert Log].

* **Select the filter option:**

Enter searching conditions.

- + Alert Type: Select the type of alerts you want to see.
- + Module Name: Type in the module name whose alerts you want to see.

Module Type	Category
pm	Whole ExpressCluster
rc	Group/resource related
rm	Monitor resource related
nm	Heartbeat resource related
lanhb	LAN heartbeat resource
lankhb	Kernel mode LAN heartbeat resource
diskhb	DISK heartbeat resource
comhb	COM heartbeat resource
disk	Disk resource
fip	Floating IP resource
vxdg	VxVM disk group resource
vxvol	VxVM volume resource
md	Mirror disk resource
mdagent	Mirror agent related
mdadmn	Mirror disk related
mdctrl	Mirror disk control command
mdw	Mirror disk monitor resource
logcmd	Message output command

- + Server Name: Type in the name of a server whose alerts you want to see.
- + Event ID: Type in an event ID whose alerts you want to see.
- + Start Time: Specify the start time of your search range.
- + Stop Time: Specify the end time of your search range.

* **Please input the display number of each page:**

Enter the number of lines that appear in the page showing search results.

The maximum value you can enter is [Alert Viewer Maximum Record Number]. To configure [Alert Viewer Maximum Record Number], choose [Cluster Property] in [ExpressCluster Configuration Tool], and then [Web Manager] and [Turning].

When you click [OK], search results appear as shown in the dialog box in the next page.

	Receive Time	Time	Server Name	Module Name	Event ID	Message
	2005/08/18 16:29:43.306	2005/08/18 16:31:51:910	server2	rm	50	The number of license is 2. (SE...
	2005/08/18 16:29:43.298	2005/08/18 16:31:44.290	server2	rm	1	Monitor ipw1 start.
	2005/08/18 16:29:43.198	2005/08/18 16:31:44.242	server2	rm	1	Monitor ipw2 start.
	2005/08/18 16:29:43.220	2005/08/18 16:31:44.150	server2	rm	1	Monitor mtw1 start.
	2005/08/18 16:29:43.213	2005/08/18 16:31:43.968	server2	rm	1	Monitor raww1 start.
	2005/08/18 16:29:43.205	2005/08/18 16:31:43.953	server2	rm	1	Monitor userw start.
	2005/08/18 16:29:43.191	2005/08/18 16:31:37:761	server2	nm	3	Resource diskb1 of server ser...
	2005/08/18 16:29:43.183	2005/08/18 16:31:37:761	server2	nm	3	Resource lanhb2 of server serv...
	2005/08/18 16:29:43.174	2005/08/18 16:31:37:760	server2	nm	3	Resource lanhb1 of server serv...
	2005/08/18 16:29:43.160	2005/08/18 16:31:35:741	server2	nm	1	Server server1 up.
	2005/08/18 16:29:43.167	2005/08/18 16:31:35:740	server2	nm	3	Resource comb1 of server serv...
	2005/08/18 16:29:43.144	2005/08/18 16:31:34:691	server2	nm	1	Server server2 up.
	2005/08/18 16:29:43.152	2005/08/18 16:31:34:659	server2	nm	3	Resource lanhb2 of server serv...
	2005/08/18 16:29:43.137	2005/08/18 16:31:34:659	server2	nm	3	Resource comb1 of server serv...
	2005/08/18 16:29:43.123	2005/08/18 16:31:34:659	server2	nm	3	Resource diskb1 of server serv...
	2005/08/18 16:29:43.129	2005/08/18 16:31:34:658	server2	nm	3	Resource lanhb1 of server serv...
	2005/08/18 16:29:42.965	2005/08/18 16:31:08:808	server2	pm	1	Cluster daemon has started pr...
	2005/08/18 16:29:19.576	2005/08/18 16:29:19:398	server1	rc	11	The start processing of a group...
	2005/08/18 16:29:14.643	2005/08/18 16:29:14:441	server1	rc	11	The start processing of a group...
	2005/08/18 16:29:14.225	2005/08/18 16:29:13:634	server1	rm	50	The number of license is 2. (SE...
	2005/08/18 16:29:10.514	2005/08/18 16:29:09:942	server1	rc	10	The start processing of a group...
	2005/08/18 16:29:08.596	2005/08/18 16:29:07:908	server1	rc	10	The start processing of a group...
	2005/08/18 16:29:08.485	2005/08/18 16:29:06:461	server1	rm	1	Monitor ipw1 start.
	2005/08/18 16:29:08.333	2005/08/18 16:29:06:461	server1	rm	1	Monitor mtw1 start.
	2005/08/18 16:29:09.277	2005/08/18 16:29:06.336	server1	rm	1	Monitor ipw2 start.
	2005/08/18 16:29:07.374	2005/08/18 16:29:06.239	server1	rm	1	Monitor raww1 start.
	2005/08/18 16:29:06.459	2005/08/18 16:29:06.224	server1	rm	1	Monitor userw start.
	2005/08/18 16:29:03.008	2005/08/18 16:29:02:707	server1	nm	3	Resource lanhb2 of server serv...
	2005/08/18 16:29:03.085	2005/08/18 16:29:02:706	server1	nm	3	Resource lanhb1 of server serv...
	2005/08/18 16:29:01.037	2005/08/18 16:29:00:687	server1	nm	3	Resource diskb1 of server serv...

* **Previous**

Moves to the previous page of the search results.

* **Next**

Moves to the next page of the search results.

* **Jump**

Moves to the page specified in Page box.

Results are shown in descending order of [Time].

3.1.3 Option

When you click the [Option] button, the dialog box to select show or hide the split bars appears.



The split bars divide the views in Web Manager.



If you select  , the view is maximized while the view is minimized if you select  .

3.1.4 Log Collect

When you click the [Log Collect] button, the log collection dialog box appears.

Please select the servers and collect patterns:

<input checked="" type="checkbox"/>	Server Name	Pattern
<input checked="" type="checkbox"/>	server1	Pattern1 ▼
<input checked="" type="checkbox"/>	server2	Pattern1 ▼

OK Cancel Info Default

- * **Check Box**
Select check boxes of the servers whose logs you want to collect.
- * **Pattern**
Select the information to be collected. For information on each pattern, see a separate guide "Command".
- * **[Info] button**
Information on each pattern is shown.
- * **[OK] button**
Starts log collection and displays the dialog box of log collection progress.
- * **[Cancel] button**
Closes this dialog box.
- * **[Default] button**
Resets the selections of servers and collect patterns to default values.

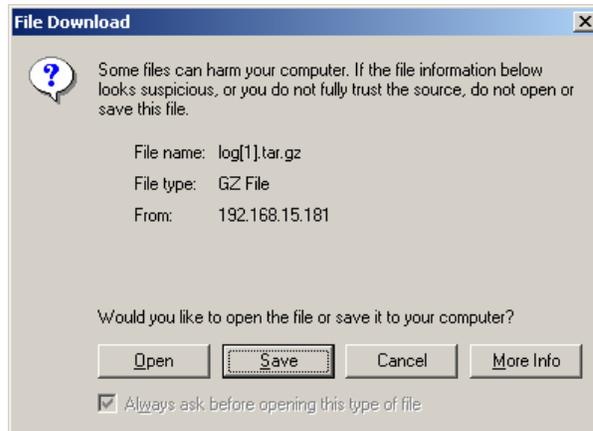
Server Name	Connected Address	Status	Progress	Result
server1	192.168.0.1	Transmitting	71%	Normal
server2	192.168.0.2	Transmitting	83%	Normal

- * **[Update] button**
Updates the dialog box of log collection progress.
- * **[Abort] button**
Aborts the log collection.
- * **[Close] button**
Closes the dialog box of log collection progress. Log collection is continued. At this time, the display of the [Log Collect] button has changed to the [Progress] button. Click the [Progress] button to display the progress of log collection again.

Log Collection Result

Result	Description
Normal	Log collection has succeeded.
Abort	Log collection has cancelled by user.
Invalid parameters	Parameter is invalid.
Communication error	Connecting error has occurred.
Timeout	Timeout has occurred.
Busy	Server is busy.
Compression error	Error has occurred when compressing a file.
File I/O error	File I/O failed.
No free space	There is not enough empty space on disk.
Unknown error	Internal error occurred.

When the log collection completes, the browser shows a dialog box that asks where you want to save the logs. Download the logs to any location.



(* What you see when you are using Internet Explorer 6.0 SP1)



Logs may not be downloaded properly if nothing is changed for more than 10 minutes.

When you collect logs, the following message may appear in the server console.

```
hda: bad special flag: 0x03
ip_tables: (C) 2000-2002 Netfilter core team
```

This will not affect log collection. Ignore this message.



If other modal dialog is shown while collecting logs, the file saving dialogue for the log collection will not be shown. To show the file saving dialog, terminate the modal dialog.

3.1.5 Reload

When you click the [Reload] button, what is displayed for Web Manager will be updated to the latest status.

Although what is displayed for Web Manager is generally updated automatically, it does not always show the latest status because of the refresh interval configuration. If you have done any specific operations, click the [Reload] button to update the window.

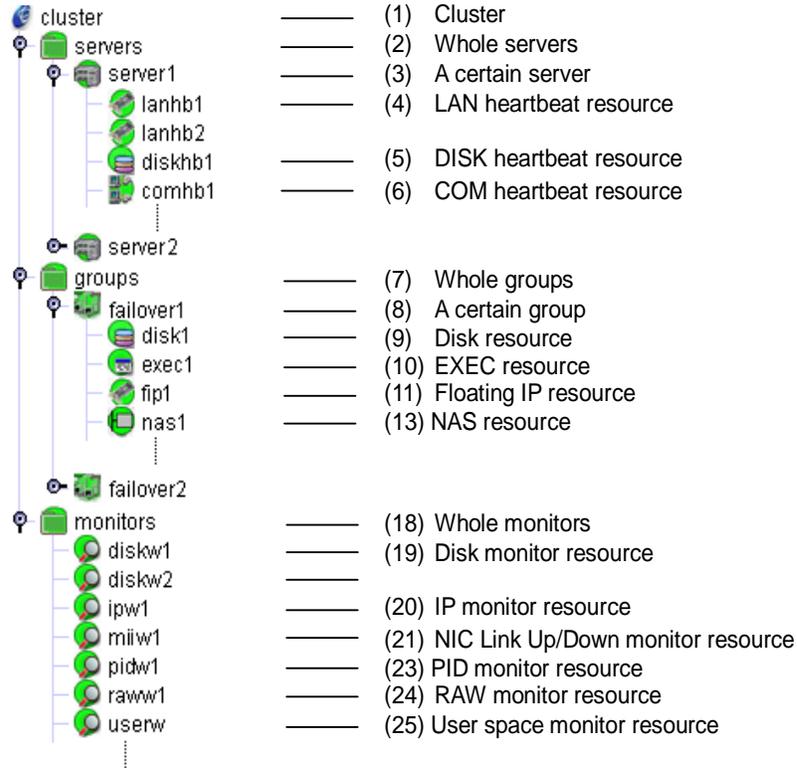
Some objects may be shown in gray when communications to the connecting destination is disabled or ExpressCluster is not working in the access destination.

The Web Manager refresh interval can be configured between 0 and 999 in [Screen Data Refresh Interval]. To configure [Screen Data Refresh Interval], choose [Cluster Property] in [ExpressCluster Configuration Tool], and then [Web Manager] and [Turning].

1.7 Tree View

3.1.6 Overview of Tree View

The outline of tree view is as follows. Tree composition changes by Edition, Version of ExpressCluster.



3.1.7 Object Colors

Each object color represents the following meaning.

(1)  cluster	Status of cluster
	There is no color in the object of cluster.

(2)  servers	Status of whole servers
 [Normal]	All servers have been started.
 [Caution]	One or more servers in the cluster are not working.
	-
 [Unknown]	No information is acquired.

(3)  server name	Status of a certain server
 [Online]	The server is running normally.
 [Caution]	One or more servers in the cluster cannot be accessed.
	-
 [Offline]/[Unknown]	The server is not working/no information is acquired.

(4)  resource name	Status of a LAN heartbeat resource
 [Normal]	The server (cluster) can communicate with all servers.
 [Caution]	One or more servers in the cluster cannot be accessed.
 [Error]	The resource is not working normally.
 [Unknown]	No status is acquired.
 [Unused]	The heartbeat resource is not registered.

(5)  resource name	Status of a kernel mode LAN heartbeat resource
 [Normal]	The server can communicate with all servers.
 [Caution]	One or more servers in the cluster cannot be accessed.
 [Error]	The resource is not working normally.
 [Unknown]	No status is acquired.
 [Unused]	The heartbeat resource is not registered.

(6)  resource name	Status of a DISK heartbeat resource
 [Normal]	The server (cluster) can communicate with all servers.
 [Caution]	One or more servers in the cluster cannot be accessed.
 [Error]	The resource is not working normally.
 [Unknown]	No status is acquired.
 [Unused]	The heartbeat resource is not registered.

(7)  resource name	Status of a COM heartbeat resource
 [Normal]	The server (cluster) can communicate with all servers.
 [Caution]	One or more servers in the cluster cannot be accessed.
 [Error]	The resource is not working normally.
 [Unknown]	No status is acquired.
 [Unused]	The heartbeat resource is not registered.

(8)  groups	Status of whole groups
 [Normal]	All groups are running normally.
 [Caution]	One or more groups are not running normally.
 [Error]	All groups are not working normally.
 [Unknown]	No information is acquired.

(9)  group name	Status of a certain group
 [Online]	The group has been started.
 [Offline]	-
 [Error]	The group has a problem.
 [Offline]/[Unknown]	The group is stopped/ no information is acquired.

(10)  resource name	Status of a disk resource
 [Online]	The disk resource has been started.
 -	-
 [Error]	The disk resource has a problem.
 [Offline]/[Unknown]	The disk resource is stopped/ no information is acquired.

(11)  resource name	Status of an EXEC resource
 [Online]	The EXEC resource has been started.
 -	-
 [Error]	The EXEC resource has a problem.
 [Offline]/[Unknown]	The EXEC resource is stopped/ no information is acquired.

