ExpressCluster for Linux Ver3.0

Web Manager

2004.10.22
2st Revision

Revision History

Revision	Revision date	Descriptions
1	2004/06/30	New manual
2	2004/10/22	3.3.1Overview of Tree View VxVM RAW was added. 3.3.2Object Colors (13) RAW recource was added. (14) VxVM disk group resource was added. (15) VxVM volume resource was added. (22) RAW monitor resource was added. (24) VxVM daemon monitor resource was added. (25) VxVM volume monitor resource was added. 3.4List View 3.4.13RAW resource – for SE – was added. 3.4.14VxVM disk group resource – for SE – was added. 3.4.15VxVM volume resource – for SE – was added. 3.4.22RAW monitor resource was added. 3.4.24VxVM daemon monitor resource was added. 3.4.25VxVM volume monitor resource was added.

The latest information on system confirmation, system configuration guide, update, and tracking tool is provided in the following URL.
Please obtain the latest version before configuring the system.

Usage on the NEC Internet:
http://soreike.wsd.mt.nec.co.jp/

Usage out of the NEC Internet:
http://www.ace.comp.nec.co.jp/CLUSTERPRO/

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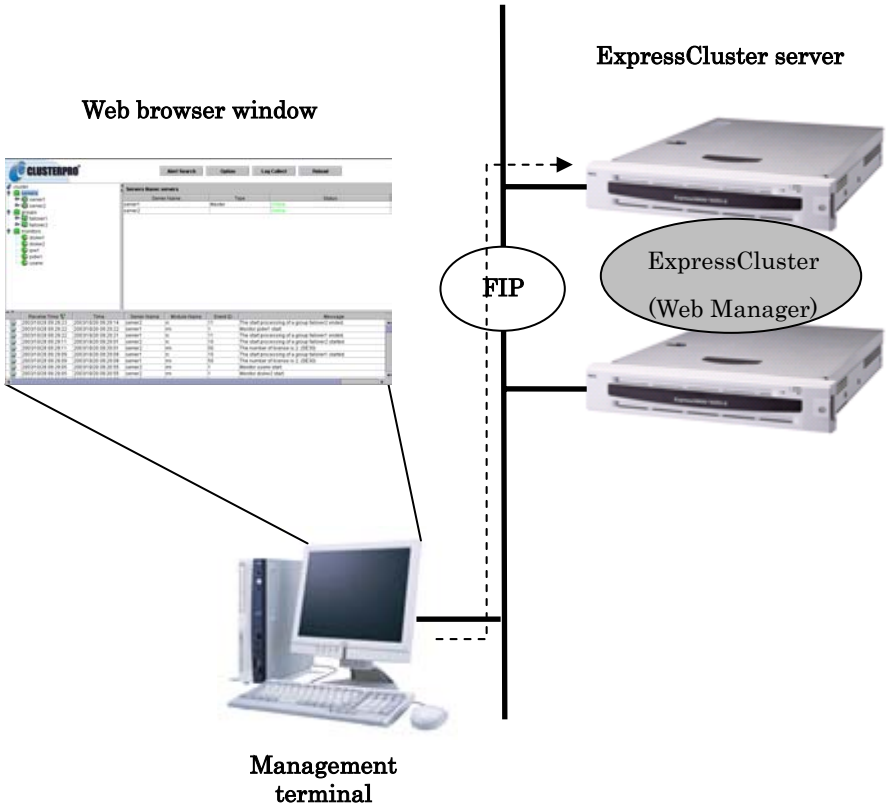
1 What is ExpressCluster Web Manager?

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 “4.1 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
* Mozilla1.1 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.”

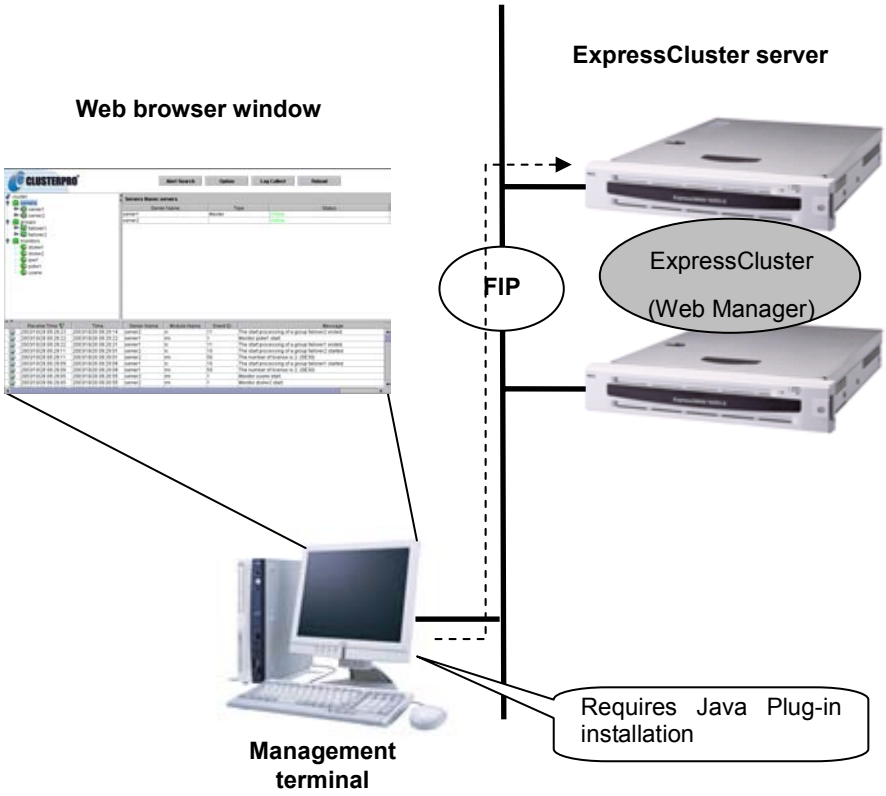
2 Access to Web Manager

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

2.1 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.



2.2 Access

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

http://10.0.0.3:29003/

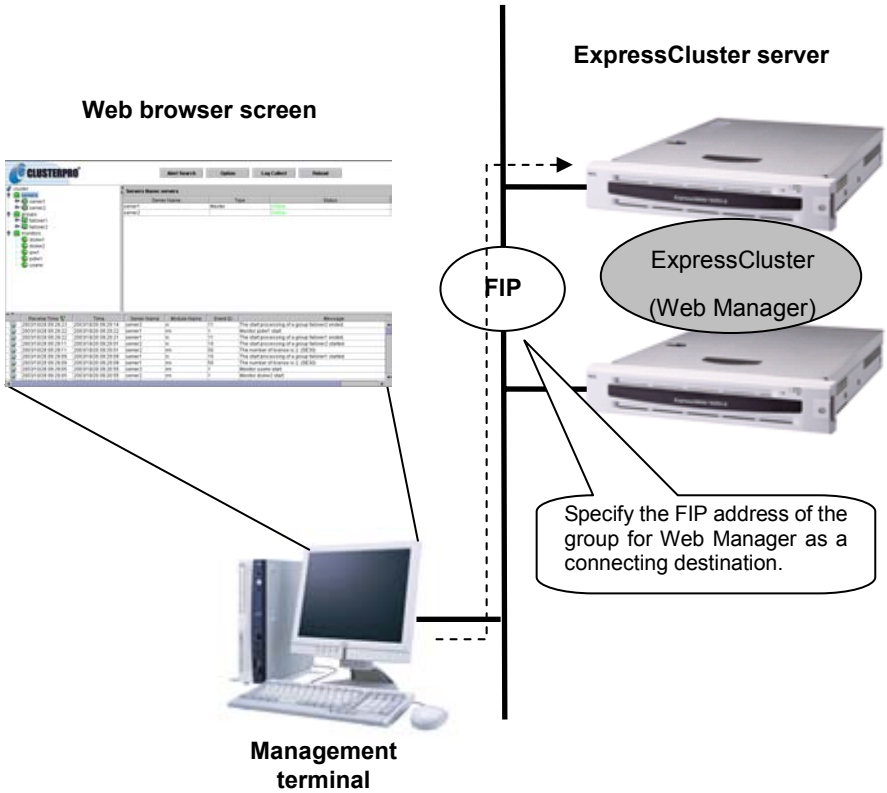
Specify the port number of Web Manager.

