MasterScope MISSION CRITICAL OPERATIONS

Version 4.3

Manager (Linux Version)

Duplication Setup Guide

(ExpressCluster X Edition)

June 2016

CONTENTS

Chapter 1 Preface

This document provides an example procedure for using ExpressCluster X to set up a cluster configuration that has two nodes (for duplication). ExpressCluster X is an NEC product that can be used to switch running processes between nodes in a duplicated system.

In this document, a host system included in a cluster is referred to as a node.

1.1 Supplemental information

If the incorrect procedure is used to upgrade the OS on a cluster server, failovers might occur at unexpected times. In the worst case, this might damage the system. Only upgrade the OS in accordance with the procedure on the setup card.

1.2 Application range

This document describes ExpressCluster X 3.1 for Linux.

Chapter 2 Configuration Procedure

This chapter provides a procedure for configuring a MasterScope MISSION CRITICAL OPERATIONS cluster environment.

This document assumes that ExpressCluster X is installed and that a cluster environment has been set up. For details about how to configure a cluster environment, also see the ExpressCluster X documents.

* These documents can be downloaded from the following website:
http://www.nec.com/en/global/prod/expresscluster/en/support/manuals.html?

2.1 Creating failover groups

For ExpressCluster X, nodes connected to the cluster are managed using units called failover groups (referred to as *groups* below).
For details about how to create groups, see the relevant ExpressCluster X document (chapter 5 in the Installation and Creation Guide).

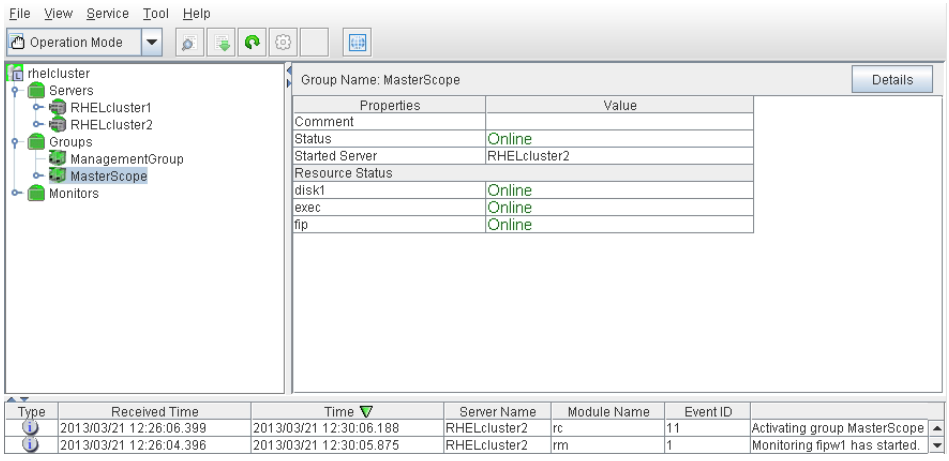


Figure 2-1 WebManager

2.2 Setting up shared resources(FloatingIP, Shared(mirror)disk)

The following describes how to set up shared resources for a failover group.

Here, the following shared resources are assumed:

- Floating IP address: 192.168.1.10
- Shared (mirror) disk: /dev/sdb

Start WebManager, and then select a failover group. (Here, select [MasterScope].)

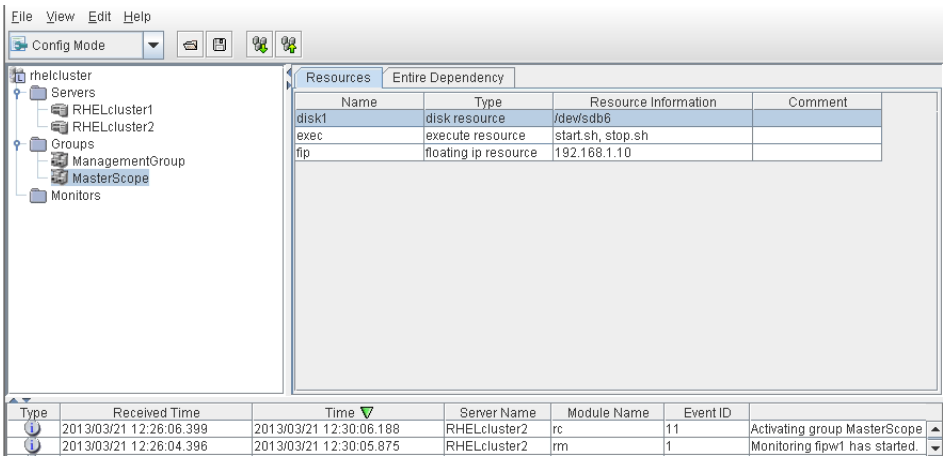


Figure 2-2 Group Properties

Right click the group, and then select [Add Resource] from the displayed pop-up menu. The [Definition of a resouce] dialog box is displayed.

