

**MISSION CRITICAL OPERATIONS Version 4.3**

**Manager (Windows Version)**

**Duplication Setup Guide**

**(ExpressCluster X Edition)**

June 2016

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# 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.

## Supplemental information

### Upgrading an OS

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.

This also applies when applying a service pack.

## Application range

This document describes ExpressCluster X 1.0 for Windows.

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## Chapter 2 Configuration Procedure

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

### 2.1 Setting up ExpressCluster X

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?>

- 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).

Received Time	Time	Server Name	Module Name	Event ID	Message
2009/09/14 19:09:45.390	2009/09/14 19:09:45.375	service1	rc	1011	The group WebSAM has been started.
2009/09/14 19:09:45.265	2009/09/14 19:09:45.265	service1	rm	1501	Monitor vcomw1 has been started.
2009/09/14 19:09:44.265	2009/09/14 19:09:44.265	service1	rm	1501	Monitor vcomw1 has been started.
2009/09/14 19:09:37.078	2009/09/14 19:09:37.031	service1	rc	1011	The group ManagementGroup has been started.
2009/09/14 19:09:35.343	2009/09/14 19:09:35.187	service1	rc	1010	The group WebSAM is starting.
2009/09/14 19:09:35.171	2009/09/14 19:09:35.125	service1	rc	1010	The group ManagementGroup is starting.
2009/09/14 19:09:29.328	2009/09/14 19:09:29.312	service1	lcns	3551	The trial version is valid till 2009/09/30. Product name:EXPRESSCLUS
2009/09/14 19:09:28.625	2009/09/14 19:09:28.625	service1	lrm	1	The server service1 has been started.

Figure 2-1 WebManager

- Setting up shared resources

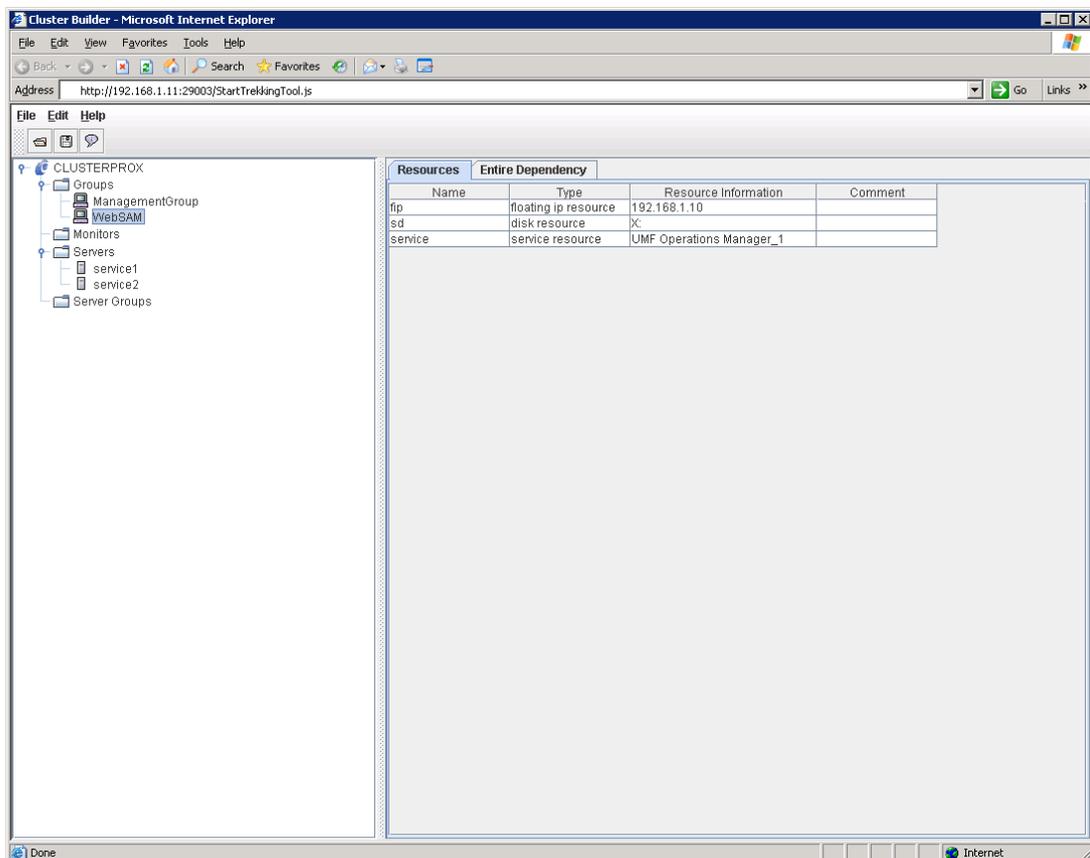
The following describes how to set up shared resources for a failover group.