Specify the FIP address of the group for Web Manager

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 Trekking Tool], and then [Port No.].



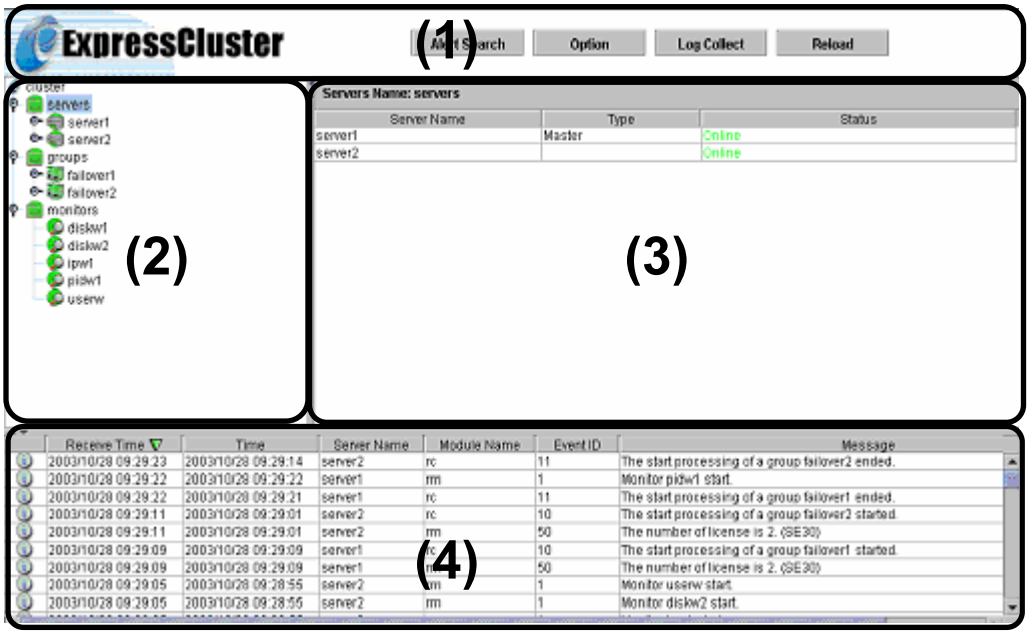
3 Window

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.

3.1 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 “3.2 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 “3.3 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 “3.4 List View.”

(4) Alert View

This view shows messages describing ExpressCluster operating status.

For more information, see “3.5 Alert View.”

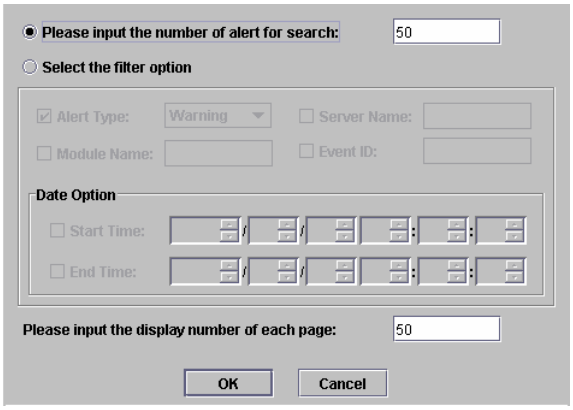
3.2 Title View

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

3.2.1 Alert Search

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

For the information on alert logs, see “3.5 Alert View” as well.



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

Enter the number of past alert logs you wan 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 Trekking 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

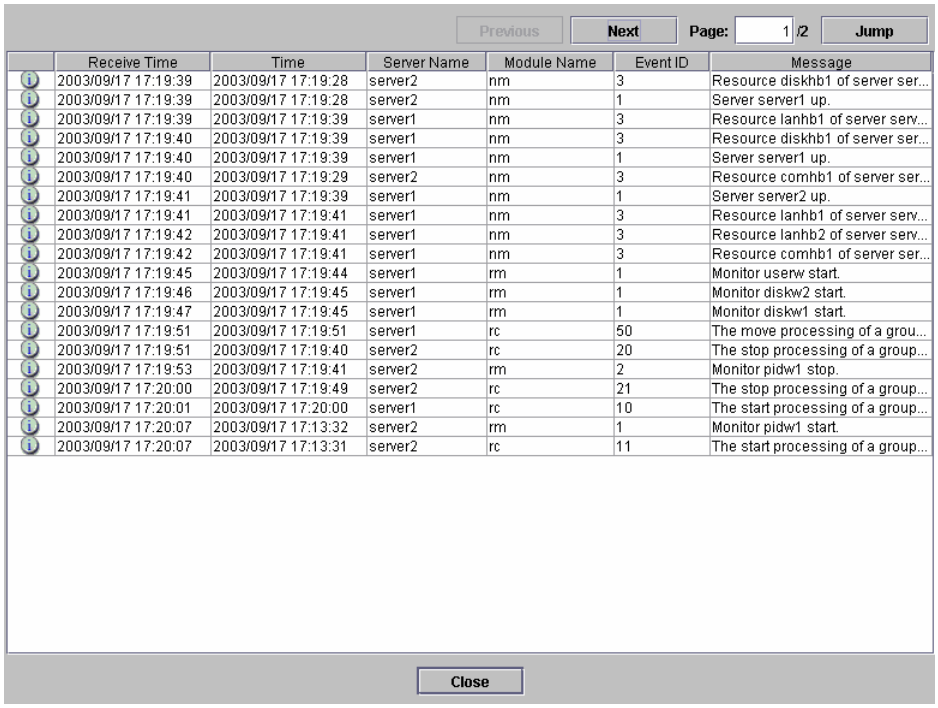
+ Server Name: Type in the name of a server whose alerts you want to see.
+ Event ID: Type in an event ID whose alerts you want to see.
+ Start Time: Specify the start time of your search range.
+ Stop Time: Specify the end time of your search range.

* **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 Trekking Tool], and then [Web Manager] and [Turning].

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



* **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].

3.2.2 Option

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

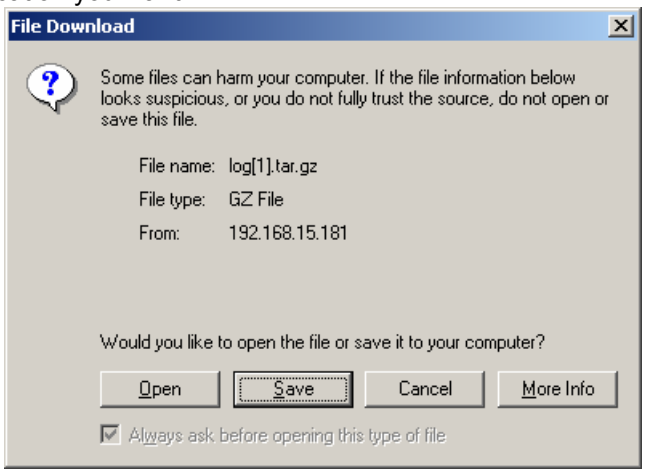
The split bars divide the views in Web Manager.