(12)  resource name	Status of a floating IP resource
 [Online]	The FIP resource has been started.
 -	-
 [Error]	The FIP resource has a problem.
 [Offline]/[Unknown]	The FIP resource is stopped/ no information is acquired.

(13)  resource name	Status of a mirror disk resource
 [Online]	The mirror disk resource has been started.
 -	-
 [Error]	The mirror disk resource has a problem.
 [Offline]/[Unknown]	The mirror disk resource is stopped/ no information is acquired.

(14)  resource name	Status of an NAS resource
 [Online]	The NAS resource has been started.
 -	-
 [Error]	The NAS resource has a problem.
 [Offline]/[Unknown]	The NAS resource is stopped/ no information is acquired.

(15)  resource name	Status of RAW resource
 [Started]	The RAW resource has been started.
	-
 [Error]	The RAW resource has a problem.
 [Offline]/[Unknown]	The RAW resource is stopped/ no information is acquired.

(16)  resource name	Status of VxVM disk group resource
 [Started]	The VxVM disk group resource has been started.
	-
 [Error]	The VxVM disk group resource has a problem.
 [Offline]/[Unknown]	The VxVM disk group resource is stopped/ no information is acquired.

(17)  resource name	Status of VxVM volume resource
 [Started]	The VxVM volume resource has been started.
	-
 [Error]	The VxVM volume resource has a problem.
 [Offline]/[Unknown]	The VxVM volume resource is stopped/ no information is acquired.

(18)  monitors	Status of whole monitors
 [Normal]	All monitor resources are running normally.
 [Caution]	One or more monitor resources have a problem, or monitoring is suspended on a server.
 [Error]	All monitors have a problem.
 [Unknown]	No information is acquired.

(19)  resource name	Status of a disk monitor resource
 [Normal]	The disk is running normally.
 [Caution]	There are one or more servers with disk problems, or monitoring is suspended on a server.
 [Error]	All servers have disk problems.
 [Unknown]	No information is acquired.

(20)  resource name	Status of an IP monitor resource
 [Normal]	The IP address of a target has no problem.
 [Caution]	One or more servers cannot communicate with the IP address of the target, or monitoring is suspended on a server.
 [Error]	All servers cannot communicate with the IP address of the target.
 [Unknown]	No information is acquired.

(21)  resource name	Status of NIC Link Up/Down monitor resource
 [Normal]	The NIC of a target has no problem.
 [Caution]	One of servers has a problem with the NIC of the target, or monitoring is suspended on a server.
 [Error]	All servers have problem with the NIC of the target.
 [Unknown]	No information is acquired.

(22)  resource name	Status of a mirror disk connect monitor resource
 [Normal]	The mirror disk connect is running normally.
 [Caution]	One of servers have mirror disk connect problems, or monitoring is suspended on a server.
 [Error]	A mirror disk connect problem has occurred in both servers.
 [Unknown]	No information is acquired.

(23)  resource name	Status of a mirror disk monitor resource
 [Normal]	The mirror disk is running normally.
 [Caution]	Mirroring is now being recovered, or monitoring is suspended on a server.
 [Error]	The mirror disk has a problem. Mirror recovery is necessary.
 [Unknown]	No information is acquired.

(24)  resource name	Status of a PID monitor resource
 [Normal]	AP is running normally.
 [Caution]	-
 [Error]	AP is not working normally.
 [Unknown]	No information is acquired.

(25)  resource name	Status of RAW monitor resource
 [Normal]	There is no failure on disk
 [Caution]	One of servers has disk problems, or monitoring is suspended on a server.
 [Error]	Disk is not working in all servers.
 [Unknown]	No information is acquired.

(26)  resource name	Status of a user space monitor resource
 [Normal]	User space is normally monitored.
 [Caution]	User space is not working in one or more servers, or monitoring is suspended on a server.
 [Error]	User space is not working in all servers.
 [Unknown]	No information is acquired.

(27)  resource name	Status of VxVM daemon monitor resource
 [Normal]	The VxVM daemon monitor resource is running normally.
 [Caution]	The VxVM daemon is not working in one or more servers, or monitoring is suspended on a server.
 [Error]	The VxVM daemon is not operating in every server.
 [Unknown]	No information is acquired.

(28)  resource name	Status of VxVM volume monitor resource
 [Normal]	The VxVM volume monitor resource is running normally.
 [Caution]	Monitoring is suspended on a server.
 [Error]	The VxVM volume has a problem.
 [Unknown]	No information is acquired.

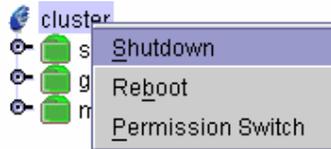
(29)  resource name	Status of multi target monitor resource
 [Normal]	Multi target monitor resource is running normally.
 [Caution]	Monitoring is suspended on a server.
 [Error]	Multi target has a problem.
 [Unknown]	No information is acquired.

3.1.8 Operable Objects

You can right-click [(1) Cluster], [(3) A certain server] or [(8) A certain group] to manipulate a cluster.

(1) Cluster object

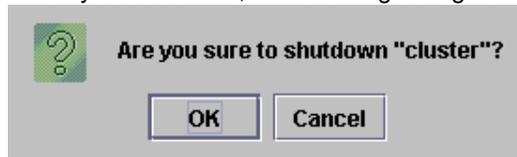
When you right-click a cluster object, the following shortcut menu appears.



* Shutdown

Shuts down all running servers.

When you select this, the following dialog box appears for confirmation.



* Reboot

Reboots all running servers.

When you select this, the following dialog box appears for confirmation.



* Permission Switch

Change the authorization of Web manager.

For change of authorization, see 4.1.3 "Web Manager Authorization Change".

Note that servers that cannot be accessed from the server to which Web Manager is connected (i.e. servers that all LAN heartbeat resources are Offline) will not shut down.

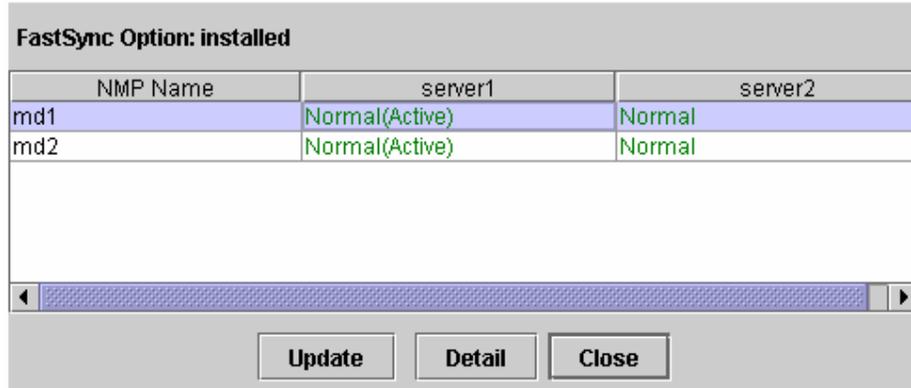
(2) **Servers object**

When you right-click a servers object, the following shortcut menu appears.



* **Mirror Disk List**

Shows a list of all mirror disk resources.

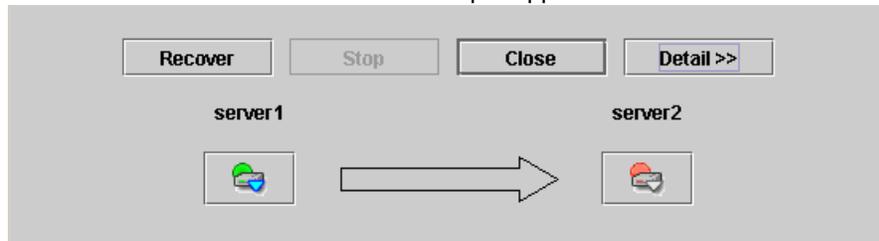


Status of FSO installation is shown as follows:

FSO does not exist	FastSync Option: not installed
FSO exists	FastSync Option: installed
Unable to obtain the FSO license information	FastSync Option: unknown

+ Detail (starts up the Mirror Disk Helper)

When you click this button, the Mirror Disk Helper for a selected mirror disk is started, and the following dialog box for the Mirror Disk Helper appears.

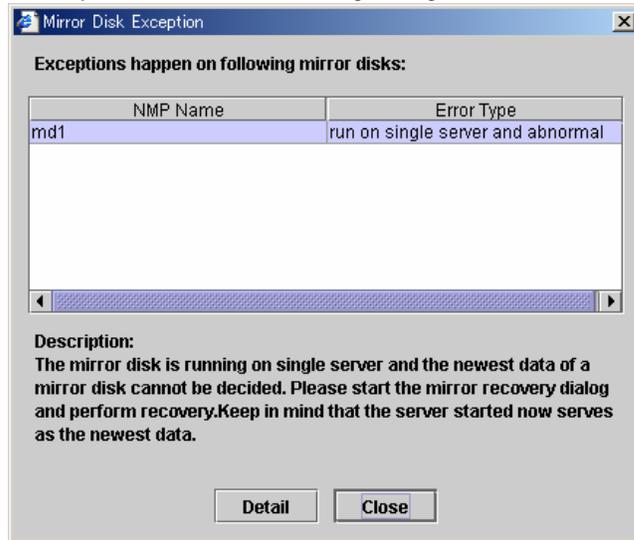


For information on using the mirror disk helper, see “1.10 Mirror Disk Helper.”

* **Mirror Disk Exception List**

Abnormal mirror disk resources are shown in this list.

When you select it, the following dialog of the mirror disk list will appear.



If a mirror disk that has any abnormality listed below exists in the cluster, the dialog shown above will be displayed automatically.

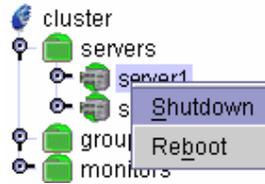
[Description] provides what you should do for the abnormality.

Error Type	Description
mirror abnormal	It's necessary to perform recovery, please start the mirror recovery dialog to perform recovery on this mirror disk.
run on single server and abnormal	The mirror disk is running on single server and the newest data of a mirror disk cannot be decided. Start the mirror recovery dialog and perform recovery. Keep in mind that the server started now serves as the newest data.

+ When you select [Detail], Mirror Disk Helper is activated.

(3) Certain server object

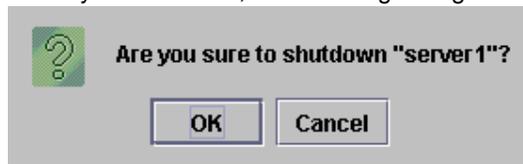
When you right-click a certain server object, the following shortcut menu appears.



* **Shutdown**

Shuts down a selected server.

When you select this, the following dialog box appears for confirmation.



* **Reboot**

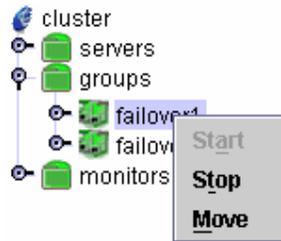
Reboots a selected server.

When you select this, the following dialog box appears for confirmation.



(4) Certain group object

When you right-click a certain group object, the following shortcut menu appears.



*** Start (enabled only when the group is stopped)**

Starts up the selected group.

The dialog box prompting you to choose a server that starts up the group you selected appears.



*** Stop (enabled only when the group has been started up or has any problem)**

Stops the selected group.

When you select this, the following dialog box appears for confirmation.



*** Move (enabled only when the group has been started up)**

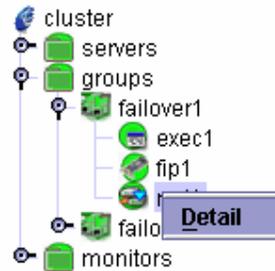
Moves the selected group.

The dialog box prompting you to choose a server to which you want to move the selected group appears.



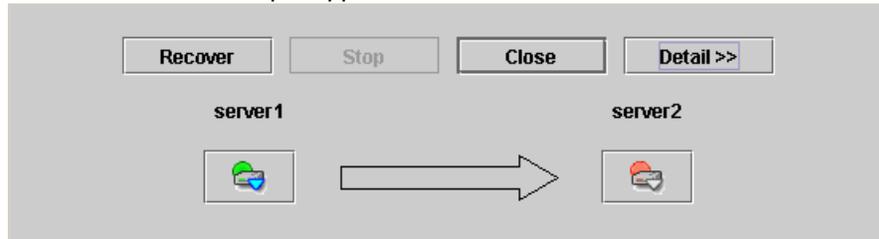
(5) **Mirror disk resource object**

When you right-click a mirror disk resource object, the following shortcut menu appears.



* **Detail**

Starts up the Mirror Disk Helper for a selected mirror disk, and the following dialog box for the Mirror Disk Helper appears.



For information on using the mirror disk helper, see "1.10 Mirror Disk Helper."

1.8 List View

The list view shows detailed information on an object selected in the tree view.

3.1.9 Whole cluster

When you select an object for a cluster, , in the tree view, the following information appears in the list view.

Cluster Name: cluster		Detail
Property	Value	
Name	cluster	
Comment	failover cluster	

- * **Name:**
Cluster name
- * **Comment:**
Comment

If you click the [Detail] button, the following information appears in the pop-up dialogue.