First, set up the shared disk. For [Type], select [disk resource] or [mirror disk resource], and then enter the group name of the shared disk in the [Name] text box. Set up the disk in accordance with the instructions in the dialog box.

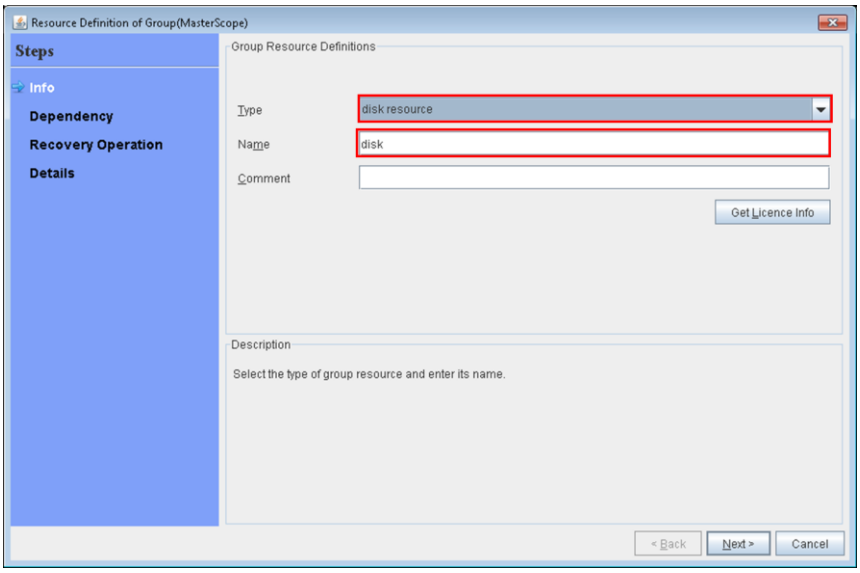


Figure 2-3 Definition of a resouce (Shared Disk)

Next, set up the floating IP address. Right click the group, select [Add Resource] from the displayed pop-up menu, select [floating ip resource] for [Type], and then enter the group name in the [Name] text box.

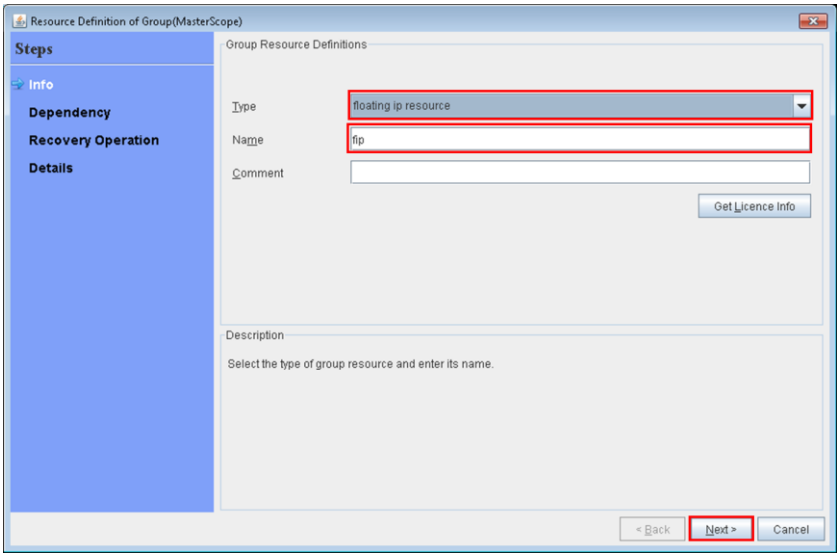


Figure 2-4 Definition of a resouce (Floating IP Address)

Specify the floating IP address in the [IP Address] text box.