Here, the following shared resources are assumed:

- Floating IP address: 192.168.1.10
- Shared (mirror) disk: Y drive
- Service:

Manager: MasterScope UMF Operations Manager\_*n* (The italicized *n* represents a number.)

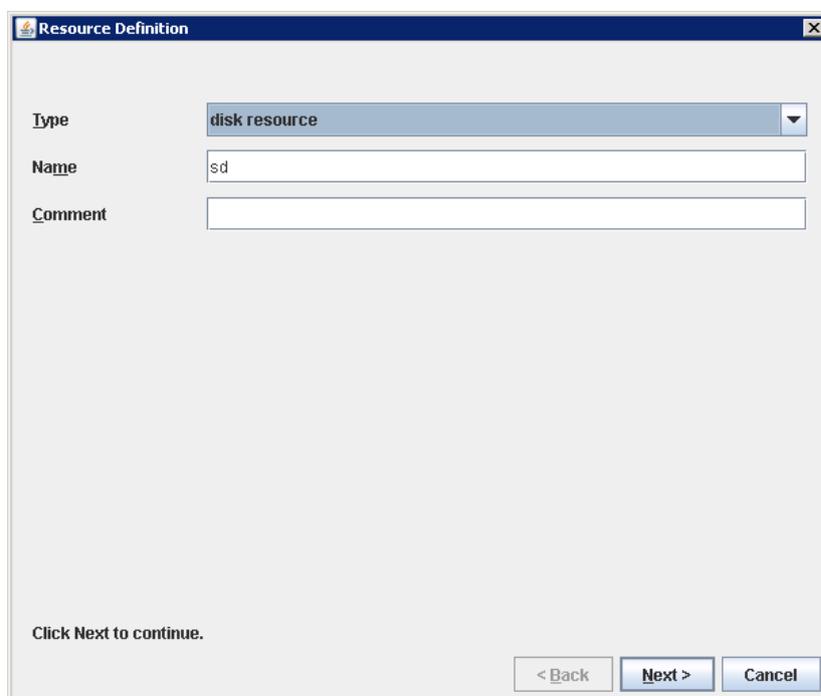
Start Builder, and then select a failover group. (Here, select [MasterScope].)



**Figure 2-2 Group Properties**

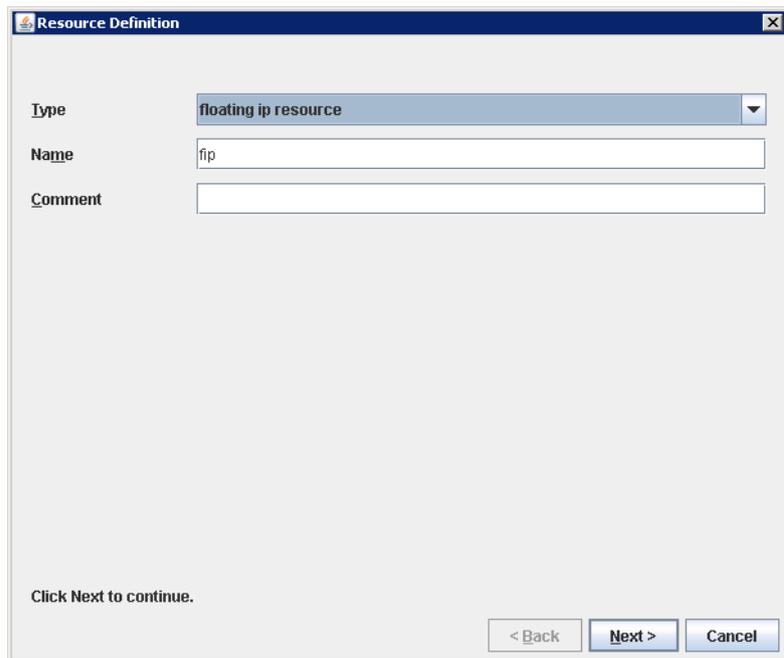
Right click the group, and then select [Add Resource] from the displayed pop-up menu. The [Definition of a resource] dialog box is displayed.