(1) For SAN/SE

Timeout	Port Number	Monitor	Delay Warning	Mail Report
Property		Value		
Synchronize Wait Time		300		
Heartbeat Timeout		90000		
Heartbeat Interval		3000		
Server Internal Timeout		180		
Timeout Ratio		10		

- * **Synchronize Wait Time:** Time to wait for startup (in seconds)
- * **Heartbeat Timeout:** Heartbeat timeout (in milliseconds)
- * **Heartbeat Interval:** The interval, in milliseconds, between heartbeat sending
- * **Server Internal Timeout:** Internal communication timeout (in seconds)
- * **Timeout Ratio:** Current timeout ratio

Timeout	Port Number	Monitor	Delay Warning	Mail Report
Property			Value	
	Server Internal Port Number		29001	
	Data Transfer Port Number		29002	
	Heartbeat Port Number		29002	
	Kernel Mode Heartbeat Port Number		29006	
	WebManager HTTP Port Number		29003	
	Alert Sync Port Number		29003	

- * **Server Internal Port Number:** Internal communication port number
- * **Data Transfer Port Number:** Data transfer port number
- * **Heartbeat Port Number:** Heartbeat port number
- * **Kernel Mode Heartbeat Port Number:** Kernel mode heartbeat port number
- * **WebManager HTTP Port Number:** Web Manager port number
- * **Alert Sync Port Number:** Alert synchronization port number

Timeout	Port Number	Monitor	Delay Warning	Mail Report
Property			Value	
	Shutdown Monitor		On	
	Shutdown Method		softdog	
	Server Down Notify		Off	
	Max Reboot Count		1	
	Max Reboot Count Reset Time		0	

- * **Shutdown Monitor:** With or without shutdown stall monitoring
- * **Shutdown Method:** Shutdown monitor method
- * **Server Down Notify:** Server down notice
- * **Max Reboot Count:** Maximum reboot count
- * **Max Reboot Count Reset Time** Time to reset maximum reboot count (in seconds)

Timeout	Port Number	Monitor	Delay Warning	Mail Report
Property			Value	
	Heartbeat Delay Warning		80	
	Monitor Delay Warning		80	

- * **Heartbeat Delay Warning:** Heartbeat delay warning (%)
- * **Monitor Delay Warning:** Monitor delay warning (%)

Timeout	Port Number	Monitor	Delay Warning	Mail Report
Property			Value	
	Mail Address			

- * **Mail Address:** Destination mail address

(2) For WAN/LAN/LE

The same contents as SAN/SE are omitted.

Mail Report	Mirror Agent	Mirror Driver	
Timeout	Port Number	Monitor	Delay Warning
Property		Value	
Server Internal Port Number		29001	
Data Transfer Port Number		29002	
Heartbeat Port Number		29002	
Kernel Mode Heartbeat Port Number		29006	
WebManager HTTP Port Number		29003	
Alert Sync Port Number		29003	
Mirror Agent Port Number		29004	
Mirror Driver Port Number		29005	

- * **Server Internal Port Number:** port number **Internal communication**
- * **Data Transfer Port Number:** **Data transfer port number**
- * **Heartbeat Port Number:** **Heartbeat port number**
- * **Kernel Mode Heartbeat Port Number:** port number **Kernel mode heartbeat**
- * **WebManager HTTP Port Number:** number **Web Manager port**
- * **Alert Sync Port Number:** synchronization port number **Alert**
- * **Mirror Agent Port Number:** **Mirror agent port number**
- * **Mirror Driver Port Number:** **Mirror driver port number**

Mail Report	Mirror Agent	Mirror Driver	
Timeout	Port Number	Monitor	Delay Warning
Property		Value	
Auto Mirror Recovery		On	
Mirror Synchronization		On	
Receive Timeout		10	

- * **Auto Mirror Recovery:** **Auto mirror recovery**
- * **Mirror Synchronization:** synchronization **Mirror**
- * **Receive Timeout:** timeout (in seconds) **Receive**

3.1.10 Whole servers

When you select an object for servers, , in the tree view, the following information appears in the list view.

Servers Name: servers		
Server Name	Type	Status
server1	Master	Online
server2		Online

- * **Server Name:** **Server name**
- * **Type:** **Master server or not**
- * **Status:** **Server**
status

3.1.11 Certain server

When you select an object for a certain server, , in the tree view, the following information appears in the list view.

Server Name: server1	
Property	Value
Server Name	server1
Comment	
Version	3.1-6
Edition	SE
IP Address	192.168.0.1
Status	Online

Heartbeat Status	
Heartbeat Name	Status
lanhb1	Normal
lanhb2	Normal
diskhb1	Normal
comhb1	Normal
lankhb1	Normal
lankhb2	Normal

- * **Server Name:** Server name
- * **Comment:** Comment
- * **Version:** Version (identical to the RPM version value)
- * **Edition:** Edition
- * **IP Address:** Public LAN address
- * **Status:** Server status

- * **Heartbeat Name:** Heartbeat resource name
- * **Status:** Heartbeat resource status

WAN/LAN/LE has no diskhb.

3.1.12 LAN heartbeat resource

When you select an object for a LAN heartbeat resource, , in the tree view, the following information appears in the list view.

LAN Heartbeat Name: lanhb1		Detail
Server Name	Status	
server1	Online	
server2	Online	

- * **Server Name:** **Server**
name
- * **Status:**
Resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Name	lanhb1
Type	lanhb
Comment	LAN Heartbeat
Status	Normal
IP Address	192.168.0.1

- * **Name:** **Resource name**
- * **Type:** **Resource type**
- * **Comment:** **Comment**
- * **Status:** **Status**
(of all servers in the cluster)
- * **IP Address:** **Interconnect address**

3.1.13 Kernel mode LAN heartbeat resource

When you select an object for a kernel mode LAN heartbeat resource  in a tree view, the following information appears in the list view.

Kernel Mode LAN Heartbeat Name: lankhb1		Detail
Server Name	Status	
server1	Online	
server2	Online	

- * **Server Name:** Server name
- * **Status:**
Heartbeat resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Name	lankhb1
Type	lankhb
Comment	Kernel Mode LAN Heartbeat
Status	Online
IP Address	10.0.0.1

- * **Name:** Kernel
mode LAN heartbeat resource name
- * **Type:** Kernel
mode LAN heartbeat resource type
- * **Comment:** Kernel mode
LAN heartbeat resource comment
- * **Status:** Kernel
mode LAN heartbeat resource status (of all servers in the cluster)
- * **IP Address:** LAN IP address
used for kernel mode LAN heartbeat

3.1.14 DISK heartbeat resource – for SAN/SE –

When you select an object for a DISK heartbeat resource,  in the tree view, the following information appears in the list view.

Disk Heartbeat Name: diskhb1		Detail
Server Name	Status	
server1	Online	
server2	Online	

- * **Server Name:** Server name
- * **Status:** Resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Name	diskhb1
Type	diskhb
Comment	DISK Heartbeat heartbeat
Status	Normal
Device Name	/dev/sdb1
RAW Device Name	/dev/raw/raw1

- * **Name:** Resource name
- * **Type:** Resource type
- * **Comment:** Comment
- * **Status:** Status
(of all servers in the cluster)
- * **Device Name:** DISK heartbeat device
- * **RAW Device Name:** RAW device
name of DISK heartbeat

3.1.15 COM heartbeat resource

When you select an object for a DISK heartbeat resource, , in the tree view, the following information appears in the list view.

COM Heartbeat Name: comhb1		Detail
Server Name	Status	
server1	Online	
server2	Online	

- * **Server Name:** Server name
- * **Status:** Resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Name	comhb1
Type	comhb
Comment	COM Heartbeat
Status	Normal
Device Name	/dev/ttyS0

- * **Name:** Resource name
- * **Type:** Resource type
- * **Comment:** Comment
- * **Status:** Status
(whole)
- * **Device Name:** COM heartbeat device

3.1.16 Whole groups

When you select an object for whole groups, , in the tree view, the following information appears in the list view.

Groups Name: groups		
Group Name	Current Server	Status
failover1	server1	Online
failover2	server2	Online

- * **Groups Name:** **Groups name**
- * **Current Server** **Server**
having any started group
- * **Status:** **Group status**

3.1.17 Certain group

When you select an object for a certain group, , in the tree view, the following information appears in the list view.

Group Name: failover1		Detail
Property	Value	
Name	failover1	
Comment	failover group1	
Status	Online	

Group On Server Status	
Server Name	Status
server1	Online
server2	Offline

–For SAN/SE–

Resource Status	
Resource Name	Status
diskw1	Online
exec1	Online
fip1	Online
raw1	Online
wxdg1	Online
wvol1	Online

–For WAN/LAN/LE–

Resource Status	
Resource Name	Status
exec1	Online
fip1	Online
md1	Online
md2	Online

- * **Name:** Group name
- * **Comment:** Comment
- * **Status:** Group
status

- * **Server Name:** Server name
- * **Status:** Group
status in each server

- * **Resource Name:** Resource
name
- * **Status:** Status of the resources
the group owns

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	failover
Startup Attribute	Auto Startup
Failover Exclusive Attribute	Off
Auto Failback Attribute	Auto Failback
Servers Which Can Be Started	server1
	server2

- * **Type:** **Group type**
- * **Startup Attribute:** **Startup type**
- * **Failover Exclusive Attribute:** **Startup exclusivity**
attribute
- * **Failback Attribute:** **Group**
failback attribute (auto/manual)
- * **Failover Attribute:** **Group**
failover attribute (auto/manual)
- * **Servers Which Can Be Started:** **Failover order**

3.1.18 Disk resource – for SAN/SE –

When you select an object for a disk resource, , in the tree view, the following information appears in the list view.

Disk Name: disk 1		Detail
Property	Value	
Name	disk1	
Comment	/dev/sdb2	
Status	Online	
Device Name	/dev/sdb2	
Mount Point	/mnt/sdb2	
File System	ext3	

Resource On Server Status		
Server Name	Status	
server1	Online	
server2	Offline	

- * **Name:** Resource name
- * **Comment:** Comment
- * **Status:** Resource status
- * **Device Name:** Device name
- * **Mount Point:** Mount point
- * **File System:** File system

- * **Server Name:** Server name
- * **Status:** Resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	disk
Failover Threshold	1
Activity Retry Threshold	0
Activity Final Action	No Operation(Next Resources Are Not Activated)
Deactivity Retry Threshold	0
Deactivity Final Action	Stop Cluster Daemon And OS Shutdown
Depended Resources	fip1
Disk Type	disk
Mount Option	rw
Mount Timeout	60
Mount Retry Count	3
Action at Mount Failure	1(0:None, 1:Fsck)
Unmount Timeout	60
Unmount Retry Count	3
Action at Unmount Failure	kill
Fsck Option	-y
Fsck Timeout	1800
Fsck Timing	2(0:None, 1:Always, 2:Interval)
Fsck Interval	3

- * **Type:** Resource type
- * **Failover Threshold:** Failover count
- * **Activity Retry Threshold:** Active retry count
- * **Activity Final Action:** Last action at
activity failures
- * **Deactivity Retry Threshold:** Deactivity retry
count
- * **Deactivity Final Action:** Last action at
deactivity failures
- * **Depended Resources:** Depended resource
- * **Disk Type:** Disk type
- * **Mount Option:** Mount option
- * **Mount Timeout:** Mount timeout (in
seconds)
- * **Mount Retry Count:** Mount retry count
- * **Action at Mount Failure:**
 - + 0 No action
 - + 1 Perform fsck
- * **Unmount Timeout:** Unmount timeout (in
seconds)
- * **Unmount Retry Count:** Unmount retry
count
- * **Action at Unmount Failure:** Action at
unmount failure
 - + kill Force termination
 - + none No action
- * **Fsck Option:** Options passed to
fsck command
- * **Fsck Timeout:** Timeout for fsck

command execution(in seconds)

* Fsck Timing:

	Fsck	timing	when
performing mount	+ 0		Do not perform fsck
	+ 1		Always perform fsck
	+ 2		Perform fsck at fsck interval

* Fsck Interval:

Fsck interval

3.1.19 EXEC resource

When you select an object for an EXEC resource,  in the tree view, the following information appears in the list view.

Script Name: exec1		Detail
Property	Value	
Name	exec1	
Comment	exec resource1	
Status	Online	
Start Script Path	/opt/userpp/start1.sh	
Stop Script Path	/opt/userpp/stop1.sh	

Resource On Server Status		
Server Name	Status	
server1	Online	
server2	Offline	

- * **Name:** Resource name
- * **Comment:** Comment
- * **Status:** Resource
status
- * **Start Script Path:** Path for the start script
- * **Stop Script Path:** Path for the stop script

- * **Server Name:** Server name
- * **Status:** Resource
status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	exec
Start Type	Asynchronous
Stop Type	Synchronous
Start Script Timeout	1800
Stop Script Timeout	1800
Log Output Path	
Failover Threshold	1
Activity Retry Threshold	0
Activity Final Action	No Operation(Next Resources Are Not...
Deactivity Retry Threshold	0
Deactivity Final Action	Stop Cluster Daemon And OS Shutdo...
Depended Resources	disk1,flp1

- * **Type:** **Resource type**
- * **Start Type:** **Start script**
synchronous/asynchronous
- * **Stop Type:** **Stop script**
synchronous/asynchronous
- * **Start Script Timeout:** **Start script**
timeout (in seconds)
- * **Stop Script Timeout:** **Stop script timeout (in**
seconds) **seconds)**
- * **Log Output Path:** **Message**
destination for running scripts
- * **Failover Threshold:** **Failover count**
- * **Activity Retry Threshold:** **Activity retry count**
- * **Activity Final Action:** **Last action at**
activity failures
- * **Deactivity Retry Threshold:** **Deactivity retry count**
- * **Deactivity Final Action:** **Last action at deactivity**
failures
- * **Depended Resources:** **Depended resource**

3.1.20 Floating IP resource

When you select an object for a floating IP resource,  , in the tree view, the following information appears in the list view.

FIP Name: fip1		Detail
Property	Value	
Name	fip1	
Comment	10.0.0.11	
Status	Online	
IP Address	10.0.0.11	

Resource On Server Status	
Server Name	Status
server1	Online
server2	Offline

- * **Name:** Resource name
- * **Comment:** Comment
- * **Status:** Resource status
- * **IP Address:** FIP address
- * **Server Name:** Server name
- * **Status:** status of each server Resource

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	fip
Failover Threshold	1
Activity Retry Threshold	5
Activity Final Action	No Operation(Next Resources Are Not Activated)
Deactivity Retry Threshold	5
Deactivity Final Action	Stop Cluster Daemon And OS Shutdown
Depended Resources	
Ping Timeout	5
Ping Retry Count	1
Ping Interval	3
FIP Force Activation	1(0:Off, 1:On)
ARP Send Count	5

- * **Type:** Resource type
- * **Ping Timeout:** Timeout (in seconds) of ping to confirm redundancy
- * **Failover Threshold:** Failover count
- * **Activity Retry Threshold:** Activity retry count
- * **Activity Final Action:** Last action at activity failures
- * **DeActivity Retry Threshold:** Deactivity retry count
- * **DeActivity Final Action:** Last action at deactivity failures
- * **Depended Resources:** Depended resource
- * **Ping Timeout:** Timeout of ping to confirm redundancy (in seconds)
- * **Ping Retry Count:** Ping retry count
- * **Ping Interval:** Ping interval
- * **FIP Force Activation:** FIP force activation
- * **ARP Send Count:** ARP send count

3.1.21 NAS Resource

When you select an object for the NAS resource, , in the tree view, the following information appears in the list view.