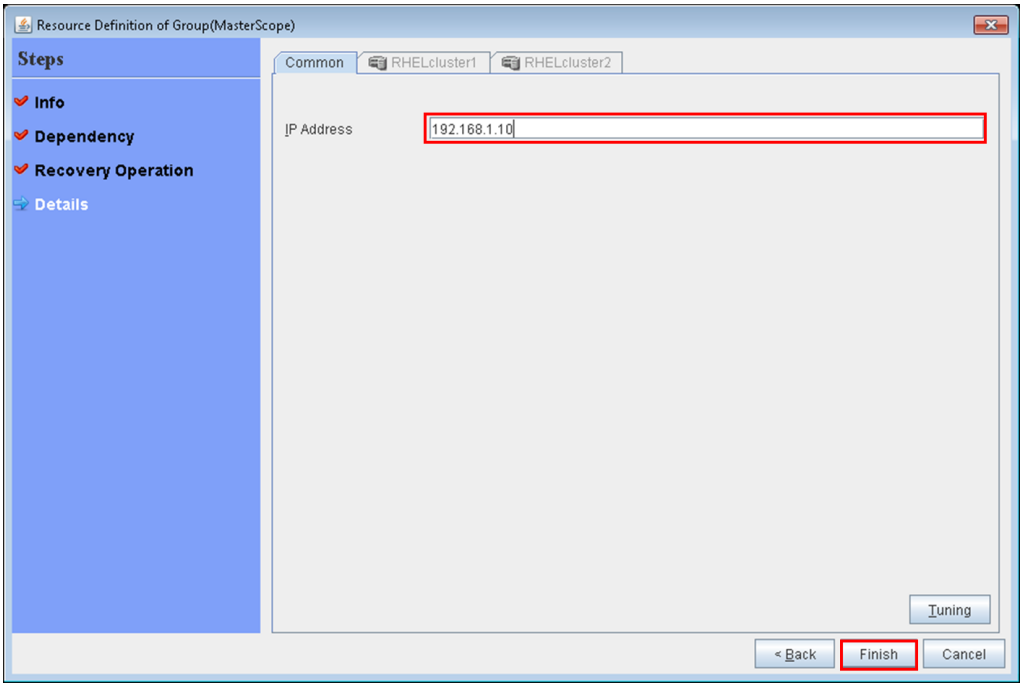


Figure 2-5 Floating IP Address Addition

2.3 Setting up MasterScope MISSION CRITICAL OPERATIONS

Install the MasterScope MISSION CRITICAL OPERATIONS manager on the Linux computers to be used as active and standby servers.

For details about how to do so, see the *Release Notes* supplied with the product.

The following shared resources are assumed:

- Virtual host name: vhost1
- Shared disk(mount point): /shared_disk

Notes

* Install MasterScope MISSION CRITICAL OPERATIONS on the active server first, and then on the standby server.

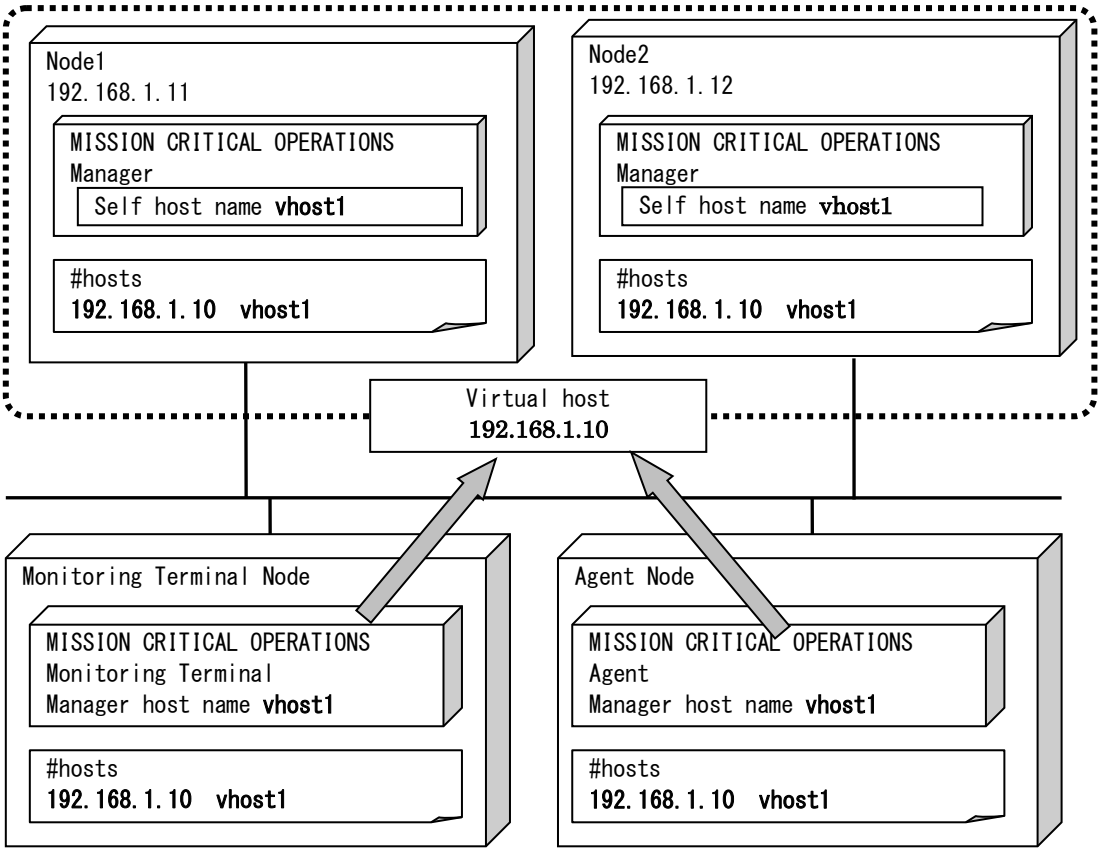
* It must be possible to reference the shared disk when installing the active server manager.