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

3.2.3 Log Collect

When you click the [Log Collect] button, collection of ExpressCluster operation logs begins, and the [Log Collect] button becomes disabled.

When you see the following dialogue box after a while, download the logs to a location you want.



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

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.

3.2.4 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.

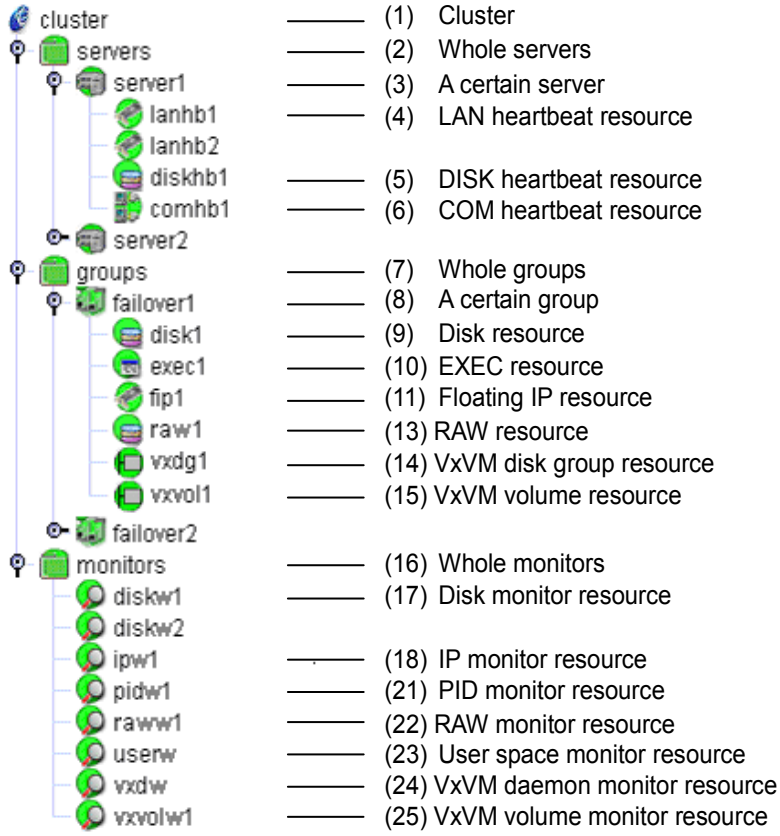
The Web Manager refresh interval can be configured between 0 and 999 in [Screen Data Refresh Interval]. To configure [Screen Data Refresh Interval], choose [Cluster Property] in [ExpressCluster Trekking Tool], and then [Web Manager] and [Turning].

3.3 Tree View

3.3.1 Overview of Tree View

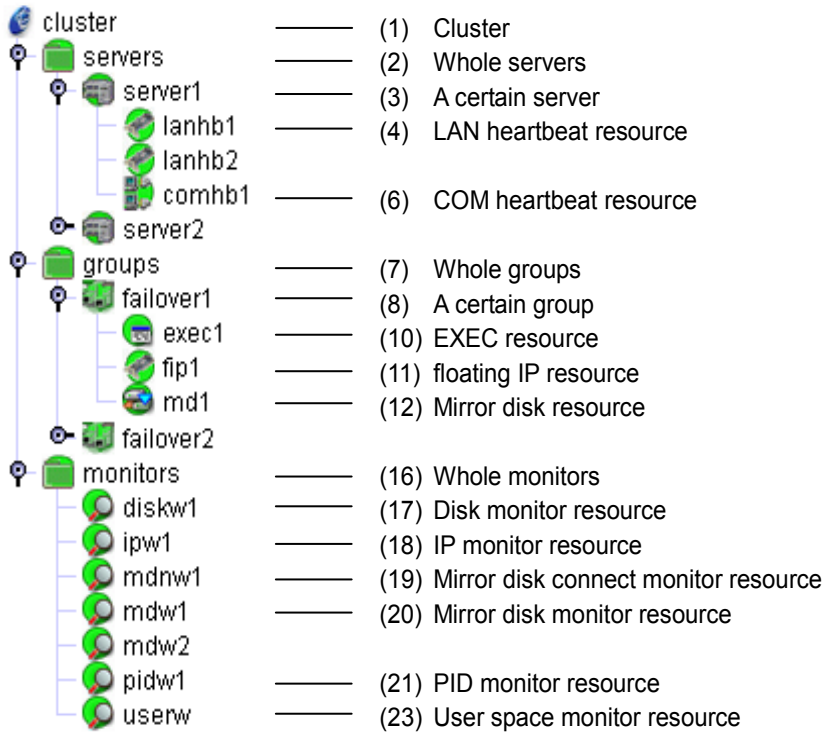
(1) SE

The tree view is organized as follows for SE.



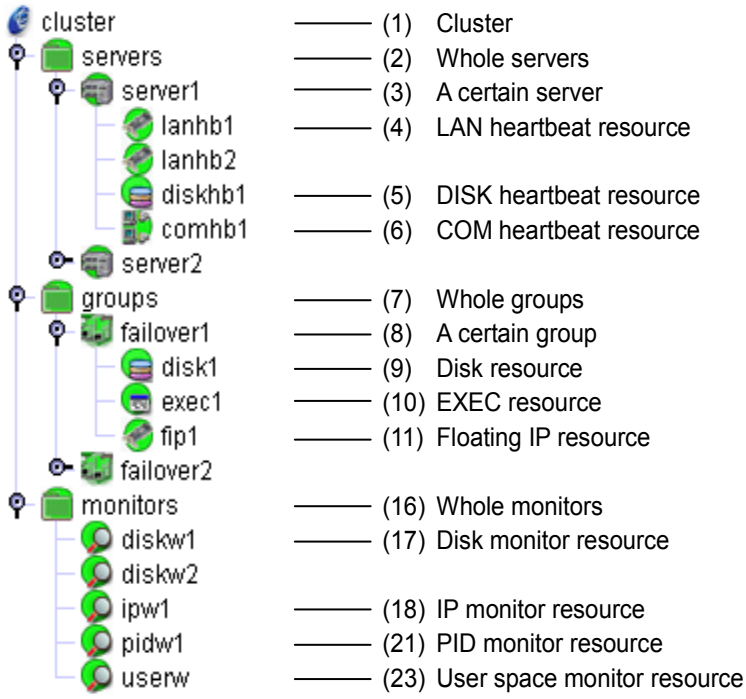
(2) LE

The Tree View is organized as follows for LE.



(3) XE

The tree view is organized as follows for XE.



3.3.2 Object Colors

Each object color represents the following meaning.

Note) (1) No specific color is assigned to the object representing a whole 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]	The resource status cannot be acquired.

(5) 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]	The resource status cannot be acquired.

(6) 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]	The resource status cannot be acquired.

(7) 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.

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

(9) 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.

(10) 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.

(11) 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.

(12) 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.

(13) 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.

(14) 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.

(15) 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.

(16) monitors	**Status of whole monitors**
[Normal]	All monitor resources are running normally.
[Caution]	One or more monitor resources have a problem.
[Error]	All monitors have a problem.
[Unknown]	No information is acquired.

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

(18) 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.
[Error]	All servers cannot communicate with the IP address of the target.
[Unknown]	No information is acquired.

(19) 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.
[Error]	A mirror disk connect problem has occurred in both servers.
[Unknown]	No information is acquired.

(20) resource name	**Status of a mirror disk monitor resource**
[Normal]	The mirror disk is running normally.
[Caution]	Mirroring is now being recovered.
[Error]	The mirror disk has a problem. Mirror recovery is necessary.
[Unknown]	No information is acquired.

(21) 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.