NAS Name: nas1	
Property	Value
Name	nas1
Comment	nfserver1:/share1 /mnt/nas1
Status	Online
Server Name	nfserver1
Share Name	/share1
File System	nfs
Mount Point	/mnt/nas1

Resource On Server Status	
Server Name	Status
server1	Online

- * **Name:** NAS resource name
- * **Comment:** NAS resource comment
- * **Status:** NAS resource status
- * **Server Name:** NFS server name
- * **Share Name:** NFS share name
- * **File System:** NFS file system
- * **Mount Point:** Directory to mount NFS

- * **Server Name:** Server name
- * **Status:** Status of a NAS resource on a server

When you select [Detail], the following contents appear in a popup dialog.

Property	Value
Type	nas
Mount Option	rw
Mount Timeout	60
Mount Retry Count	3
Unmount Timeout	60
Unmount Retry Count	3
Force Operation When Detecting Failure	kill
Ping Timeout	
Failover Threshold	1
Activity Retry Threshold	0
Activity Final Action	No Operation(Next Resources Are Not Activated)
Deactivity Retry Threshold	0
Deactivity Final Action	Stop Cluster Daemon And OS Shutdown
Depended Resources	

- * **Type:** Resource type
- * **Mount Option** Mount option
- * **Mount Timeout:** Mount timeout (in seconds)
- * **Mount Retry Count:** Mount retry count
- * **Unmount Timeout:** Unmount timeout (in seconds)
- * **Unmount Retry Count:** Unmount retry count
- * **Force Operation When Detecting Failure:** Action at unmount failures
- * **Ping Timeout:** Timeout of ping which checks for redundancy (in seconds)
- * **Failover Threshold:** Failover count
- * **Activity Retry Threshold:** Activity retry count
- * **Activity Final Action:** Last action at activity failures
- * **Deactivity Retry Threshold:** Deactivity retry count
- * **Deactivity Final Action:** Last action at deactivity failures
- * **Depended Resources:** Depended resource

3.1.22 Mirror disk resource – for WAN/LAN/LE –

When you select an object for a mirror disk resource,  in the tree view, the following information appears in the list view.

Mirror Disk Name: md1		Detail
Property	Value	
Name	md1	
Comment	/dev/NMP1	
Status	Online	
Mirror Data Port Number	29051	
File System	ext3	
Disk Device Name	/dev/sdb	
Cluster Partition Device Name	/dev/sdb1	
Data Partition Device Name	/dev/sdb5	
Mirror Disk Connect	192.168.0.1 192.168.0.2	
Mirror Partition Device Name	/dev/NMP1	
Mount Point	/mnt/sdb5	

Resource On Server Status	
Server Name	Status
server1	Online
server2	Offline

- * **Name:**
Resource name
- * **Comment:**
Comment
- * **Status:**
Resource status
- * **Mirror Data Port Number:** Mirror data port number
- * **File System:** File system
- * **Disk Device Name:** Disk device name
- * **Cluster Partition Device Name:** Cluster partition device name
- * **Data Partition Device Name:** Data partition device name
- * **Mirror Disk Connect:** Mirror disk connect
- * **Mirror Partition Device Name:** Mirror partition device name
- * **Mount Point:** Mount point
- * **Server Name:** Server name
- * **Status:** Resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	md
Mount Option	rw
Mount Timeout	60
Mount Retry Count	3
Unmount Timeout	60
Unmount Retry Count	3
Force Operation When Detecting Failure	kill
Fsck Option	-y
Fsck Timeout	1800
Failover Threshold	1
Activity Retry Threshold	0
Activity Final Action	No Operation(Next Resources Are Not Activated)
Deactivity Retry Threshold	0
Deactivity Final Action	Stop Cluster Daemon And OS Shutdown
Depended Resources	fip1

- * **Type:** Resource type
- * **Mount Option:** Mount option
- * **Mount Timeout:** Mount timeout (in seconds)
- * **Mount Retry Count:** Mount retry count
- * **Unmount Timeout:** Unmount timeout (in seconds)
- * **Unmount Retry Count:** Unmount retry count
- * **Force Operation When Detecting Failure:** Action at unmount failures
- * **Fsck Option:** fsck option
- * **Fsck Timeout:** fsck timeout (in seconds)
- * **Failover Threshold:** Failover count
- * **Activity Retry Threshold:** Activity retry count
- * **Activity Final Action:** Last action at activity failures
- * **Deactivity Retry Threshold:** Deactivity retry count
- * **Deactivity Final Action:** Last action at deactivity failures
- * **Depended Resources:** Depended resource

3.1.23 RAW resource – for SAN/SE –

When you select an object for a RAW resource,  in the tree view, the following information appears in the list view.

RAW Name: raw1	
Property	Value
Name	raw1
Comment	
Status	Online
Device Name	/dev/sde6
RAW Device Name	/dev/raw/raw10

Resource On Server Status	
Server Name	Status
server1	Online
server2	Offline

- * **Name:** Resource name
- * **Comment:** Comment
- * **Status:** Resource status
- * **Device Name:** Device name
- * **RAW Device Name:** RAW device name

- * **Server Name:** Server name
- * **Status:** Resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	raw
Disk Type	disk
Failover Threshold	1
Activity Retry Threshold	0
Activity Final Action	No Operation(Next Resources Are Not Activated)
Deactivity Retry Threshold	0
Deactivity Final Action	Stop Cluster Daemon And OS Shutdown
Depended Resources	fip1

- * **Type:** Resource type
- * **Disk Type:** Disk type
- * **Failover Threshold:** Failover count
- * **Activity Retry Threshold:** Activity retry count
- * **Activity Final Action:** Last action at activity failures
- * **Deactivity Retry Threshold:** Deactivity retry count
- * **Deactivity Final Action:** Last action at deactivity failures
- * **Depended Resources:** Depended resource

3.1.24 VxVM disk group resource – for SAN/SE –

When you select an object for a VxVM disk group resource, , in the tree view, the following information appears in the list view.

VxVM Disk Group Name: vxdg1	
Property	Value
Name	vxdg1
Comment	dg1
Status	Online
Disk Group Name	dg1

Resource On Server Status	
Server Name	Status
Server1	Online
Server2	Offline

- * **Name:** Resource name
- * **Comment:** Comment
- * **Status:** Resource status
- * **Disk group Name:** VxVM disk group name

- * **Server Name:** Server name
- * **Status:** Resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	wxdg
Failover Threshold	1
Activity Retry Threshold	0
Activity Final Action	No Operation(Next Resources Are Not Activated)
Deactivity Retry Threshold	0
Deactivity Final Action	No Operation(Next Resources Are Not Deactivated)
Depended Resources	fip1
Clear Host ID	1(0:Off, 1:On)
Force	0(0:Off, 1:On)
Import Timeout	60
Start Volume Timeout	60
Stop Volume Timeout	60
Flush Timeout	60
Deport Timeout	60

- * **Type:** **Resource type**
- * **Failover Threshold:** **Failover count**
- * **Activity Retry Threshold:** **Activity retry count**
- * **Activity Final Action:** **Last action at activity**
failures
- * **Deactivity Retry Threshold:** **Deactivity retry count**
- * **Deactivity Final Action:** **Last action at deactivity**
failures
- * **Depended Resources:** **Depended resource**
- * **Clear Host ID:** **Whether to clear host ID**
or not
- * **Force:** **Whether to force import or not**
- * **Import Timeout:** **Import timeout**
- * **Start Volume Timeout:** **Start volume timeout**
- * **Stop Volume Timeout:** **Stop volume timeout**
- * **Flush Timeout:** **Flush timeout**
- * **Deport Timeout :** **Deport timeout**

3.1.25 VxVM volume resource – for SAN/SE –

When you select an object for a VxVM volume resource, , in the tree view, the following information appears in the list view.

Property	Value
Name	vxvol1
Comment	vol1
Status	Online
Volume Device Name	/dev/vx/dsk/dg1/vol1
Volume RAW Device Name	/dev/vx/rdisk/dg1/vol1
Mount Point	/mnt/vol1
File System	vxfs

Resource On Server Status	
Server Name	Status
Server1	Online
Server2	Offline

- * **Name:** Resource name
- * **Comment:** Comment
- * **Status:** Resource status
- * **Volume Device Name:** Device name of VxVM volume
- * **Volume RAW Device Name:** RAW device name of VxVM volume
- * **Mount Point:** Directly which mounts VxVM volume device to
- * **File System:** File system which is created on VxVM volume device

- * **Server Name:** Server name
- * **Status:** Resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	vxvol
Failover Threshold	1
Activity Retry Threshold	0
Activity Final Action	No Operation(Next Resources Are Not Activated)
Deactivity Retry Threshold	0
Deactivity Final Action	No Operation(Next Resources Are Not Deactivated)
Depended Resources	fip1 ,xdg1
Mount Option	rw
Mount Timeout	60
Mount Retry Count	3
Action at Mount Failure	0(0:None, 1:Fscck)
Unmount Timeout	60
Unmount Retry Count	3
Action at Unmount Failure	kill
Fsck Option	-y
Fsck Timeout	1800
Fsck Timing	2(0:None, 1:Always, 2:Interval)
Fsck Interval	10

- * **Type:** Resource type
- * **Failover Threshold:** Failover count
- * **Activity Retry Threshold:** Activity retry count
- * **Activity Final Action:** Last action at activity failures
- * **Deactivity Retry Threshold:** Deactivity retry count
- * **Deactivity Final Action:** Last action at deactivity failures
- * **Depended Resources:** Depended resource
- * **Mount Option:** Mount option
- * **Mount Timeout:** Mount timeout (in seconds)
- * **Mount Retry Count:** Mount retry count
- * **Action at Mount Failure:** Action at mount failure
 - + 0 No action
 - + 1 Perform fsck
- * **Unmount Timeout:** Unmount timeout (in seconds)
- * **Unmount Retry Count:** Unmount retry count
- * **Action at Unmount Failure:** Action at unmount failure
 - + kill Force termination
 - + none No action
- * **Fsck Option:** fsck option
- * **Fsck Timeout:** fsck timeout (in seconds)
- * **Fsck Timing:** Fsck timing when performing mount

* **Fsck Interval:**

- + 0** Do not perform fsck
 - + 1** Always perform fsck
 - + 2** Perform fsck at fsck interval
- Fsck interval**

3.1.26 Whole monitors

When you select an object for whole monitors,  in the tree view, the following information appears in the list view.

Example -For SAN/SE-

Monitors Name: monitors	
Monitor Name	Status
diskw1	Normal
ipw1	Normal
miiw1	Normal
pidw1	Normal
raww1	Normal
userw	Normal
xdw1	Normal
wvolw1	Normal

* **Monitor Name:**
* **Status:**
resource status

Monitor resource name
Monitor

3.1.27 Disk monitor resource

When you select an object for a disk monitor resource,  , in the tree view, the following information appears in the list view.

Disk Monitor Name: diskw1		Detail
Property	Value	
Name	diskw1	
Comment	disk monitor1	
Status	Normal	
Target	/dev/sdb2	
DISK/NAS	disk	

Resource On Server Status		
Server Name	Status	
server1	Online	
server2	Online	

- * **Name:** Monitor resource name
- * **Comment:** Comment
- * **Status:** Monitor
resource status
- * **Target:** The name of a device to
be monitored
- * **DISK/NAS:** The type of a disk to be
monitored
- * **Server Name:** Server name
- * **Status:** Monitor
resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	diskw
Method	Dummy Read
I/O Size	2000000
Monitor Timing	Always
Interval	120
Timeout	60
Target Resource	
Retry Count	3
Recover Object Type	Myself
Recover Object	cluster
Re-activation Threshold	0
Failover Threshold	0
Final Action	No Operation
Start Monitor Wait Time	0
Nice Value	0

- * **Type:** Monitor resource type
- * **Method:** Monitoring method
- * **I/O Size:** I/O size at monitoring
- * **Monitor Timing:** Timing to start monitoring
- * **Interval:** Interval between monitoring (in seconds)
- * **Timeout:** Monitoring timeout (in seconds)
- * **Target Resource:** Resource to be monitored
- * **Retry Count:** Monitoring retry count
- * **Recover Object Type:** Type of target to be recovered when a problem is detected
- * **Recover Object:** Target to be recovered when a problem is detected
- * **Re-activation Threshold:** Reactivation count
- * **Failover Threshold:** Failover count
- * **Final Action:** Final action
- * **Start Monitor Wait Time:** Time to wait for start of monitoring (in seconds)
- * **Nice Value:** Monitor resource nice value

3.1.28 IP monitor resource

When you select an object for an IP monitor,  , in the tree view, the following information appears in the list view.

IP Monitor Name: ipw1		Detail
Property	Value	
Name	ipw1	
Comment	ip monitor1	
Status	Normal	
IP Address List	10.0.0.254	

Resource On Server Status		
Server Name	Status	
server1	Online	
server2	Online	

- * **Name:** Monitor resource name
- * **Comment:** Comment
- * **Status:** Monitor
resource status
- * **IP Address List:** IP address to be
monitored
- * **Server Name:** Server name
- * **Status:** Monitor
resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	ipw
Monitor Timing	Always
Interval	30
Timeout	120
Target Resource	
Retry Count	3
Recover Object Type	Myself
Recover Object	cluster
Re-activation Threshold	0
Failover Threshold	1
Final Action	No Operation
Start Monitor Wait Time	0
Nice Value	0

- * **Type:** Monitor resource type
- * **Monitor Timing:** Timing to start monitoring
- * **Interval:** Interval between monitoring (in seconds)
- * **Timeout:** Monitoring timeout (in seconds)
- * **Target Resource:** Resource to be monitored
- * **Retry Count:** Monitoring retry count
- * **Recover Object Type:** Type of target to be recovered when a problem is detected
- * **Recover Object:** Target to be recovered when a problem is detected
- * **Re-activation Threshold:** Reactivation count
- * **Failover Threshold:** Failover count
- * **Final Action:** Final action
- * **Start Monitor Wait Time:** Time to wait for start of monitoring (in seconds)
- * **Nice Value:** Monitor resource nice value

3.1.29 NIC Link Up/Down Monitor Resource

When you select an object for the NIC LINK UP/DOWN monitor, , in the tree view, the following information appears in the list view.