* Use the same drive and folder as the installation destination for MasterScope MISSION CRITICAL OPERATIONS on the active and standby servers.

* vhost1 is a host name that can be resolved to a floating IP address (192.168.1.10).

* For notes on setting up the CDO message reporting API, see 8 Setting for Duplicating Manager in MasterScope MISSION CRITICAL OPERATIONS Ver 4.0.1 Release Memo - CDO Message API Edition -.

A redundant manager configuration is illustrated below.

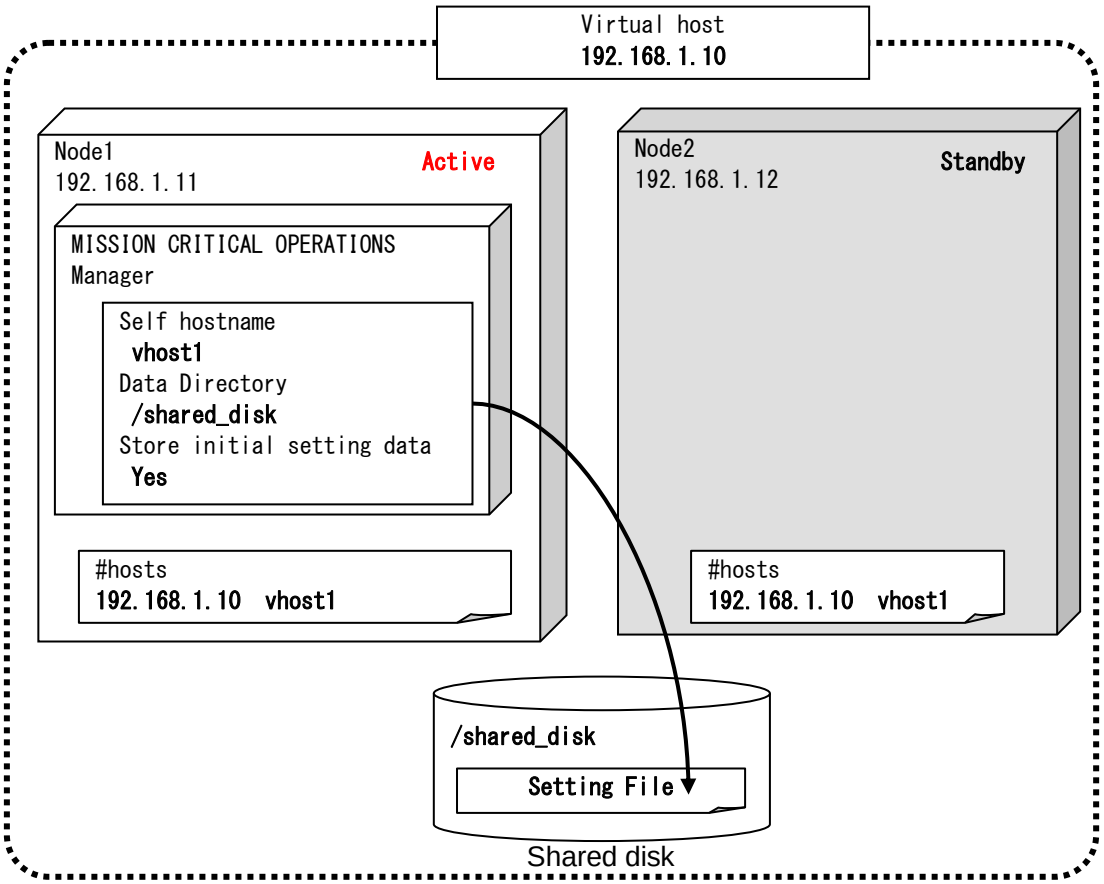


Configure the agent and console to connect to the virtual host.