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 resource (Shared Disk)**

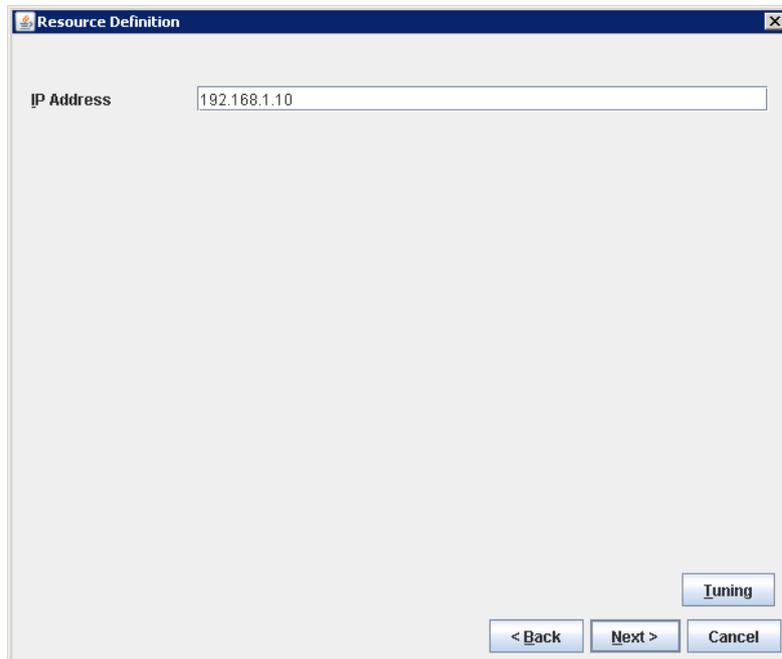
Next, set up the floating IP address. Right click the group, select [Add Resource] from the displayed pop-up menu, select [floating ip resource] for [Type], and then enter the group name in the [Name] text box.



The image shows a dialog box titled "Resource Definition" with a close button (X) in the top right corner. The dialog contains three input fields: "Type" is a dropdown menu with "floating ip resource" selected; "Name" is a text box containing "fip"; and "Comment" is an empty text box. At the bottom left, there is a text instruction: "Click Next to continue." At the bottom right, there are three buttons: "< Back", "Next >", and "Cancel".

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

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



**Figure 2-5 Floating IP Address Addition**

- Switching between connected nodes

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

Open a command prompt, and then enter the following command:

```
> clpgrp -m <group-name>
```

- \* A direct command can be entered because the environment variable PATH is registered when ExpressCluster X is installed.

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.