NIC Link Up/Down Monitor Name: miiw1	
Property	Value
Name	miiw1
Comment	eth0
Status	Normal
Target	eth0

Resource On Server Status	
Server Name	Status
server1	Online

- * **Name:** Name of NIC Link Up/Down monitor resource
- * **Comment:** Comment of NIC Link Up/Down monitor resource
- * **Status:** Status of NIC Link Up/Down monitor resource
- * **Target:** Name of the NIC interface to be monitored by NIC Link Up/Down monitor resource

- * **Server Name:** Server name
- * **Status:** Status of a monitor resource on a server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	miiw
Monitor Timing	Always
Interval	10
Timeout	60
Target Resource	
Retry Count	5
Recover Object Type	Myself
Recover Object	cluster
Re-activation Threshold	0
Failover Threshold	0
Final Action	No Operation
Start Monitor Wait Time	0
Nice Value	0

- * **Type:** Monitor resource type
- * **Monitor Timing:** Timing to start monitoring
- * **Interval:** Interval between monitoring (in seconds)
- * **Timeout:** Monitoring timeout (in seconds)
- * **Target Resource:** Resource to be monitored
- * **Retry Count:** Monitoring retry count
- * **Recover Object Type:** Type of target to be recovered when a problem is detected
- * **Recover Object:** Target to be recovered when a problem is detected
- * **Re-activation Threshold:** Reactivation count
- * **Failover Threshold:** Failover count
- * **Final Action:** Final action
- * **Start Monitor Wait Time:** Time to wait for start of monitoring (in seconds)
- * **Nice Value:** Monitor resource nice value

3.1.30 Mirror disk connect monitor resource – for WAN/LAN/LE –

When you select an object for a mirror disk connect monitor, , in the tree view, the following information appears in the list view.

Property	Value
Name	mdnw1
Comment	mirror disk connect monitor
Status	Normal
Target	192.168.0.1 192.168.0.2

Resource On Server Status	
Server Name	Status
server1	Online
server2	Online

- * **Name:** Monitor resource name
- * **Comment:** Comment
- * **Status:** Monitor
resource status
- * **Target:** Monitoring target

- * **Server Name:** Server name
- * **Status:** Monitor
resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	mdnw
Monitor Timing	Always
Interval	60
Timeout	120
Target Resource	
Retry Count	0
Recover Object Type	Myself
Recover Object	cluster
Re-activation Threshold	0
Failover Threshold	0
Final Action	No Operation
Start Monitor Wait Time	0
Nice Value	0

- * **Type:** Monitor resource type
- * **Monitor Timing:** Timing to start monitoring
- * **Interval:** Interval between monitoring (in seconds)
- * **Timeout:** Monitoring timeout (in seconds)
- * **Target Resource:** Resource to be monitored
- * **Retry Count:** Monitoring retry count
- * **Recover Object Type:** Type of target to be recovered when a problem is detected
- * **Recover Object:** Target to be recovered when a problem is detected
- * **Re-activation Threshold:** Reactivation count
- * **Failover Threshold:** Failover count
- * **Final Action:** Final action
- * **Start Monitor Wait Time:** Time to wait for start of monitoring (in seconds)
- * **Nice Value:** Monitor resource nice value

3.1.31 Mirror disk monitor resource – for WAN/LAN/LE –

When you select an object for a mirror disk monitor, , in the tree view, the following information appears in the list view.

Mirror Disk Monitor Name: mdw1		Detail
Property	Value	
Name	mdw1	
Comment	mirror disk monitor	
Status	Normal	
Target	md1	

Resource On Server Status	
Server Name	Status
server1	Online
server2	Online

- * **Name:** Monitor resource name
- * **Comment:** Comment
- * **Status:** Monitor
resource status
- * **Target:** Monitoring target
- * **Server Name:** Server name
- * **Status:** Monitor
resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	mdw
Monitor Timing	Always
Interval	10
Timeout	60
Target Resource	
Retry Count	0
Recover Object Type	Myself
Recover Object	cluster
Re-activation Threshold	0
Failover Threshold	0
Final Action	No Operation
Start Monitor Wait Time	0
Nice Value	0

- * **Type:** Monitor resource type
- * **Monitor Timing:** Timing to start monitoring
- * **Interval:** Interval between monitoring (in seconds)
- * **Timeout:** Monitoring timeout (in seconds)
- * **Target Resource:** Resource to be monitored
- * **Retry Count:** Monitoring retry count
- * **Recover Object Type:** Type of target to be recovered when a problem is detected
- * **Recover Object:** Target to be recovered when a problem is detected
- * **Re-activation Threshold:** Reactivation count
- * **Failover Threshold:** Failover count
- * **Final Action:** Final action
- * **Start Monitor Wait Time:** Time to wait for start of monitoring (in seconds)
- * **Nice Value:** Monitor resource nice value

3.1.32 PID monitor resource

When you select an object for a PID monitor, , in the tree view, the following information appears in the list view.

PID Monitor Name: pidw1		Detail
Property	Value	
Name	pidw1	
Comment	pidw1	
Status	Normal	
Target PID	1197	

Resource On Server Status	
Server Name	Status
server1	Online
server2	Offline

- * **Name:** Monitor resource name
- * **Comment:** Comment
- * **Status:** resource status Monitor
- * **Target PID:** Monitoring target PID
- * **Server Name:** Server name
- * **Status:** resource status of each server Monitor

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	pidw
Monitor Timing	Activating
Interval	5
Timeout	60
Target Resource	exec1
Retry Count	0
Recover Object Type	Resource
Recover Object	exec1
Re-activation Threshold	3
Failover Threshold	0
Final Action	No Operation
Start Monitor Wait Time	0
Nice Value	0

- * **Type:** Monitor resource type
- * **Monitor Timing:** Timing to start monitoring
- * **Interval:** Interval between monitoring (in seconds)
- * **Timeout:** Monitoring timeout (in seconds)
- * **Target Resource:** Resource to be monitored
- * **Retry Count:** Monitoring retry count
- * **Recover Object Type:** Type of target to be recovered when a problem is detected
- * **Recover Object:** Target to be recovered when a problem is detected
- * **Re-activation Threshold:** Reactivation count
- * **Failover Threshold:** Failover count
- * **Final Action:** Final action
- * **Start Monitor Wait Time:** Time to wait for start of monitoring (in seconds)
- * **Nice Value:** Monitor resource nice value

3.1.33 RAW monitor resource

When you select an object for a RAW monitor, , in the tree view, the following information appears in the list view.

RAW Monitor Name: raww1	
Property	Value
Name	raww1
Comment	
Status	Online
Target RAW Device Name	/dev/sde6
Device Name	/dev/raw/raw10

Resource On Server Status	
Server Name	Status
Server1	Online
Server2	Online

- * **Name:** Monitor resource name
- * **Comment:** Comment
- * **Status:** Monitor resource status
- * **Target RAW Device Name:** RAW device name which monitors using RAW monitor resource
- * **Device Name:** Actual monitoring device name
- * **Server Name:** Server name
- * **Status:** Monitor resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	rawww
Monitor Timing	Always
Interval	60
Timeout	60
Target Resource	
Retry Count	1
Recover Object Type	Myself
Recover Object	cluster
Re-activation Threshold	0
Failover Threshold	0
Final Action	No Operation
Method	Dummy Read
I/O Size	1024
Start Monitor Wait Time	0
Nice Value	0

- * **Type:** Monitor resource type
- * **Monitor Timing:** Timing to start monitoring
- * **Interval:** Interval between monitoring (in seconds)
- * **Timeout:** Monitoring timeout (in seconds)
- * **Target Resource:** Resource to be monitored
- * **Retry Count:** Monitoring retry count
- * **Recover Object Type:** Type of target to be recovered when a problem is detected
- * **Recover Object:** Target to be recovered when a problem is detected
- * **Re-activation Threshold:** Reactivation count
- * **Failover Threshold:** Failover count
- * **Final Action:** Final action
- * **Method:** Monitoring method
- * **I/O Size:** I/O size at monitoring
- * **Start Monitor Wait Time:** Time to wait for start of monitoring (in seconds)
- * **Nice Value:** Monitor resource nice value

3.1.34 User space monitoring resource

When you select an object for a user space monitoring resource, , in the tree view, the following information appears in the list view.

User-Mode Monitor Name: userw1		Detail
Property	Value	
Name	userw1	
Comment	user mode monitor	
Method	softdog	
Use HB interval and timeout	1(0:Off, 1:On)	
Status	Normal	

- * **Name:** **Monitor resource name**
- * **Comment:** **Comment**
- * **Method:**
Monitoring method
- * **Use HB Interval and Timeout:** **+ 0 Do not use**
- + 1 Use
- * **Status:** **Monitor**
resource status
- * **Server Name:** **Server name**
- * **Status:** **Monitor**
resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	userw
Monitor Timing	Always
Target Resource	
Interval	3
Timeout	90
Retry Count	0
Final Action	
Recover Object	cluster
Recover Object Type	Myself
Re-activation Threshold	0
Failover Threshold	0
Start Monitor Wait Time	0
Nice Value	-20
Open/Close Temporary File with Writing	1(0:Off, 1:On)
Size	10000
Create Temporary Thread	1(0:Off, 1:On)

- * **Type:**
Monitor resource type
- * **Monitor Timing:** Timing to start monitoring
- * **Target Resource:** Resource to be monitored
- * **Interval:** Interval between monitoring (in seconds)
- * **Timeout:** Timeout value (in seconds). The monitor resource is determined to be abnormal if this time passes after the abnormality of the target was detected.
- * **Retry Count:** Retry count. The monitor resource is determined to be abnormal if the counts of retry exceed this value after the abnormality of the target was detected.
- * **Final Action:** Final action when a problem is detected
- * **Recover Object:** Target to be recovered when a problem is detected
- * **Recover Object Type:** Type of target to be recovered when a problem is detected
- * **Re-activation Threshold:** Reactivation count when a problem is detected
- * **Failover Threshold:** Failover count when a problem is detected
- * **Start Monitor Wait Time:** Time to wait for start of monitoring (in seconds)
- * **Nice Value:** Monitor resource nice value
- * **Open/Close Temporary File:** Open/Close a temporary file
- * **With Writing:** Write into a temporary file
- * **Size:**

Size of writes into a temporary file
* **Create Temporary Thread:**
thread

Create a temporary

3.1.35 VxVM daemon monitor resource – for SAN/SE –

When you select an object for a VxVM daemon monitor, , in the tree view, the following information appears in the list view.

VxVM Daemon Monitor Name: vxdw1	
Property	Value
Name	vxdw1
Comment	
Status	Normal

Resource On Server Status	
Server Name	Status
Server1	Online
Server2	Online

- * **Name:** Monitor resource name
- * **Comment:** Comment
- * **Status:** Monitor
resource status

- * **Server Name:** Server name
- * **Status:** Monitor
resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	vxdw
Monitor Timing	Always
Interval	60
Timeout	120
Target Resource	
Retry Count	0
Recover Object Type	Myself
Recover Object	cluster
Re-activation Threshold	0
Failover Threshold	0
Final Action	Stop Cluster Daemon And OS Reboot
Start Monitor Wait Time	0
Nice Value	0

- * **Type:** Monitor resource type
- * **Monitor Timing:** Timing to start monitoring
- * **Interval:** Interval between monitoring (in seconds)
- * **Timeout:** Monitoring timeout (in seconds)
- * **Target Resource:** Resource to be monitored
- * **Retry Count:** Monitoring retry count
- * **Recover Object Type:** Type of target to be recovered when a problem is detected
- * **Recover Object:** Target to be recovered when a problem is detected
- * **Re-activation Threshold:** Reactivation count
- * **Failover Threshold:** Failover count
- * **Final Action:** Final action
- * **Start Monitor Wait Time:** Time to wait for start of monitoring (in seconds)
- * **Nice Value:** Monitor resource nice value

3.1.36 VxVM volume monitor resource – for SAN/SE –

When you select an object for a VxVM volume monitor,  , in the tree view, the following information appears in the list view.

VxVM Volume Monitor Name: vxvolw1	
Property	Value
Name	vxvolw1
Comment	
Status	Normal
Target	/dev/vx/dsk/dg1/vol1

Resource On Server Status	
Server Name	Status
Server1	Online
Server2	Offline

- * **Name:** Monitor resource name
- * **Comment:** Comment
- * **Status:** Monitor resource status
- * **Target:** Name of VxVM volume RAW device which accesses to RAW
- * **Server Name:** Server name
- * **Status:** Monitor resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	wxvolw
Monitor Timing	Activating
Interval	60
Timeout	120
Target Resource	wxvol1
Retry Count	0
Recover Object Type	Group
Recover Object	grp1
Re-activation Threshold	3
Failover Threshold	1
Final Action	No Operation
Method	Dummy Read
I/O Size	1024
Start Monitor Wait Time	0
Nice Value	0

- * **Type:** Monitor resource type
- * **Monitor Timing:** Timing to start monitoring
- * **Interval:** Interval between monitoring (in seconds)
- * **Timeout:** Monitoring timeout (in seconds)
- * **Target Resource:** Resource to be monitored
- * **Retry Count:** Monitoring retry count
- * **Recover Object Type:** Type of target to be recovered when a problem is detected
- * **Recover Object:** Target to be recovered when a problem is detected
- * **Re-activation Threshold:** Reactivation count
- * **Failover Threshold:** Failover count
- * **Final Action:** Final action
- * **Method:** Monitoring method
- * **I/O Size:** I/O size at monitoring
- * **Start Monitor Wait Time:** Time to wait for start of monitoring (in seconds)
- * **Nice Value:** Monitor resource nice value

3.1.37 Multi Target Monitor Resource

When you select an object for a multi target monitor resource  in the tree view, the following information appears in the list view.