The following describes the procedure for installing the MasterScope MISSION CRITICAL OPERATIONS manager.

First, start up the cluster from the active node, and then install MasterScope MISSION CRITICAL OPERATIONS on the active node.

Installing MISSION CRITICAL OPERATIONS in the active server node is illustrated below.



Specify each item in the installation setting dialog box for the MISSION CRITICAL OPERATIONS manager for the active server node as shown below.

- Specify any value for [Install directory path], [Agent port] and [Viewer port].For the values that can be set, see “MasterScope Media Release Notes”.
- Specify the virtual host name for [Self hostname] and any directory on the shared disk for [Data Directory].
- Specify [Yes] for [Change Data Directory] and [Store initial setting data].

Example settings are shown below.

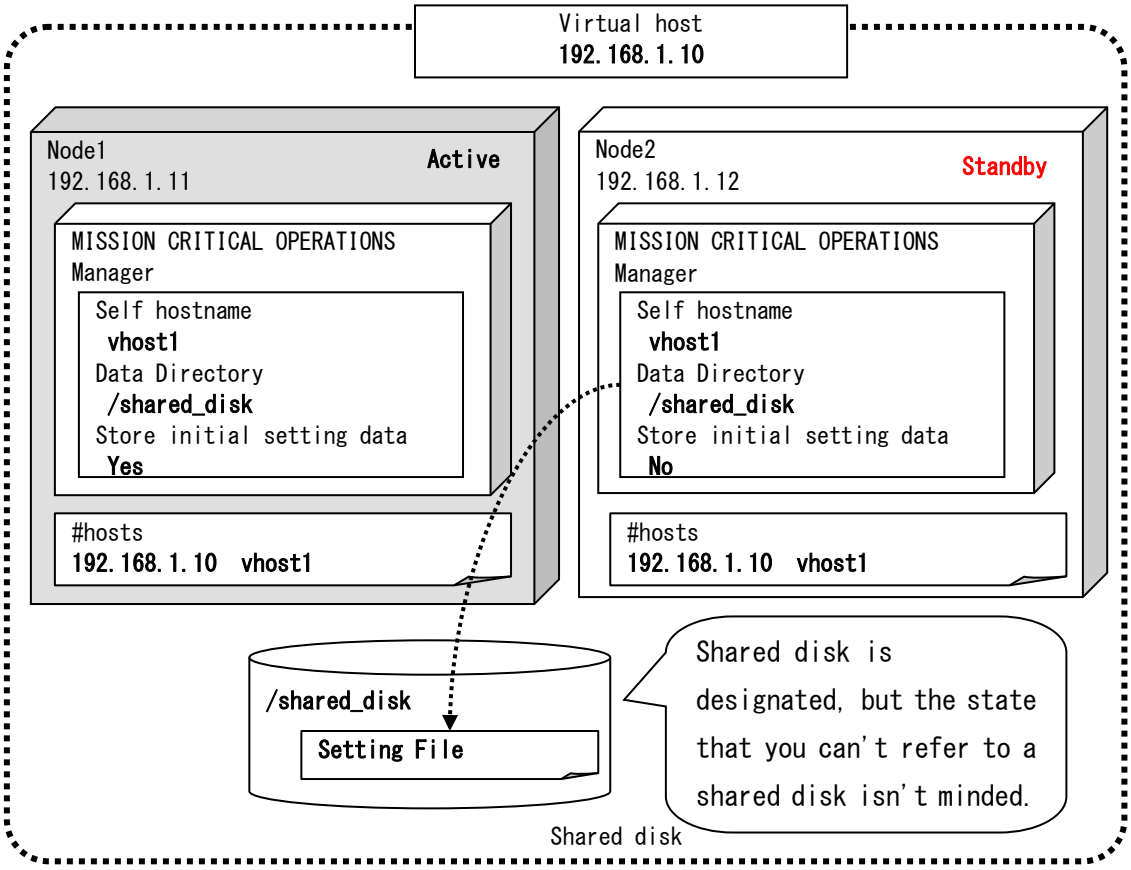
Setting	Value	Remark
Install directory path	/opt/UMF/Operations	Local disk path
Self hostname	vhost1	Virtual host name
Agent port	12520	
Viewer port	12521	
Change Data Directory	Yes	(Fixed)
Data Directory	/shared_disk/MCO	Shared disk path
Store initial setting data	Yes	(Fixed)

\Manager\sg is automatically added to the data area folder, and settings that must be shared are stored here.