(22) resource name	**Status of RAW monitor resource**
[Normal]	There is no failure on disk
[Caution]	One of servers have disk problems.
[Error]	Disk is not working in all servers.
[Unknown]	No information is acquired.

(23) 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.
[Error]	User space is not working in all servers.
[Unknown]	No information is acquired.

(24) 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.
[Error]	The VxVM daemon is not operating in every server.
[Unknown]	No information is acquired.

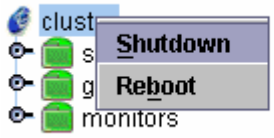
(25) resource name	**Status of VxVM volume monitor resource**
[Normal]	The VxVM volume monitor resource is running normally.
[Caution]	-
[Error]	The VxVM volume has a problem.
[Unknown]	No information is acquired.

3.3.3 Operable Objects

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

(1) Cluster object

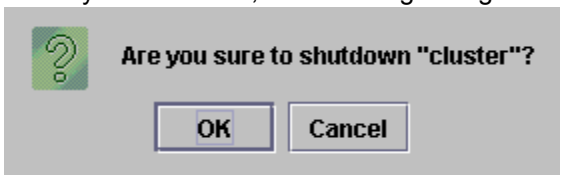
When you right-click a cluster object, the following shortcut menu appears.



* **Shutdown**

Shuts down all running servers.

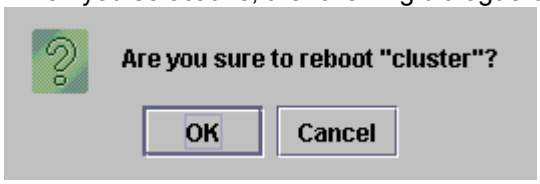
When you select this, the following dialogue box appears for confirmation.



* **Reboot**

Reboots all running servers.

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



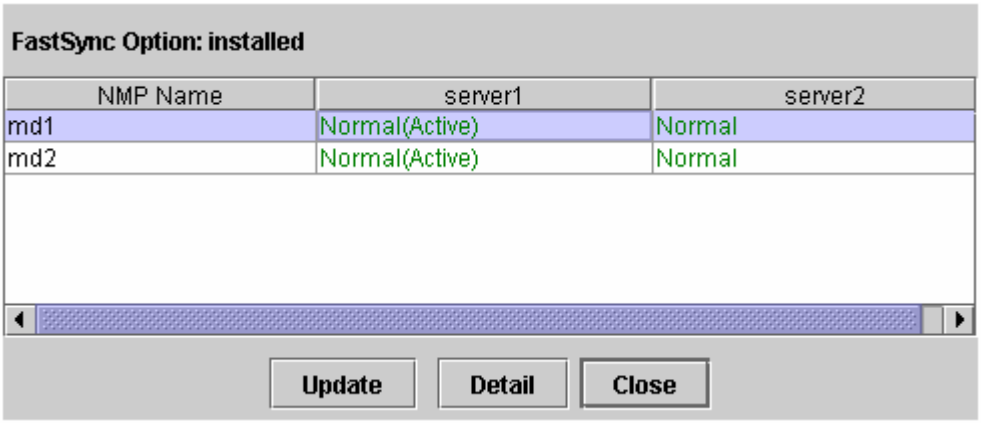
Note that servers that cannot be accessed from the server to which Web Manager is connected (i.e. servers that all LAN heartbeat resources are Offline) will not shut down.

(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.



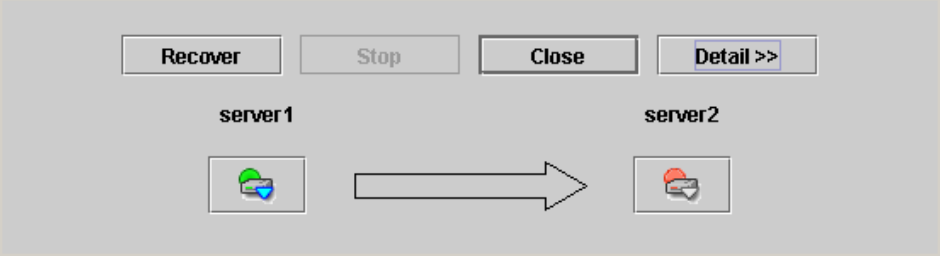
Status of FSO installation is shown as follows:

Language	**Without FSO**	**With FSO**
English	FastSync Option: not installed	FastSync Option: installed

When the FSO license information cannot be acquired:

English	FastSync Option: unknown

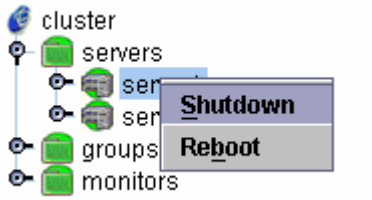
+ Detail (starts up the Mirror Disk Helper)
When you click this button, the Mirror Disk Helper for a selected mirror disk is started, and the following dialogue box for the Mirror Disk Helper appears.



For information on using the mirror disk helper, see “3.6 Mirror Disk Helper.”

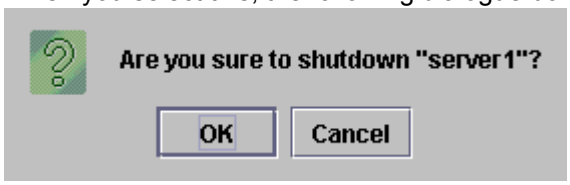
(3) Certain server object

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



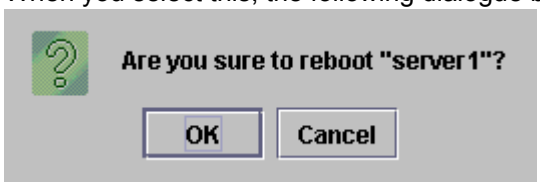
* **Shutdown**

Shuts down a selected server.
When you select this, the following dialogue box appears for confirmation.



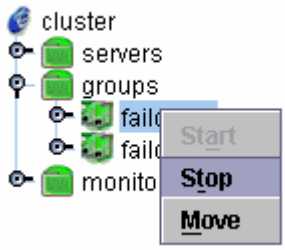
* **Reboot**

Reboots a selected server.
When you select this, the following dialogue box appears for confirmation.



(4) Certain group object

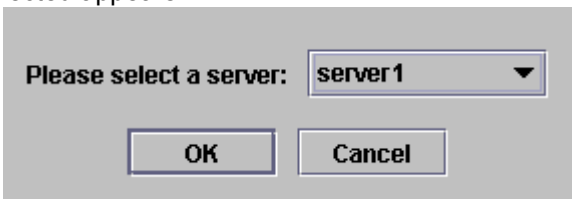
When you right-click a certain group object, the following shortcut menu appears.



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

Starts up the selected group.

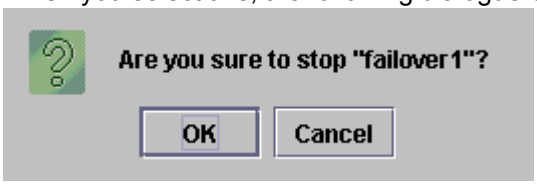
The dialogue box prompting you to choose a server that starts up the group you selected appears.



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

Stops the selected group.

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



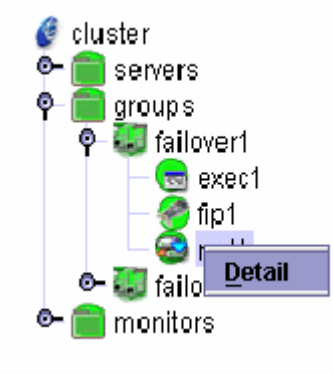
* **Move (enabled only when the group has been started up)**

Moves the selected group.