Multi Target Monitor Name: mtw1		Detail
Property	Value	
Name	mtw1	
Comment		
Status	Normal	
Monitor Resource List	diskw1	
	pidw1	
	raww1	
Resource On Server Status		
Server Name	Status	
server1	Online	
server2	Online	

- * **Name:** **Multi**
target monitor resource name
- * **Comment:** **Multi**
target monitor resource comment
- * **Status:** **Multi**
target monitor resource status
- * **Monitor Resource List:** **Monitor resource list**
- * **Server Name:** **Server name**
- * **Status:**
Monitor resource status of each server

If you click the [Detail] button, the following information appears in the pop-up dialogue.

Property	Value
Type	mtw
Monitor Timing	Always
Interval	60
Timeout	30
Target Resource	
Retry Count	3
Recover Object Type	Myself
Recover Object	cluster
Re-activation Threshold	0
Failover Threshold	0
Final Action	Stop Cluster Daemon And OS Shutdown
Start Monitor Wait Time	0
Nice Value	0

- * **Type:**
Monitor resource type
- * **Monitor Timing:** Timing to start monitoring
- * **Interval:** Interval between monitoring (in seconds)
- * **Timeout:** Timeout value (in seconds). The monitor resource is determined to be abnormal if this time passes after the abnormality of the target was detected.
- * **Target Resource:** Resource to be monitored
- * **Retry Count:** Retry count. The monitor resource is determined to be abnormal if the count of retry exceeds this value after the abnormality of the target was detected.
- * **Recover Object Type:** Type of target to be recovered when a problem is detected
- * **Recover Object:** Target to be recovered when a problem is detected
- * **Re-activation Threshold:** Reactivation count when a problem is detected
- * **Failover Threshold:** Failover count when a problem is detected
- * **Final Action:** Final action when a problem is detected
- * **Start Monitor Wait Time:** Time to wait for start of monitoring (in seconds)
- * **Nice Value:** Monitor resource nice value

1.9 Alert View

3.1.38 Overview of alert view

The alert view is divided into fields as follows.

	Receive Time	Time	Server Name	Module Name	Event ID	Message
(1)	2005/09/14 11:11:08.123	2005/09/14 11:11:06.367	server1	rm	26	Status of mdw1 changed normally.
(1)	2005/09/14 11:11:03.197	2005/09/14 11:11:02.962	server1	rm	26	Status of mdw1 changed normally.
(1)	2005/09/14 11:11:04.327	2005/09/14 11:11:01.857	server1	rm	26	Status of mdw2 changed normally.
(1)	2005/09/14 11:10:59.204	2005/09/14 11:10:58.917	server1	nm	3	Resource lanhb2 of server server2 up.
(1)	2005/09/14 11:11:01.680	2005/09/14 11:10:58.917	server1	nm	3	Resource comhb1 of server server2 up.
(1)	2005/09/14 11:11:01.607	2005/09/14 11:10:58.917	server1	nm	3	Resource lanhb1 of server server2 up.
(1)	2005/09/14 11:10:59.844	2005/09/14 11:10:57.460	server1	mdadmn	6	Building of switch mirror disk has finished successfully.(Device: md2)
(1)	2005/09/14 11:10:59.394	2005/09/14 11:10:56.902	server1	nm	3	Resource lankhb2 of server server2 up.
(1)	2005/09/14 11:10:57.139	2005/09/14 11:10:56.902	server1	nm	1	Server server2 up.
(1)	2005/09/14 11:10:59.283	2005/09/14 11:10:56.902	server1	nm	3	Resource lankhb1 of server server2 up.
(1)	2005/09/14 11:10:57.024	2005/09/14 11:10:56.807	server1	mdadmn	6	Building of switch mirror disk has finished successfully.(Device: md1)
(1)	2005/09/14 11:10:52.258	2005/09/14 11:10:53.485	server1	mdw	7	Recovery mode is FAST mode.(Device: md1)
(1)	2005/09/14 11:10:53.007	2005/09/14 11:10:51.593	server1	mdw	7	Recovery mode is FAST mode.(Device: md2)
(1)	2005/09/14 11:10:51.713	2005/09/14 11:10:51.577	server1	mdw	17	Recovery started.(Device: md2)
(1)	2005/09/14 11:10:51.130	2005/09/14 11:10:50.838	server1	mdw	17	Recovery started.(Device: md1)
(1)	2005/09/14 11:09:57.655	2005/09/14 11:09:57.317	server1	rm	1	Monitor pidw2 start.

For meanings of alert messages, see a separate guide, "Maintenance." For information about searching alert messages, see "3.1.2 Alert Search" in this book.

3.1.39 Alert view fields

The fields in the alert view provide the following information.

(1) **Alert type icon**

Alert type	Representing
	Informational message
	Warning message
	Failure or problem message

(2) **Alert received time**

The time the alert was received.

The time in the server which Web Manager connects to is applied.

(3) **Alert sending time**

The time the alert was sent from a server.

The time in the alert sender server is used.

(4) **Alert sender server**

The name of a server that sent the alert.

(5) **Alert sender module**

The type of a module that sent the alert.

Module type	Category
pm	Whole ExpressCluster
rc	Group/resource related
rm	Monitor resource related
nm	Heartbeat resource related
lanhb	LAN heartbeat resource
lankhb	Kernel mode LAN heartbeat resource
diskhb	DISK heartbeat resource
comhb	COM heartbeat resource
disk	Disk resource
fip	Floating IP resource
vxdg	VxVM disk group resource
vxvol	VxVM volume resource
md	Mirror disk resource
mdagent	Mirror agent related
mdadmin	Mirror disk related
mdctrl	Mirror disk control command
mdw	Mirror disk monitor resource
logcmd	Message output command

- (6) **Event ID**
The event ID set to each alert.
- (7) **Alert message**
The body of the alert message.

3.1.40 Working with the alert view

By clicking an item on the bar showing name of each field, you can change the alert order.



When you choose an item, its field appears with the  or  mark.

Mark	Purpose
	Sorts alerts in the ascending order of the selected field.
	Sorts alerts in the descending order of the selected field.

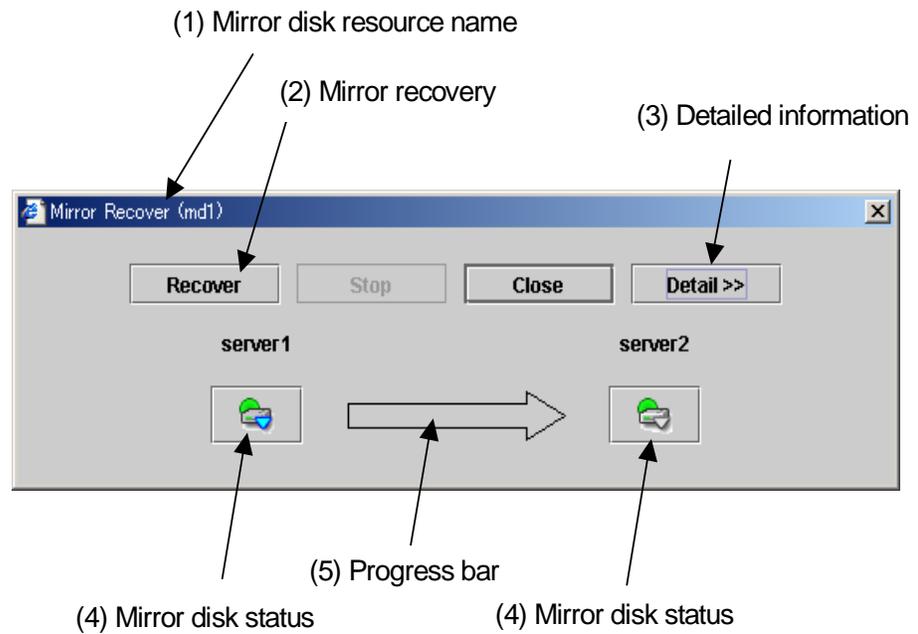
By default, alerts appear in the [Time] descending order.

1.10 Mirror Disk Helper

3.1.41 Overview of Mirror Disk Helper

The Mirror Disk Helper is a tool to help mirror disk recovery from Web Manager.

The Mirror Disk Helper is divided into fields as follows.



The Mirror Disk Helper can be started by the mirror disk list or mirror disk resource of each group.

The fields in the Mirror Disk Helper provide the following information.

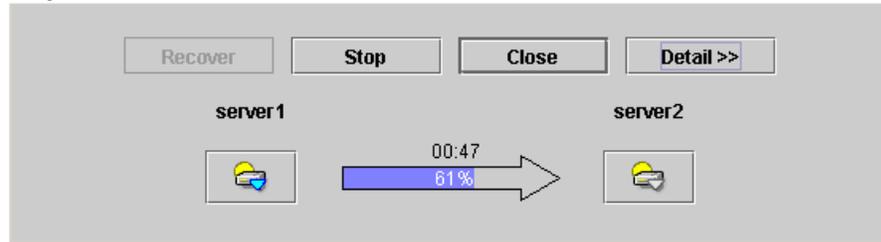
(1) Mirror disk resource name

- * The name of a mirror disk resource appears in this field.

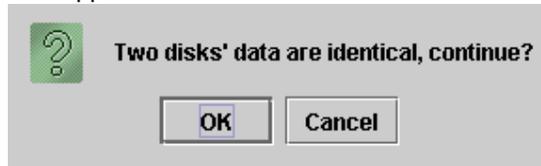
(2) Mirror recovery

When you click [Recover], mirroring recovery begins as shown in the following dialog box.

- * If there is a difference between the mirror disks in both servers, mirror recovery begins.



- * If there is no difference between the mirror disks in both servers, the following dialog box appears.

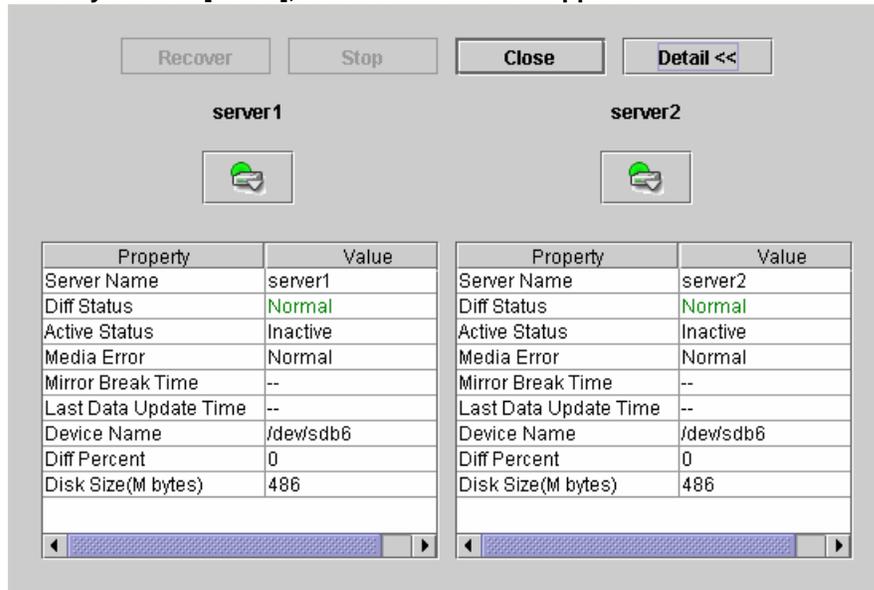


If you click [OK], forced mirror recovery begins.

If auto mirror recovery is on, mirror recovery begins automatically. However, mirror recovery does not begin automatically if there is no difference between both servers, or mirror disks in both servers have problems.

(3) Detailed information

* When you click [Detail], detailed information appears.



- * **Server Name:** Server name
- * **Diff Status:** Difference status
- * **Active Status:** Active status
- * **Media Error:** Media error
- * **Mirror Break Time:** Error break time
- * **Last Data Update Time:** The time data was updated last
- * **Device Name:** Device name
- * **Diff Percent:** Difference rate (shown only when FastSync Option is installed)
- * **Disk Size:** Disk size (Mbyte)

Last Data Update Time is shown when only one of servers is updated.

Mirror Break Time is shown when mirror disk connect is disconnected.

(4) Mirroring disk status

* This field shows mirroring disk status of the server

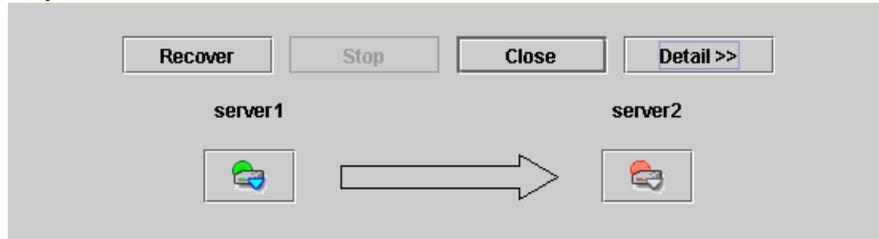
* This field shows mirroring status of the server

Icon	Mirroring disk status	Mirror Color*
	Mirroring status of the server is normal.	GREEN
	The server is in normal mirroring status and with the latest data. It may not be synchronized with the other server.	GREEN
	Mirror recovery or forced mirror recovery is underway. The server is inactive.	YELLOW
	Mirror recovery or forced mirror recovery is underway. The server is active.	YELLOW
	The server has a problem. Mirror recovery is required.	RED
	The server is either stopped or its status is unknown. Information on the server status cannot be acquired.	GRAY
	Both systems are active.	BLUE
	Cluster partition has a problem.	BLACK

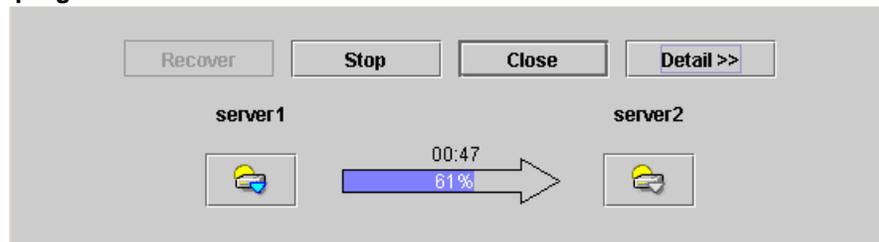
* To see the mirror color, run the clpmdstat command.