After installation finishes, confirm that \Manager\sg has been created in the data area folder.

Next, set up the MasterScope MISSION CRITICAL OPERATIONS manager on the standby node.

Installing MISSION CRITICAL OPERATIONS in the active server node is illustrated below.



Specify each item in the installation setting dialog box for the MISSION CRITICAL OPERATIONS manager for the standby server node as shown below.

- Specify the same values as for the active server node except for [Store initial setting data].
- Specify [No(Only for Cluster standby system)] for [Store initial setting data].

Example settings are shown below.

Setting	Value	Remark
Install directory path	/opt/UMF/Operations	Local disk path
Self hostname	vhost1	Virtual host name
Agent port	12520	
Viewer port	12521	

Change Data Directory	Yes	(Fixed)
Data Directory	/shared_disk/MCO	Shared disk path
Store initial setting data	No(Only for Cluster standby system)	(Fixed)

2.4 Configuring shared resources (start and stop scripts)

How to configure the following shared resources for a failover group is described below. Here, the following shared resources are assumed:

- Start script: Manager start.sh
- Stop script: Manager stop.sh

Start WebManager, and then select the failover group. (Here, select [MasterScope].)(See Figure 2-2.)

Right-click the group, select [Add Resource] from the displayed pop-up menu, select [execute resource] for [Type], and then enter the group name in the [Name] text box.

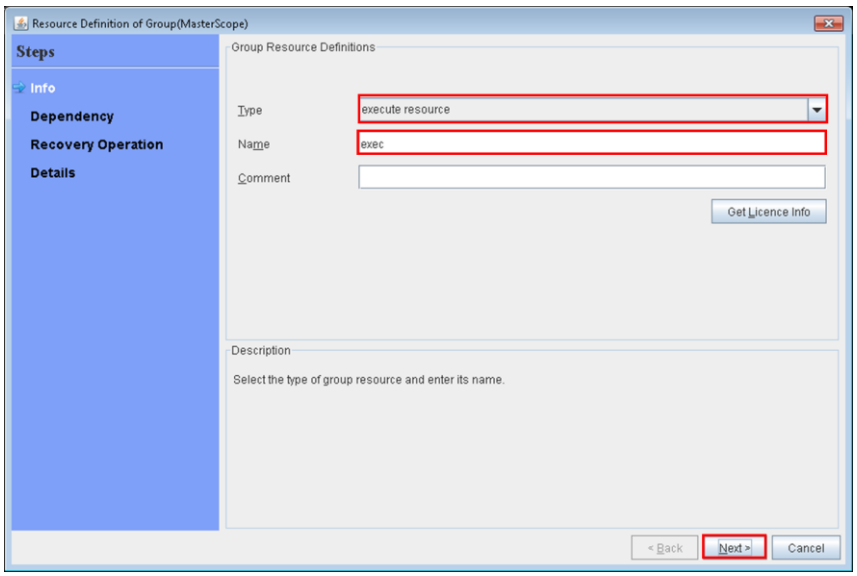


Figure 2-6 Resource Definition (Execute resource)

Select [Script create with this product] for the advanced setting.

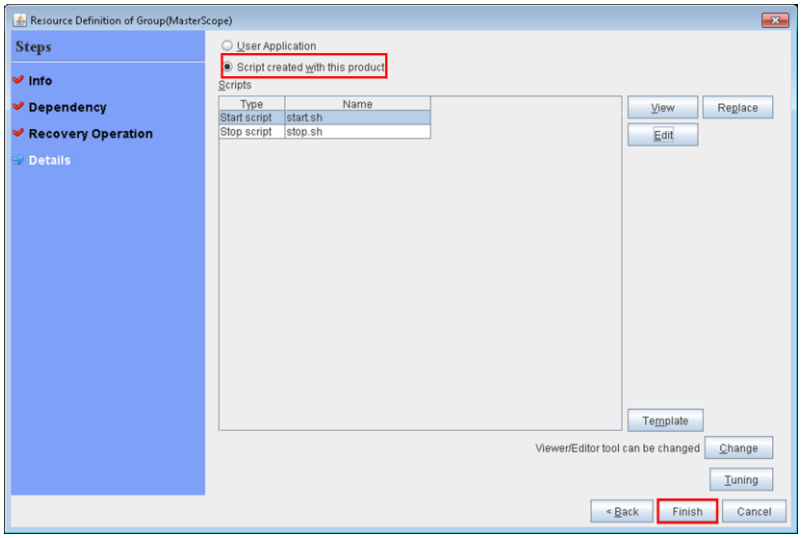


Figure 2-7 Configuring start and stop scripts

Edit start.sh and stop.sh as shown below.

start.sh

Describe the following MISSION CRITICAL OPERATIONS start script for when a start event and a failover event occur.