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

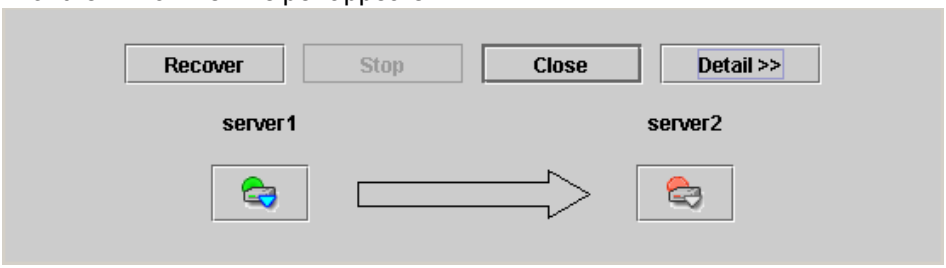
(5) Mirror disk resource object

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 dialogue box for the Mirror Disk Helper appears.



For information on using the mirror disk helper, see “3.6 Mirror Disk Helper.”

3.4 List View

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

3.4.1 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 SE and XE

Property	Value
Synchronize Wait Time	300
Heartbeat Timeout	90000
Heartbeat Interval	3000
Heartbeat Port Number	29002
Server Internal Port Number	29001
Data Transfer Port Number	29002
Timeout Ratio	1
Shutdown Monitor	On

* **Synchronize Wait Time:** **Time to wait for startup (in seconds)**
* **Heartbeat Timeout:** **Heartbeat timeout (in milliseconds)**
* **Heartbeat Interval:** **The interval, in milliseconds, between heartbeat sendings**
* **Heartbeat Port Number:** **Heartbeat port number**
* **Server Internal Port Number:** **Internal communication port number**
* **Data Transfer Port Number:** **Data transfer port number**
* **Timeout Ratio:** **Current timeout ratio**
* **Shutdown Monitor:** **With or without shutdown stall monitoring**

(2) For LE

Property	Value
Synchronize Wait Time	300
Heartbeat Timeout	90000
Heartbeat Interval	3000
Heartbeat Port Number	29002
Server Internal Port Number	29001
Data Transfer Port Number	29002
Timeout Ratio	1
Shutdown Monitor	On
Mirror Agent Port Number	29004
Mirror Driver Port Number	29005
Auto Mirror Recovery	On
Request Queue Maximum Number	4096

* **Synchronize Wait Time:** **Time to wait for startup (in seconds)**
* **Heartbeat Timeout:** **Heartbeat timeout (in milliseconds)**
* **Heartbeat Interval:** **The interval, in milliseconds, between heartbeat sendings**
* **Heartbeat Port Number:** **Heartbeat port number**
* **Server Internal Port Number:** **Internal communication port number**
* **Data Transfer Port Number:** **Data transfer port number**
* **Timeout Ratio:** **Current timeout ratio**
* **Shutdown Monitor:** **With or without shutdown stall monitoring**
* **Mirror Agent Port Number:** **Mirror agent port number**
* **Mirror Driver Port Number:** **Mirror driver port number**
* **Auto Mirror Recovery:** **Auto mirror recovery**
* **Request Queue Maximum Number:** **Maximum number of request queues**

3.4.2 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**

3.4.3 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	server1
Version	3.0-1
Edition	SE
IP Address	10.0.0.1
Status	Online

Heartbeat Status	
Heartbeat Name	Status
lanhb1	Normal
lanhb2	Normal
diskhb1	Normal
comhb1	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**

LE has no diskhb.
XE has no diskhb.

3.4.4 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 severs in the cluster)**
* **IP Address:** **Interconnect address**

3.4.5 DISK heartbeat resource –for SE and XE–

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
Status	Normal
Device Name	/dev/sdb1

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

3.4.6 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**

3.4.7 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**

3.4.8 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 SE

Resource Status	
Resource Name	Status
diskw1	Online
exec1	Online
fip1	Online
raw1	Online
vxdg1	Online
vxvol1	Online

For LE

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

For XE

Resource Status	
Resource Name	Status
disk1	Online
exec1	Online
fip1	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**
* **Auto Failback Attribute:** **Failback attribute**
* **Servers Which Can Be Started:** **Failover order**

3.4.9 Disk resource – for SE and XE -

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

Disk Name: disk1	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
Disk Type	disk
Mount Option	rw
Mount Timeout	60
Mount Retry Count	3
Unmount Timeout	60
Unmount Retry Count	3
Force Operation When Detectin...	kill
Fsck Option	-y
Fsck Timeout	10
Failover Threshold	1
Activity Retry Threshold	0
Activity Final Action	No Operation(Next Resources Are Not ...
Deactivity Retry Threshold	0
Deactivity Final Action	No Operation(Next Resources Are Acti...
Depended Resources	fip1

* **Type:** **Resource type**
* **Disk Type:** **Disk 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:** **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**

3.4.10 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,fip1

* **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)**
* **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**

3.4.11 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:** **Resource status of each server**

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

Property	Value
Type	fip
Ping Timeout	1
Failover Threshold	1
Activity Retry Threshold	5
Activity Final Action	No Operation(Next Resources Are Not ...
Deactivity Retry Threshold	0
Deactivity Final Action	Stop Cluster Daemon And OS Shutdo...
Depended Resources	

* **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**

3.4.12 Mirror disk resource – for 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**

3.4.13 RAW resource – for 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**

3.4.14 VxVM disk group resource – for 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**
* **Device 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	vxdg
Failover Threshold	1
Activity Retry Threshold	0
Activity Final Action	No Operation(Next Resources Are Activated)
Deactivity Retry Threshold	0
Deactivity Final Action	Stop Cluster Daemon And OS Shutdown
Depended Resources	
Clear Host ID	Off
Force	On

* **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**

3.4.15 VxVM volume resource – for 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/rdsk/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	1
Activity Final Action	No Operation(Next Resources Are Activated)
Deactivity Retry Threshold	0
Deactivity Final Action	Stop Cluster Daemon And OS Shutdown
Depended Resources	vxdg21
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

* **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**
* **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)**

3.4.16 Whole monitors

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

For SE

Monitors Name: monitors	
Monitor Name	Status
diskw1	Normal
ipw1	Normal
miiw1	Normal
pidw1	Normal
raww1	Normal
userw	Normal
vxdw1	Normal
vxvolw1	Normal

For LE

Monitors Name: monitors	
Monitor Name	Status
diskw1	Normal
ipw1	Normal
mdnw1	Normal
mdw1	Normal
mdw2	Normal
pidw1	Normal
userw	Normal

For XE

Monitors Name: monitors	
Monitor Name	Status
diskw1	Normal
diskw2	Normal
ipw1	Normal
pidw1	Normal
userw	Normal

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

3.4.17 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	60
Timeout	120
Target Resource	
Retry Count	0
Recover Object Type	Resource
Recover Object	disk1
Re-activation Threshold	3
Failover Threshold	1
Final Action	No Operation

* **Type:** **Monitor resource type**
* **Method:** **Monitoring method**
* **I/O Size:** **I/O size at monitoring**
* **Monitor Timing:** **Timing to start monitoring**
* **Interval:** **Interval between monitorings (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**

3.4.18 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	10
Target Resource	
Retry Count	0
Recover Object Type	cls
Recover Object	cluster
Re-activation Threshold	0
Failover Threshold	0
Final Action	No Operation

* **Type:** **Monitor resource type**
* **Monitor Timing:** **Timing to start monitoring**
* **Interval:** **Interval between monitorings (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**

3.4.19 Mirror disk connect monitor resource – for 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	cls
Recover Object	cluster
Re-activation Threshold	0
Failover Threshold	0
Final Action	No Operation