(5) Progress bar

- * The progress bar shows the direction of copy for mirror recovery or forced mirror recovery, from a server with the latest data to a server to which data is copied.



- * The bar shows how far the mirror recovery or forced mirror recovery has progressed.



The expected time for copying is shown above the progress bar.

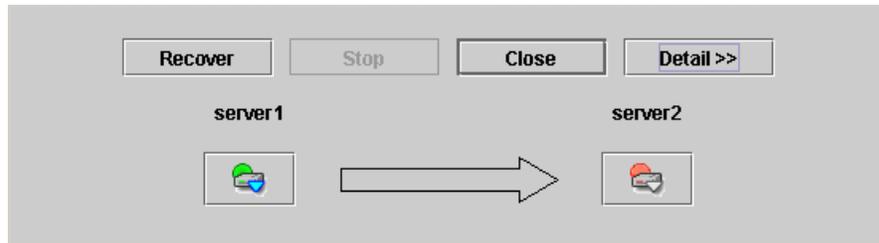
3.1.42 How to recover mirror/recover mirror forcefully



On the system which has FastSync Option installed, be sure to use the `clpmdctrl` command to resume the forced mirror recovery when it has been interrupted by using the `[stop]` button.

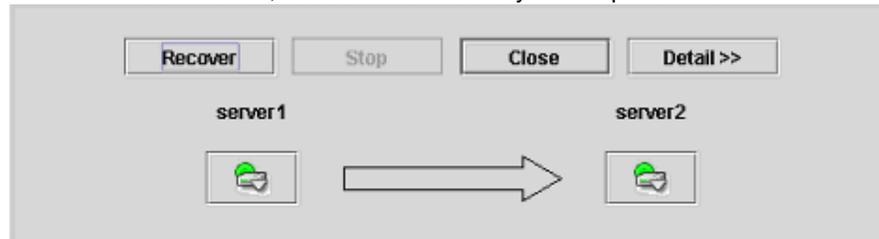
(1) Mirror recovery

- * If there is a difference between the mirror disks in both servers:



If there is a difference between the mirror disks in both servers, and one of them has a problem, the progress bar direction will be fixed. When you click `[Recover]`, mirror recovery begins.

- * If there is no difference between the mirror disks in both servers:
If there is no difference, forced mirror recovery will be performed.



If there is no difference between the mirror disks of both servers, and both servers are running normally, the progress bar arrow appears when a source server is specified.

When you click `[Recover]`, forced mirror recovery begins.

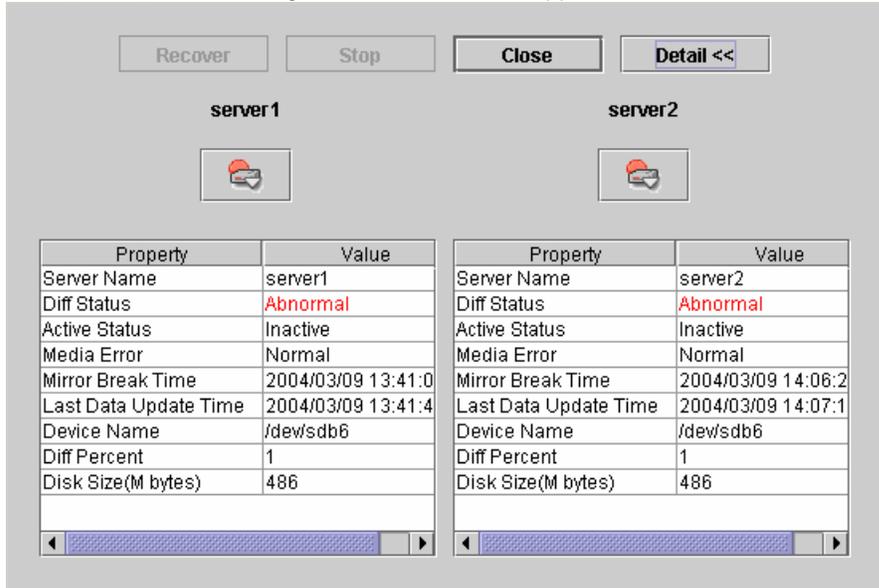
Note if any group is active, the server with the active group will be a source server.

- + If Fastsync Option is installed:
If differential mirror recovery is available, only the difference will be recovered.
- + If Fastsync Option is not installed:
Always all partitions are recovered.

For information on conditions allowing mirror recovery, see a separate guide, "Maintenance."

(2) Forced mirror recovery

* If both servers have problems, click [Detail] to determine a source server. When you click [Detail], the following detailed information appears.

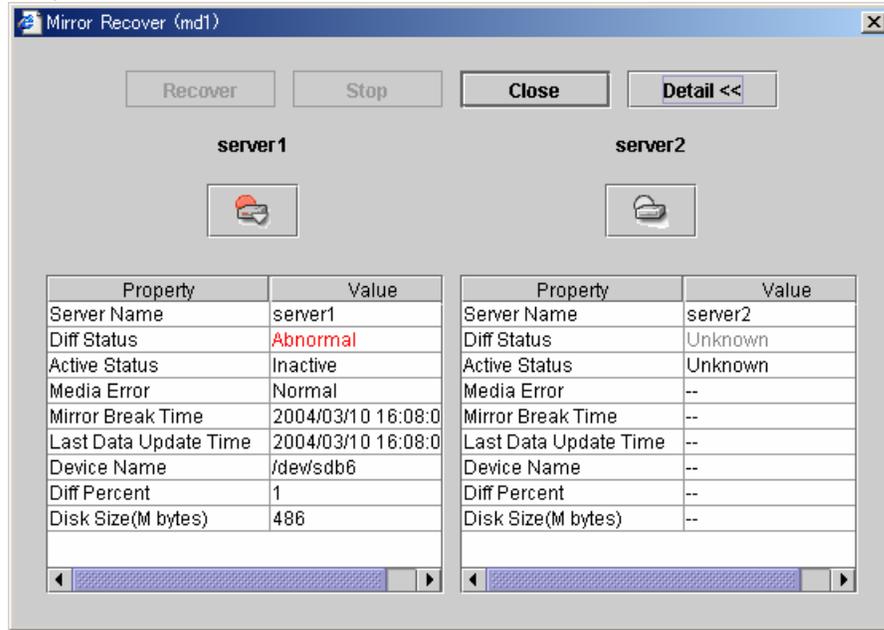


Check to see Last Data Update Time, and choose a server with latest data for a source server. Note that the time you see here is dependent on the time set in the OS.

When you select an icon whose status is mirrored disk for a source, the progress bar appears. Click [Recover] to start forced mirror recovery.

(3) Forced mirror recovery for a single server

- * When one server has a problem while the other is in unknown status, the Mirror Disk Helper looks as follows.



- * When you click [Recover], the following dialog box appears.



When you click [OK], forced recovery for one of the server begins.

4 Using Web Manager

This chapter describes how to use Web Manager.

1.11 Stopping and Starting Web Manager

After ExpressCluster has been installed, Web Manager in servers is configured to start up and stop in association with OS startup and stop.

In order to stop and start Web Manager manually, run the following commands from the server console.

(1) To stop

```
[root@server1 root]# /etc/init.d/clusterpro_alertsync stop  
Shutting down webalert daemon: OK  
[root@server1 root]# /etc/init.d/clusterpro_webmgr stop  
Shutting down webmanager server: OK
```

(2) To start

```
[root@server1 root]# /etc/init.d/clusterpro_webmgr start  
Starting webmanager server: OK  
[root@server1 root]# /etc/init.d/clusterpro_alertsync start  
Starting webalert daemon: OK
```

* You only need to type in bold characters.

1.12 Not Using Web Manager

If you do not wish to use Web Manager for security reasons, change your OS or configuration tool setting to stop Web Manager from starting up.

Typically, you can use the `chkconfig` command to control startup and stop of Web Manager-related daemons.

(3) To stop Web Manager from starting up

```
[root@server1 root]# chkconfig --del clusterpro_alertsync  
[root@server1 root]# chkconfig --del clusterpro_webmgr
```

(4) To make Web Manager start up

```
[root@server1 root]# chkconfig --add clusterpro_webmgr  
[root@server1 root]# chkconfig --add clusterpro_alertsync
```

Run the following commands to enable services for Turbolinux Enterprise Server 8 (UnitedLinux system).

```
[root@server1 root]#chkconfig --set clusterpro_webmgr on  
[root@server1 root]#chkconfig --set clusterpro_alertsync on
```

* You only need to type in bold characters.

If the ExpressCluster version is 3.1-6 or later, Web Manager can be configured in the [WebManager] tab in [Cluster Property] of the configuration tool. For information on how to configure and reflect, see a separate guide "Configuration Tool".

* For information on how to configure and reflect, see a separate guide "Configuration Tool".

Restricting Access to Web Manager, The Operation Restrictions of Web Manager

Web Manager's connection restriction and operation restriction can be configured by using [Cluster Property] in the configuration tool. See a separate guide, "Configuration Tool" for detail.

4.1.2 Usage restriction

There are two kinds of usage restrictions:

- + Restricting access by a client IP address
- + Operation restriction by password

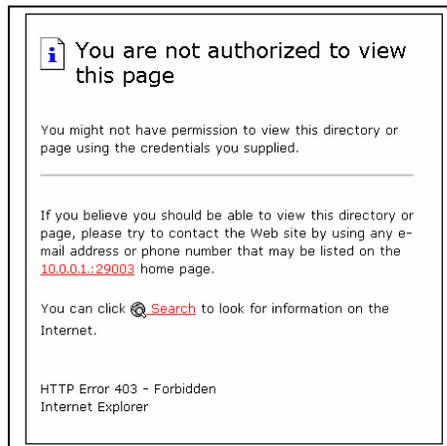
(1) Restricting access by a client IP address

This function limits clients who can access Web Manager and operations on Web Manager by using a client IP address.

Add IP addresses to a list of the client IP addresses whose connection are allowed on the [WebManager] tab in [Cluster Property] of the configuration tool. See the separate guide, "Configuration Tool" for detail.

If the Web Manager's connection restriction is set, the following error message appears when trying to access Web Manager from the IP address that is not added to a list of the client IP addresses whose connection are allowed.

Example: when using Internet Explorer



When the clients with operation restriction access to Web Manager, the following “Reference Only” box appears



The following cannot be performed when the operation is restricted.

- * **Cluster shutdown, cluster shutdown reboot**
- * **Shutdown of each server, shutdown reboot**
- * **Starting, stopping, and moving of a certain group**
- * **Operation using mirror disk helper (WAN/LAN/LE only)**

(2) Operation restriction by password

This function limits viewing and operation on Web Manager by using password.

To configure this restriction, choose [Connection is restricted by Password] on the [WebManager] tab in [Cluster Property] of the configuration tool. See a separate guide, “Configuration Tool” for detail.

If the Web Manager’s password restriction is set, the following authorization dialog box appears when trying to access Web Manager by setting a password.

A Java Applet Window dialog box for authorization. It has a light gray background. At the top, there is a label 'Permission:' followed by a dropdown menu showing 'Operation Mode'. Below that is a label 'Password:' followed by an empty text input field. At the bottom, there are two buttons: 'OK' and 'Cancel'. The window title bar at the very bottom reads 'Java Applet Window'.

You can log in to Web Manager by selecting “Operation Mode” or “Reference Only” and entering correct password.

- * **The authorization dialog box does not appear unless password restriction is not configured (login without authorization is possible).**
- * **You cannot log in to Web Manager if you enter wrong password three times.**

When you log in with a reference only permission, the following “Reference Only” box appears.



The following cannot be performed when the operation is restricted.

- * **Cluster shutdown, cluster shutdown reboot**
- * **Shutdown of each server, shutdown reboot**
- * **Starting, stopping, and moving of a certain group**
- * **Operation using mirror disk helper (WAN/LAN/LE only)**

For information on permission change after login and/or logout, see 4.1.3 “Web Manager Authorization Change”.

(3) Combination for usage restriction

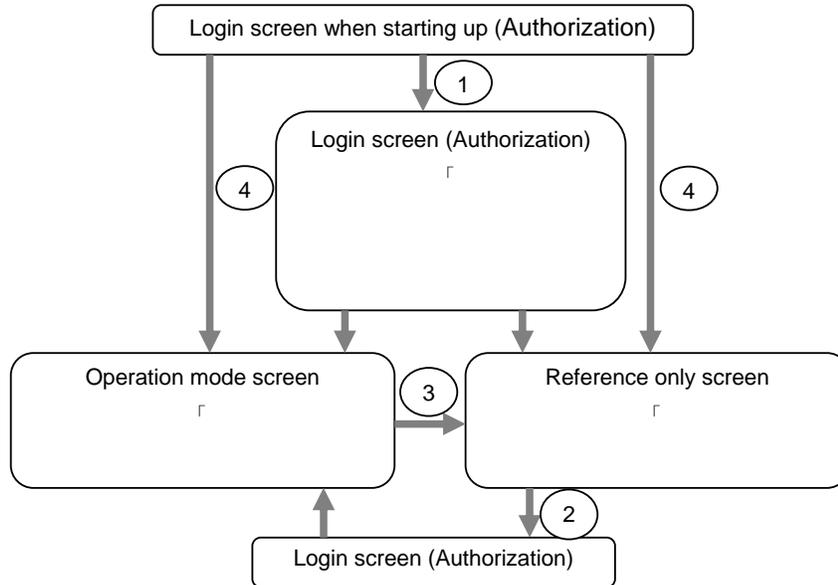
Combinations of the IP address restriction and the password restriction for usage restriction is as follows:

	Password Restriction		
Client IP Address Restriction	Operation Mode	Reference Only	Cannot Operate/View (Authorization Failure)
Operation Mode	Operation mode	Reference only	Cannot use
Reference Only	Reference only*	Reference only	Cannot use
Cannot Access	Cannot access	Cannot access	Cannot access

- * **Cannot select as permission choice.**

4.1.3 Web Manager Authorization Change

The following flow chart describes when accessing Web Manager and changing authorization.