/etc/init.d/UMFOperationsManager_1 start　*

How to edit start.sh is illustrated below. The text in red is the edited part.

```
#! /bin/sh
#*************************************
#*              start.sh               *
#*************************************

if [ "$CLP_EVENT" = "START" ]
then
        if [ "$CLP_DISK" = "SUCCESS" ]
        then
                echo "NORMAL1"
```

```
                if [ "$CLP_SERVER" = "HOME" ]
                then
                        echo "NORMAL2"
                else
                        echo "ON_OTHER1"
                fi
                /etc/init.d/UMFOperationsManager_1 start
        else
                echo "ERROR_DISK from START"
        fi
elif [ "$CLP_EVENT" = "FAILOVER" ]
then
        if [ "$CLP_DISK" = "SUCCESS" ]
        then
                echo "FAILOVER1"
                if [ "$CLP_SERVER" = "HOME" ]
                then
                        echo "FAILOVER2"
                else
                        echo "ON_OTHER2"
                fi
                /etc/init.d/UMFOperationsManager_1 start
        else
                echo "ERROR_DISK from FAILOVER"
        fi
else
        echo "NO_CLP"
fi
echo "EXIT"
exit 0
```

stop.sh

Describe the following MISSION CRITICAL OPERATIONS start script for when a start event and a failover event occur.

/etc/init.d/UMFOperationsManager_1 stop *

How to edit stop.sh is illustrated below. The text in red is the edited part.

```
#! /bin/sh
#***************************************
#*               stop.sh               *
#***************************************

if [ "$CLP_EVENT" = "START" ]
then
        if [ "$CLP_DISK" = "SUCCESS" ]
        then
                echo "NORMAL1"
                if [ "$CLP_SERVER" = "HOME" ]
                then
                        echo "NORMAL2"
                else
                        echo "ON_OTHER1"
                fi
                /etc/init.d/UMFOperationsManager_1 stop
        else
                echo "ERROR_DISK from START"
        fi
elif [ "$CLP_EVENT" = "FAILOVER" ]
then
        if [ "$CLP_DISK" = "SUCCESS" ]
        then
                echo "FAILOVER1"
                if [ "$CLP_SERVER" = "HOME" ]
                then
                        echo "FAILOVER2"
```

```
                else
                        echo "ON_OTHER2"
                fi
                /etc/init.d/UMFOperationsManager_1 stop
        else
                echo "ERROR_DISK from FAILOVER"
        fi
else
        echo "NO_CLP"
fi
echo "EXIT"
exit 0
```

* If MISSION CRITICAL OPERATIONS is installed in an environment in which other MasterScope products use a service and rc script file with the same name, the suffix number is changed to 2 or higher. (e.g. UMFOperationsManager_2)Replace UMFOperationsManager_1 described above with this.

To set up the dependencies, clear the [Follow the default dependence] check box, and then add resources that depend on the floating IP address and shared disk.