* **Type:** **Monitor resource type**
* **Monitor Timing:** **Timing to start monitoring**
* **Interval:** **Interval between monitorings (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**

3.4.20 Mirror disk monitor resource – for 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	30
Target Resource	
Retry Count	0
Recover Object Type	cls
Recover Object	cluster
Re-activation Threshold	0
Failover Threshold	0
Final Action	No Operation

* **Type:** **Monitor resource type**
* **Monitor Timing:** **Timing to start monitoring**
* **Interval:** **Interval between monitorings (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**

3.4.21 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:** **Monitor resource status**
* **Target PID:** **Monitoring target PID**
* **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	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	1
Final Action	No Operation

* **Type:** **Monitor resource type**
* **Monitor Timing:** **Timing to start monitoring**
* **Interval:** **Interval between monitorings (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**

3.4.22 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	raww
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
Method	Dummy Read
I/O Size	1024

* **Type:** **Monitor resource type**
* **Monitor Timing:** **Timing to start monitoring**
* **Interval:** **Interval between monitorings (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**

3.4.23 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: userw	
Property	Value
Name	userw
Comment	usermode monitor
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**

3.4.24 VxVM daemon monitor resource

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	No Operation

* **Type:** **Monitor resource type**
* **Monitor Timing:** **Timing to start monitoring**
* **Interval:** **Interval between monitorings (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**

3.4.25 VxVM volume monitor resource

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.

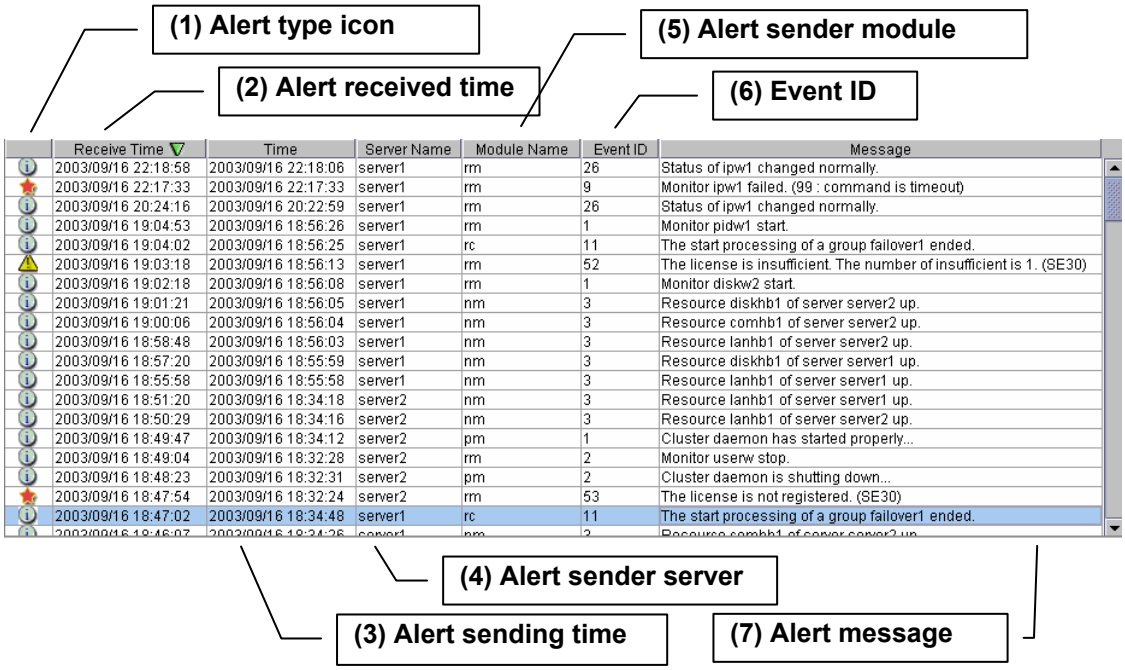
Property	Value
Type	vxvolw
Monitor Timing	Activating
Interval	60
Timeout	120
Target Resource	vxvol1
Retry Count	0
Recover Object Type	Myself
Recover Object	cluster
Re-activation Threshold	0
Failover Threshold	0
Final Action	No Operation
Method	Dummy Read
I/O Size	1024

* **Type:** **Monitor resource type**
* **Monitor Timing:** **Timing to start monitoring**
* **Interval:** **Interval between monitorings (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**

3.5 Alert View

3.5.1 Overview of alert view

The alert view is divided into fields as follows.



	Receive Time	Time	Server Name	Module Name	Event ID	Message
	2003/09/16 22:18:58	2003/09/16 22:18:06	server1	rm	26	Status of ipw1 changed normally.
	2003/09/16 22:17:33	2003/09/16 22:17:33	server1	rm	9	Monitor ipw1 failed. (99 : command is timeout)
	2003/09/16 20:24:16	2003/09/16 20:22:59	server1	rm	26	Status of ipw1 changed normally.
	2003/09/16 19:04:53	2003/09/16 18:56:26	server1	rm	1	Monitor pidw1 start.
	2003/09/16 19:04:02	2003/09/16 18:56:25	server1	rc	11	The start processing of a group failover1 ended.
	2003/09/16 19:03:18	2003/09/16 18:56:13	server1	rm	52	The license is insufficient. The number of insufficient is 1. (SE30)
	2003/09/16 19:02:18	2003/09/16 18:56:08	server1	rm	1	Monitor diskw2 start.
	2003/09/16 19:01:21	2003/09/16 18:56:05	server1	nm	3	Resource diskhb1 of server server2 up.
	2003/09/16 19:00:06	2003/09/16 18:56:04	server1	nm	3	Resource comhb1 of server server2 up.
	2003/09/16 18:58:48	2003/09/16 18:56:03	server1	nm	3	Resource lanhb1 of server server2 up.
	2003/09/16 18:57:20	2003/09/16 18:55:59	server1	nm	3	Resource diskhb1 of server server1 up.
	2003/09/16 18:55:58	2003/09/16 18:55:58	server1	nm	3	Resource lanhb1 of server server1 up.
	2003/09/16 18:51:20	2003/09/16 18:34:18	server2	nm	3	Resource lanhb1 of server server1 up.
	2003/09/16 18:50:29	2003/09/16 18:34:16	server2	nm	3	Resource lanhb1 of server server2 up.
	2003/09/16 18:49:47	2003/09/16 18:34:12	server2	pm	1	Cluster daemon has started properly...
	2003/09/16 18:49:04	2003/09/16 18:32:28	server2	rm	2	Monitor userw stop.
	2003/09/16 18:48:23	2003/09/16 18:32:31	server2	pm	2	Cluster daemon is shutting down...
	2003/09/16 18:47:54	2003/09/16 18:32:24	server2	rm	53	The license is not registered. (SE30)
	2003/09/16 18:47:02	2003/09/16 18:34:48	server1	rc	11	The start processing of a group failover1 ended.

For meanings of alert messages, see a separate guide, “Maintenance.” For information about searching alert messages, see “3.2.1 Alert Search” in this book.

3.5.2 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) Alrert 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
mdadmn	Mirror disk related
mdagent	Mirror disk related

(6) Event ID

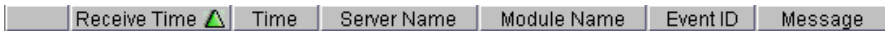
The event ID set to each alert.

(7) Alert message

The body of the alert message.

3.5.3 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.