1. Login to Web Manager
The login authorization dialog box appears when a password for operation mode or reference only is set. You can log in to Web Manager by selecting permission of “Operation Mode” or “Reference Only”, and entering the correct password.
2. Permission change from reference only screen to operation mode screen
The password authorization dialog box is displayed. You can log in by entering the correct password. When password restriction is not configured, log in without entering password.
3. Permission change from operation screen to reference only screen
Permission change without authorization is possible. Permission can be changed without authentication even when the password restriction is configured.
4. Login when not to set a password for both operation mode and reference only.
Log in by following the client IP restriction. If the client IP restriction is not configured, you will log in to Web Manager whose authorization is “operation mode”. In this case, permission change to reference only is not possible.

Using Web Manager to working with Clusters

4.1.4 Cluster Shutdown and Cluster Shutdown Reboot

For information on performing cluster shutdown and cluster shutdown reboot from Web Manager, see (1)Cluster object.

For WAN/LAN/LE, do not execute this command while activating a group. Group deactivation should not be executed while a group is being activated. Because of this, the OS may shut down while the mirror disk resource is not deactivated properly, which can result in mirror break.

4.1.5 Mirror Disk Resource and Mirror Disk Helper

For information on working with mirror disks and Mirror Disk Helper from Web Manager, see (2)Servers object and (5)Mirror disk resource object.

4.1.6 Shutting and Rebooting a Certain Server

For information on shutting down and rebooting a certain server from Web Manager, see (3)Certain server object.

For WAN/LAN/LE, do not execute this command while activating a group. Group deactivation should not be executed while a group is being activated. Because of this, the OS may shut down while the mirror disk resource is not deactivated properly, which can result in mirror break.

4.1.7 Starting, Stopping and Moving a Certain Group

For information on starting, stopping and moving a certain group from Web Manager, see (4)Certain group object.

1.13 Restrictions

- * Information shown by Web Manager does not always reflect the latest status. To acquire the latest information, click the [Reload] button.
- * If a server fails while Web Manager is acquiring information, the information acquisition will not be successful, which may result in failure to show some objects. You can either wait until the next auto refresh or click the [Reload] button to acquire the latest information.
- * If you use a Linux browser, some window manager combinations may put a dialog box behind other windows. Switch windows by pressing [ALT] + [TAB] keys or by other means.
- * ExpressCluster logs cannot be collected from two or more Web Managers simultaneously.
- * If you work on Web Manager when no connectivity is established, it may take a while to regain control.
- * If you move a cursor outside the browser while it is shown in the hourglass or wristwatch status, it may return to the arrow icon even if the process is still going on.
- * In some versions of the [NEC EXPRESSCLUSTER CD], the setup menu of [NEC EXPRESSCLUSTER Manager] will be displayed, which is run by autorun when the CD is set in the management machine of Windows. Do not install this since this is not the manager for NEC EXPRESSCLUSTER for Linux 3.x.
- * When you collect logs, the following message may appear in a server console.

```
hda: bad special flag: 0x03
ip_tables: (C) 2000-2002 Netfilter core team
```

You can ignore this message because it does not affect log collection.

- * If a proxy server is used, configure the proxy server to allow for relaying Web Manager's port number
- * When you update ExpressCluster, clear the browser cache of Java.

1.14 Error Messages

The following is a list of error messages you may see when using Web Manager.

Level	Message	Meaning/Possible cause	Solution
Information	Alert service is active.	The Alert service is in normal state now.	-
Error	Alert service is inactive.	Starting the Alert service has failed	Check the configuration of Alert related modules.
Error	Because of wait time, group can be started.	No status is acquired because ExpressCluster is now being started up.	Try reloading after a while.
Error	Can't connect server.	Connecting Web Manager to an ExpressCluster server has failed.	Check the server to be connected has been started up.
Error	Connection timeout.	Internal timeout has occurred.	Internal timeout may occur when a time-consuming task is performed. Check the status after the timeout and if there is no problem, you can continue operating.
Error	Connection was lost.	The connection between Web Manager and an ExpressCluster is disconnected.	Check to see if the server to be connected has failed.
Error	Could not start some resource.	Starting some resource under the group has failed.	Solve the problem that has caused resource failure. See the alert log for detailed information on the error.
Error	Could not stop some resource.	Stopping some resource under the group has failed.	Solve the problem that has caused resource failure. For detailed information on the error, see the alert log.
Error	Failed to collect alert logs from server.	Collecting logs has failed. Some server(s) may have been shut down during the log collection. A problem causing failure to connect to some servers may have occurred.	Retry log collection. If logs from a certain server cannot be collected, run the cplogcc command on the server to collect logs.
Error	Failed to connect to server("400":"Bad request.).	Connecting to Web Manager has failed.	Check Web Manager is running on the server.
Error	Failed to find out group's online server.	No server has started up groups.	The server status may have changed during the operation. Perform reloading.
Error	Failed to get cluster tree from server.	Acquiring the cluster configuration has failed.	Run a command on the server to check ExpressCluster is running.
Error	Failed to get latest alert log.	1) The alertlog.alt file either does not exist or is corrupted. 2) The maximum number of alert viewer records in the cluster configuration information, is too large. (Up to 999)	1) Temporarily save all the files under the install path /alert/log on the server, and then restart the alert synchronization service. 2) Check the maximum number of alert view records set in the configuration tool.

Level	Message	Meaning/Possible cause	Solution
Error	Failed to get property from server.	Acquiring a cluster property value has failed.	Run a command on the server to check ExpressCluster is running.
Error	Failed to search alert log.	Opening Alert log files on a server has failed.	Temporarily save the files under the /install path /alert/log on the server, and then restart the alert synchronization service.
Error	Failed to the response content.	Connection to the server is disconnected.	Check the server operating status and network connectivity.
Error	Failed to move group "Group Name" to server "Server Name".	Moving the group has failed. [Group Name] group name [Server Name] server name	Solve the problem causing failure of group moving. For detailed information on the error, see the alert log.
Error	Group already started.	The group you want to work on has already been started up. Other manager or command on the server may have worked on the same group.	Try reloading after a while, update the group status, and then work on the group.
Error	Group already stopped.	The group you want to work on has already been stopped. Other manager or command on the server may have worked on the same group.	
Error	Group is busy.	The group you want to work on is under transition. Other manager or command on the server may have worked on the same group.	
Error	Internal Error.	An internal Web Manager error has occurred.	Perform reloading. If the error persists after reloading, restart the Web Manager daemon.
Error	Invalid configuration file.	Acquiring the cluster configuration information has failed.	Check the cluster configuration information.
Error	Invalid group name.	An internal Web Manager error has occurred.	Perform reloading. If the error persists after reloading, restart the Web Manager daemon.
Error	Invalid group name or server name.	An internal Web Manager error has occurred.	
Error	Invalid parameter.	An internal Web Manager error has occurred.	
Error	Invalid server name.	An internal Web Manager error has occurred.	
Error	Maybe failed on some server or group.	Some operations have failed.	Run a command to check the server status. If there is no problem, you can continue your operations.

Level	Message	Meaning/Possible cause	Solution
Error	Operatable group does not exist.	The operation against the group has failed.	Solve the problem that caused the failure of the operation against the group. For detailed information on the error, see the alert log.
Error	Please input the "Alert log number of each page".	The number of alert log search results to be shown (i.e. the number of logs in a window) is not set.	Specify the number of alert log search results to be displayed.
Error	Please input the "Event ID" for Search".	The ID for alert log search is not set.	Specify the ID for alert log search.
Error	Please input the "Module Name" for Search".	The name of module for alert log search is not set.	Specify the name of a module for alert log search.
Error	Please input the "Number for Search".	The number of alert logs to be searched is not set.	Specify the number of alert logs to be searched.
Error	Please input the "Page Number".	The page to show the alert log results is not set.	Specify the page to show the alert log results.
Error	Please input the "Server Name" for search.	The name of a server for alert log search is not set.	Specify the name of a server for alert log search.
Error	Selected server is invalid.	The server you to which you specified to move the group is invalid.	Wait for a while to perform reloading to update the group, and then work on the group.
Confirmation	Server is busy in collecting alert logs, retry?	Other manager or command on the server has already started to collect logs.	Wait for a while to collect logs
Error	Specified server is not active.	The server that initiated the operation is not active.	Wait for a while to perform reloading to update the group, and then work on the group
Warning	The cluster tree got from server may be not integrated.	An error occurred while acquiring the server's status.	Try reloading after a while.
Error	The "Alert log number of each page" inputted is out of range(1-300).	The number set for alert log results shown per page is not in the range.	Specify a value between 1 and 300.
Error	The "End Time" inputted is wrong, please input a correct time.	The time specified for end of alert log search is invalid.	Set a correct time.
Error	The "Event ID" inputted is less than 1.	The ID set for alert log search is smaller than one (1).	Specify 1 or greater value.
Error	The group which can be started does not exist.	Starting up a group has failed.	Solve the problem that caused the failure of the operation against the group. For detailed information on the error, see the alert log.
Error	The group which can be stopped does not exist.	Stopping a group has failed.	Solve the problem that caused the failure of the operation against the group. For detailed information on the error, see the alert log.

Level	Message	Meaning/Possible cause	Solution
Error	The group which failed to start exists.	Some operations have failed.	Run a command to check the server status. If there is no problem, you can continue your operations.
Error	The group which failed to stop exists.	Some operations have failed.	Run a command to check the server status. If there is no problem, you can continue your operations.
Warning	The "Number for Search" inputted is less than 1.	The ID set for alert log search is smaller than one (1).	Specify 1 or greater value.
Error	The "Page Number" inputted is less than 1.	The number of pages specified for alert log search is smaller than one (1).	Specify 1 or greater value.
Error	The "Page Number" inputted is more than total page count.	The number of pages specified for alert log search is greater than the number of total pages.	Specify the number that equals to the number of total pages or smaller.
Warning	The property data got from server may be not integrated.	Some information acquisition has failed.	Try reloading after a while.
Error	The server which failed to stop exists.	There is a server that may have failed shutting down the cluster.	Check to see if the server is not working. If it is working, check to see ExpressCluster is working.
Error	The "Start Time" inputted is wrong, please input a correct time.	The time set for start of alert log search is invalid.	Set a correct time.
Error	The "Start Time" is latter than the "End Time".	The time set for start of alert log search is later than the time set for end.	Set a correct time.
Information	The total page is changed, maybe server's alert log is updated.	The number of total pages of alert log search results is updated. New alerts may have occurred while the search results are shown.	To reflect added alerts to the search results, close the window showing the search results and perform search again.
Error	Failed to get mirror disk list from server.	An internal error of the mirror agent has occurred. Communication access from the Web Manager server to the mirror agent has failed. The process in the server has timed out.	Check to see the mirror agent is working. See a separate guide, "Maintenance." If the mirror agent is not started, reboot the server.
Error	Failed to get mirror status.	The mirror agent failed to acquire mirror disk status. An internal error of the mirror agent has occurred. Communication access from the Web Manager server to the mirror agent has failed. The process in the server has timed out.	Check to see the mirror agent is working. See a separate guide, "Maintenance." If the mirror agent is not started, reboot the server.
Error	Failed to recover.	An error occurred during mirror recovery.	Check to see the mirror agent is working. See a separate guide, "Maintenance." If the mirror agent is not started, reboot the server.

Level	Message	Meaning/Possible cause	Solution
Error	Disk Error happens when mirror recovering.	A disk error has been detected during mirror recovery.	Run the clpmdstat --mirror command to check.
Error	Two Disks' size are not same.	The sizes of mirror disks on both servers are not identical.	Check the sizes of mirror disk partitions on both servers.
Error	Failed to recover, for mirror status has changed.	Mirror recovery has failed because mirror status changed after a Mirror Disk Helper dialogue appeared.	When you close this error message dialog box, the information is updated.
Confirmation	Two disk' data are identical, continue?	The mirror disks on both servers have no difference. Do you want to continue mirror recovery?	-
Confirmation	Are you sure to stop recovery of %1.	Do you want to stop mirror recovery?	-
Error	Failed to stop recovery.	Stopping mirror recovery has failed.	The server may be heavily loaded. Start up the Mirror Disk Helper again.
Error	Failed to get recovery progress.	Acquiring information on progress of mirror recovery has failed.	The server may be heavily loaded. Start up the Mirror Disk Helper again.
Error	There is a mismatch between the applet and the server. Clear the browser cache.	A mismatch between the applet and the server occurred because the browser cache is remaining.	Please end a browser. Please reactivate a browser clearing the cache of Java.
Error	Failed to recover, for NMP size of "{0}" is smaller than NMP size of "{1}".	Data partition size of the source server is larger than that of the destination server when recovering a mirror. Recovery will be stopped. Initial mirror may not be configured properly.	Specify a server as a source whose data partition size is smaller.
Error	Failed to get log collect server list.	Failed to get a server list.	An internal error may have occurred on server side. Try again.
Error	Server is busy in collecting logs, retry?	The server is collecting logs.	Perform this operation after collecting other logs is finished.
Error	Failed to collect logs from server.	An error occurred while collecting logs.	Check the result in dialog box about the progress of log collection (see 3.1.4 "Log Collect").
Error	Failed to Login.(Internal error)	An internal error has occurred when logging in to Web Manager.	Re-access Web Manager. Start Web Manager daemon if error still occurs.
Error	Failed to Login.	Incorrect password was entered three times in a row.	Re-access Web Manager and enter a correct password.
Error	Password is incorrect	Incorrect password was entered.	Enter a correct password.
Error	Authorization failed.	Password was changed when accessing to Web Manager.	Re-access Web Manager.
Error	Authorization failed.(Internal error.)	An internal error has occurred when accessing to Web Manager.	Re-access Web Manager. Start Web Manager daemon if error still occurs.