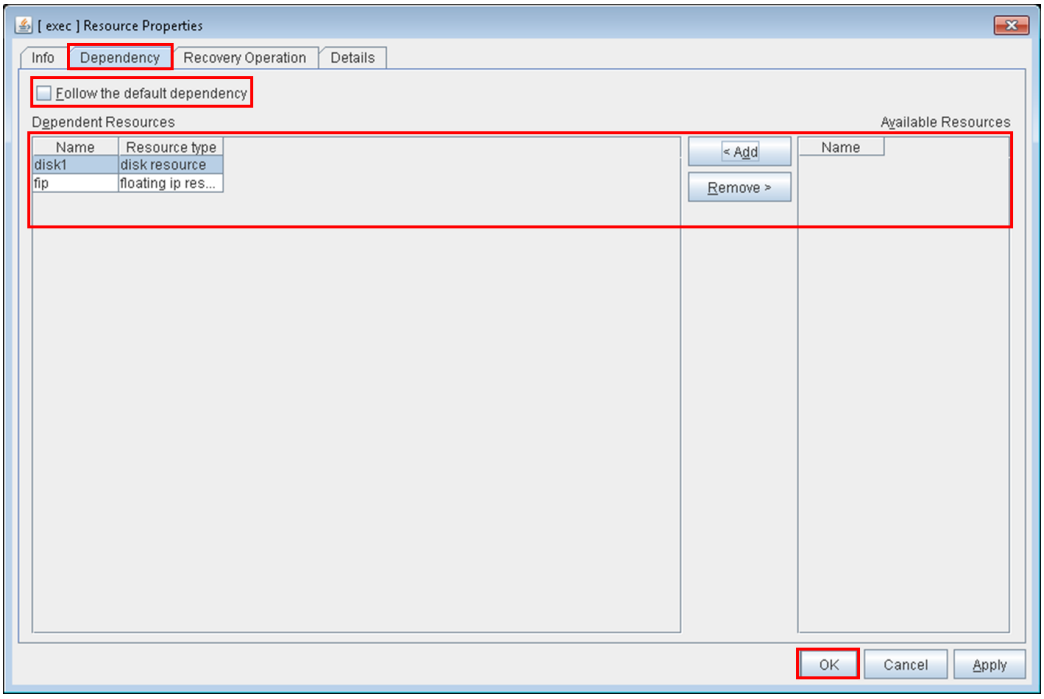


Figure 2-8 Specifying the dependencies

After specifying the settings, return to the failover group properties, and then confirm that the settings have been applied (by confirming that the dialog box is like the one shown in Figure 2-2).

* To use the CDO message issuance API, add the resources for the MISSION CRITICAL OPERATIONS CDO service in the same way. Set up the resource dependencies so that the CDO message API is dependent on MISSION CRITICAL OPERATIONS.

This concludes the ExpressCluster X setup.

Chapter 3 Switching between connected nodes

To switch between the active and standby nodes, use the following method.

Enter the following command.

```
> clpgrp –m <group name>
```

The nodes can also be switched by right-clicking the icon next to a group name displayed in the left WebManager pane and then selecting [Move] from the displayed pop-up menu.

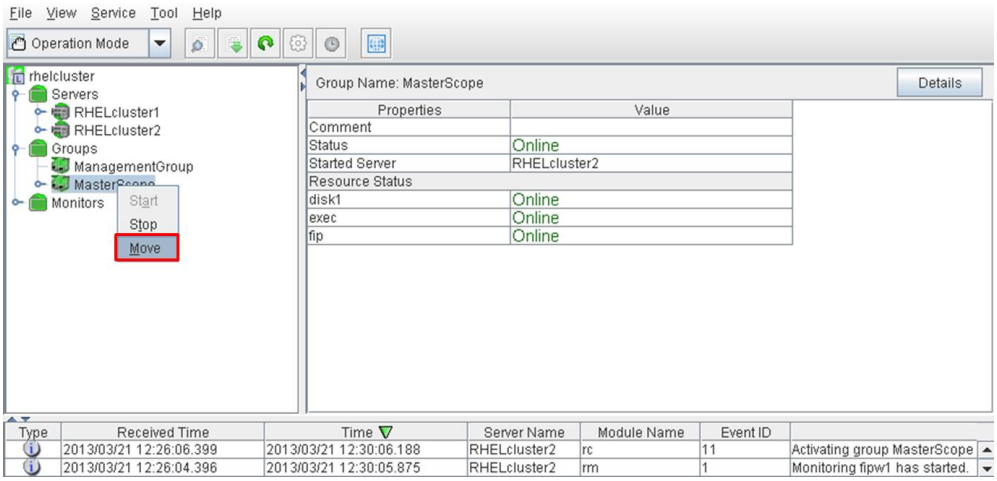


Figure 3-8 Switching between connected nodes

Chapter 4 Uninstalling MISSION CRITICAL OPERATIONS

4.1 Uninstalling MISSION CRITICAL OPERATIONS

To uninstall MISSION CRITICAL OPERATIONS, perform the procedure described in the MISSION CRITICAL OPERATIONS Release Memo (relememo.pdf).

Note If using the CDO message API, uninstall the API by performing the procedure described in the CDO Release Memo (CDO_relememo.pdf).

4.2 Deleting Files

After uninstalling MISSION CRITICAL OPERATIONS, files and directories remain on the shared disk.
Manually delete directories on the shared disk specified during installation.

Chapter 5 Other Notes

5.1 Registering Licenses

Register licenses for a cluster environment on both the active and standby nodes.