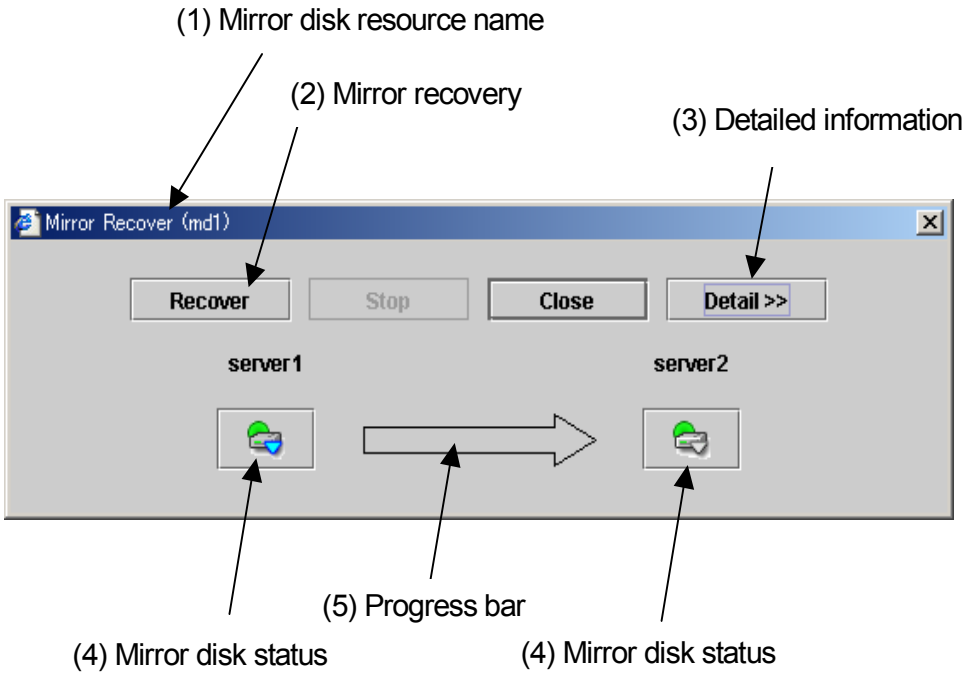
By default, alerts appear in the [Time] descending order.

3.6 Mirror Disk Helper

3.6.1 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.

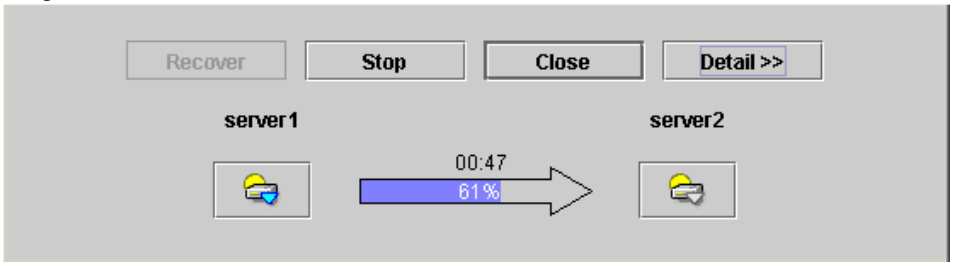
(1) Mirror disk resource name

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

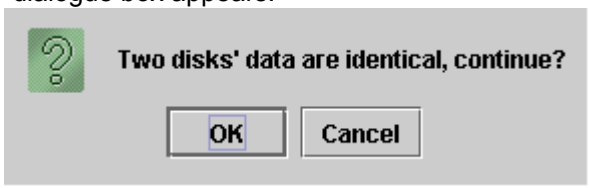
(2) Mirror recovery

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

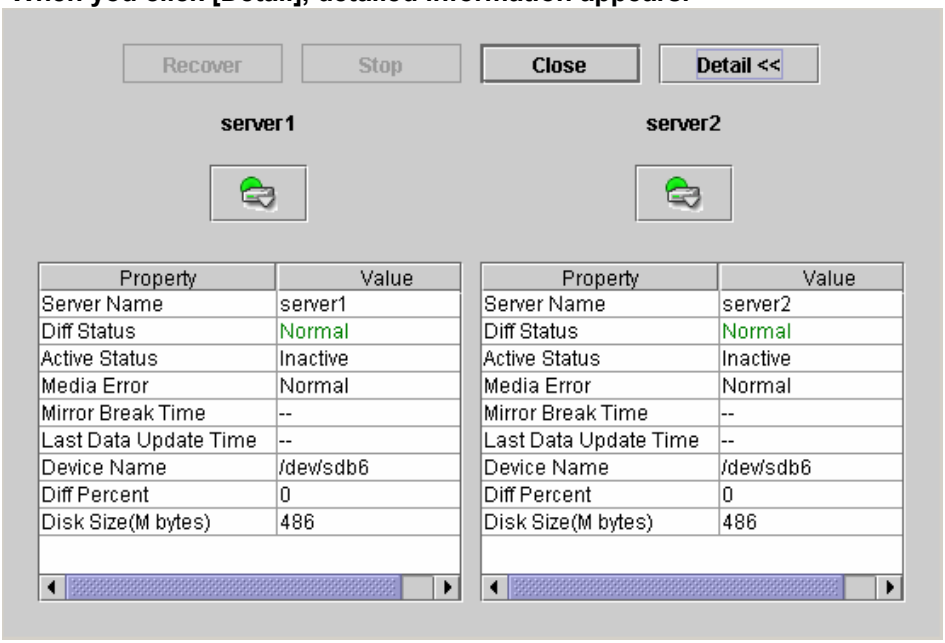


If you click [OK], forced mirror recovery begins.

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

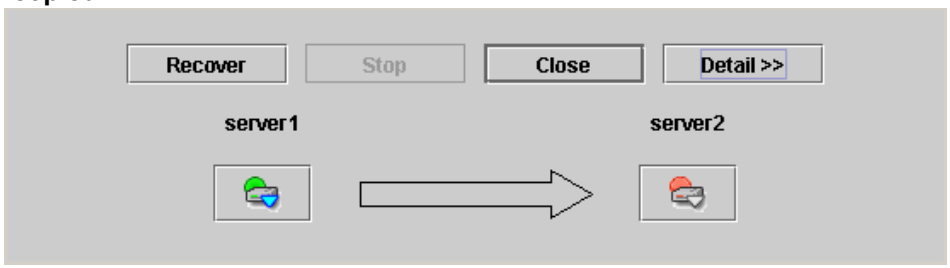
* **This field shows mirroring status of the server**

Icon	**Mirroring 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

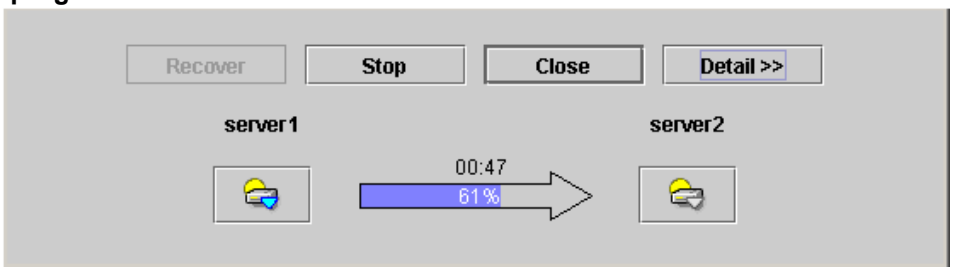
* To see the mirror color, run the clpmdstat command.