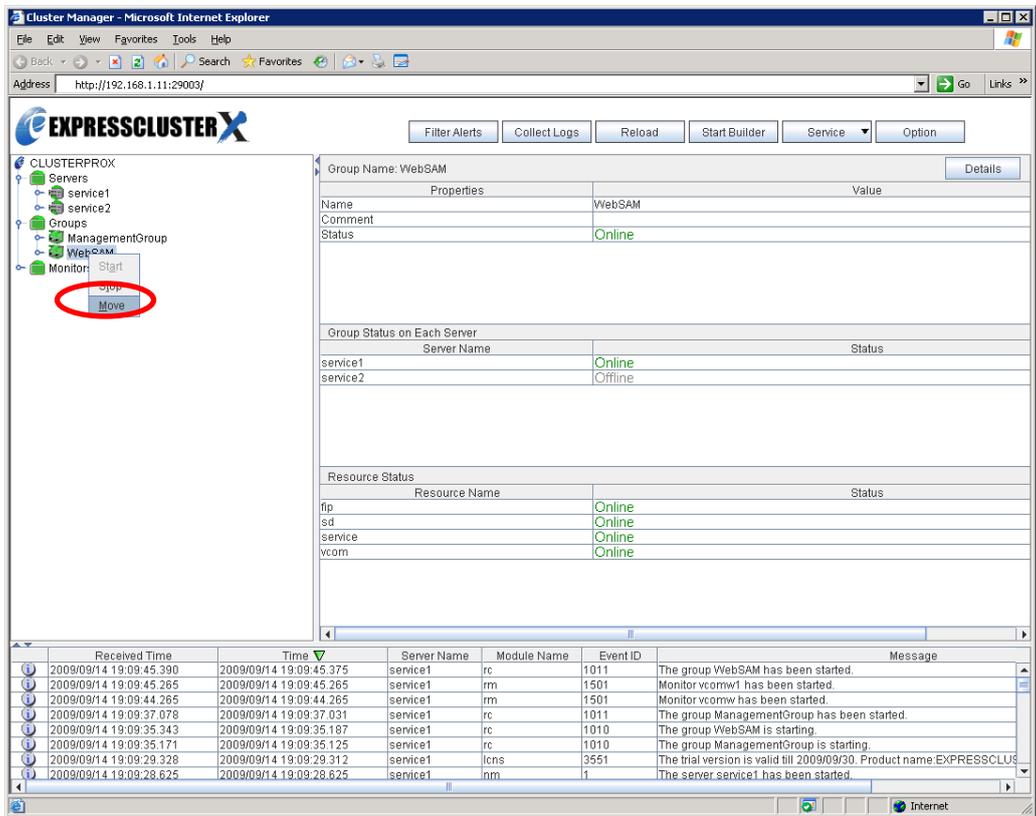


Figure 2-6 Switching Between Connected Nodes

## 2.2 Setting up MasterScope MISSION CRITICAL OPERATIONS

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

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

As described in 2.1 Setting up ExpressCluster X, the following shared resources are assumed:

- Virtual host name: vhost1
- Shared disk: Y drive

### 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 11.1 Notes on Duplicated Environment in MasterScope MISSION CRITICAL OPERATIONS Ver 4.1 Release Memo - CDO Message API Edition -.

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.

In the installation settings window, specify the following settings:

Setting	Value	Remark
Installation folder	C:\Program Files\NEC\UMF\Operations	Local disk path
Local host name (optional)	vhost1	Virtual host name
Port for communication with agents	12520	
Port for communication with the monitoring terminal	12521	
Make the data area separate	Yes	

Data area folder	Y:\MasterScope_Share\MCO	Shared disk path
Install initial data	Yes	

\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.

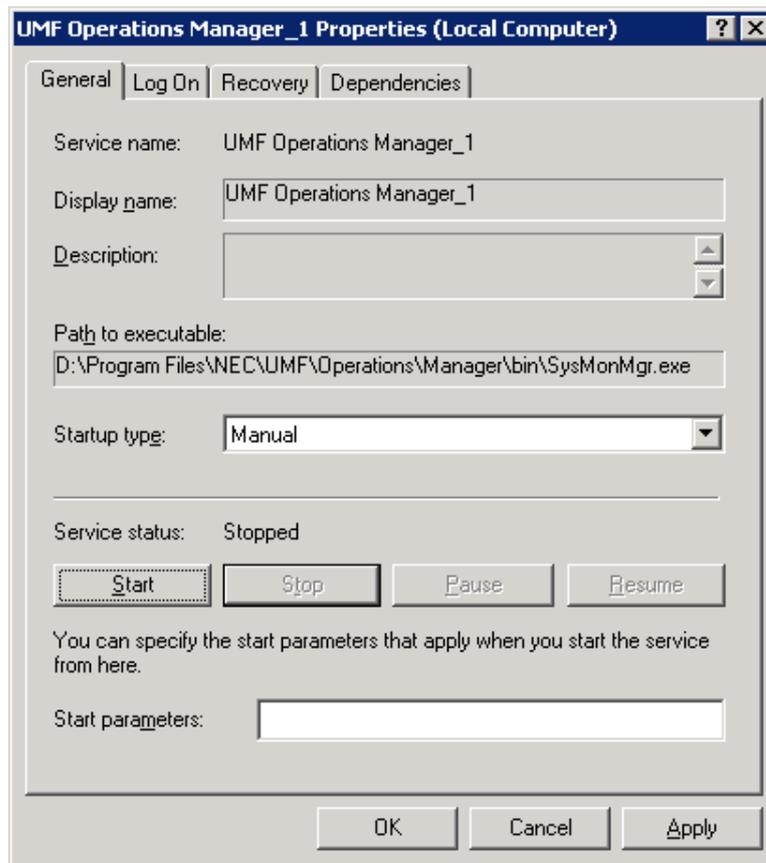
Next, set up the MasterScope MISSION CRITICAL OPERATIONS manager on the standby node.