(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.**

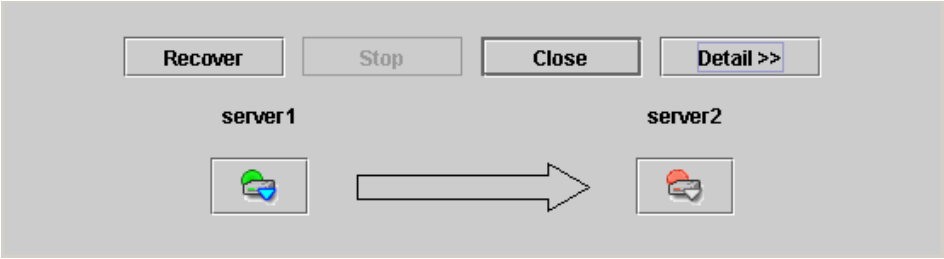


The expected time for copying is shown above the progress bar.

3.6.2 How to recover mirror/recover mirror forcefully

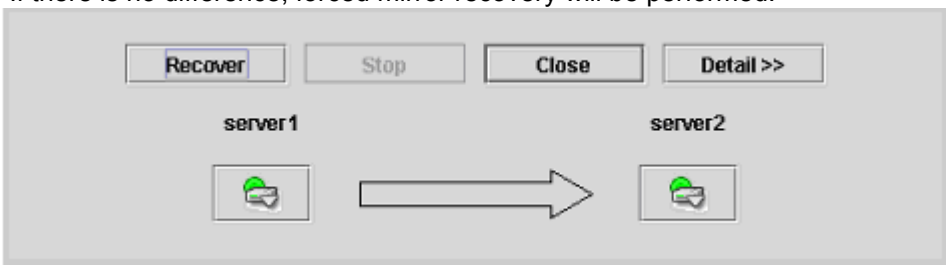
(1) Mirror recovery

* **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.



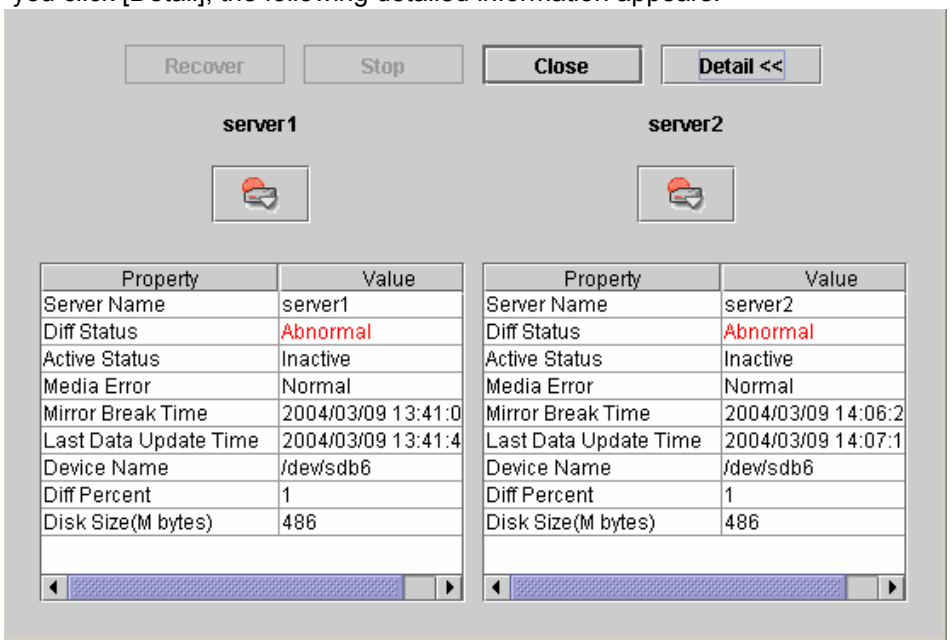
If there is no difference between the mirror disks of both servers, and both servers are running normally, the progress bar arrow appears when a source server is specified.
When you click [Recover], forced mirror recovery begins.
Note if any group is active, the server with the active group will be a 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.

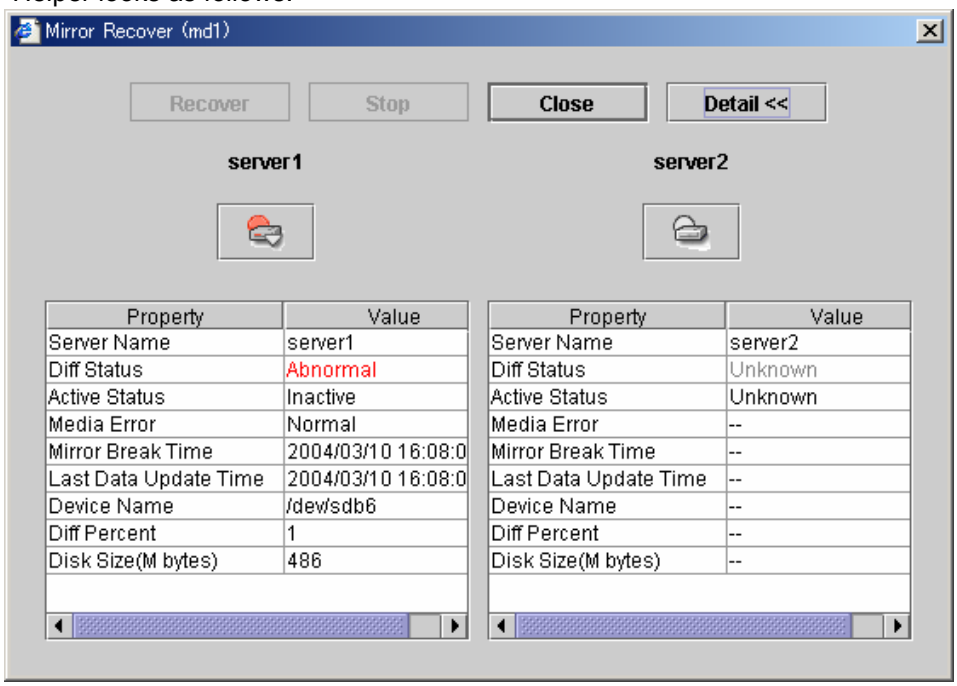


Check to see Last Data Update Time, and choose a server with latest data for a source server. Note that the time you see here is dependent on the time set in the OS.

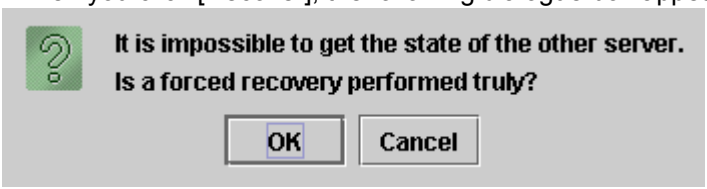
When you select an icon whose status is mirrored disk for a source, the progress bar appears. Click [Recover] to start forced mirror recovery.

(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 dialogue 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.

4.1 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 form the server console.

(1) To stop

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

(2) To start

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

* You only need to type in bold characters.

4.2 Not Using Web Manager

If you do not wish to use Web Manager for security reasons, configure your OS to stop Web Manager from starting up.

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

(1) To stop Web Manager from starting up

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

(2) 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.

4.3 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 dialogue 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.

* In the browser where Web Manager is shown, you cannot create a new window by pointing [New] on the [File] menu and then clicking [Window.]

* You cannot show Web Manager on multiple tabs by using the tab function of tab browsers.

* 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.

* When you set the [ExpressCluster] CD in Windows management machine, the setup menu for [Web Manager] appears by autorun. This is irrelevant to the Web Manager mentioned in this book. (Manager for [ExpressCluster for Linux 2.x])
  Do not use this manager in the CD for 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.

4.4 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 clplogcc 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 trekking 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 intergrated.	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 exists.	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 exists.	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 intergrated.	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.
Error	Disk Error happens when	A disk error has been detected	Run the clpmdstat --mirror

Level	Message	Meaning/Possible cause	Solution
	mirror recovering.	during mirror recovery.	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 dialogue 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.