In the installation settings window, specify the following settings:

Setting	Value	Remark
Installation folder	C:\Program Files\NEC\UMF\Operations	Local disk path
Local host name (optional)	vhost1	Virtual host name
Port for communication with agents	12520	
Port for communication with the monitoring terminal	12521	
Make the data area separate	Yes	
Data area folder	Y:\MasterScope_Share\MCO	Shared disk path
Install initial data	No (only on the standby server in the cluster)	

After installation finishes, change the service startup attributes on both the active and standby nodes.

In the [Start] menu, click [Administrative Tools] and then [Services]. Next, stop the [MasterScope UMF Operations Manager\_1] service, and then change the [Startup type] in the properties from [Automatic] to [Manual].

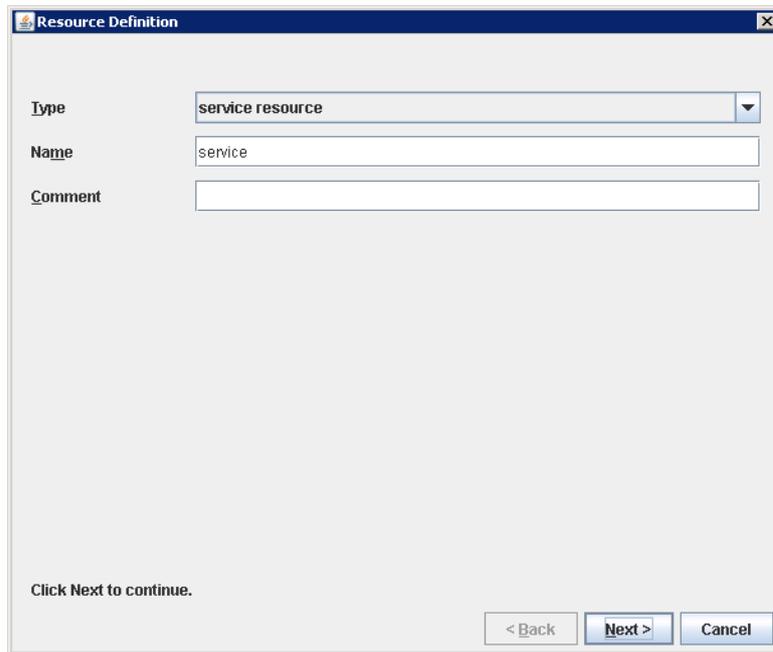


**Figure 2-7 Service Properties**

- \* If using the bundled DB, change the [Startup type] for the bundled DB service to [Manual] in the same way.
- \* If using the CDO message API, change the [Startup type] for the MasterScope MISSION CRITICAL OPERATIONS CDO service to [Manual] in the same way.

### **2.3 Set up the start setting of MasterScope MISSION CRITICAL OPERATIONS**

Set up the service. 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.



The image shows a dialog box titled "Resource Definition" with a standard Windows window border. It contains three input fields: a dropdown menu for "Type" set to "service resource", a text box for "Name" containing "service", and an empty text box for "Comment". At the bottom, there is a prompt "Click Next to continue." and three buttons: "< Back", "Next >", and "Cancel".

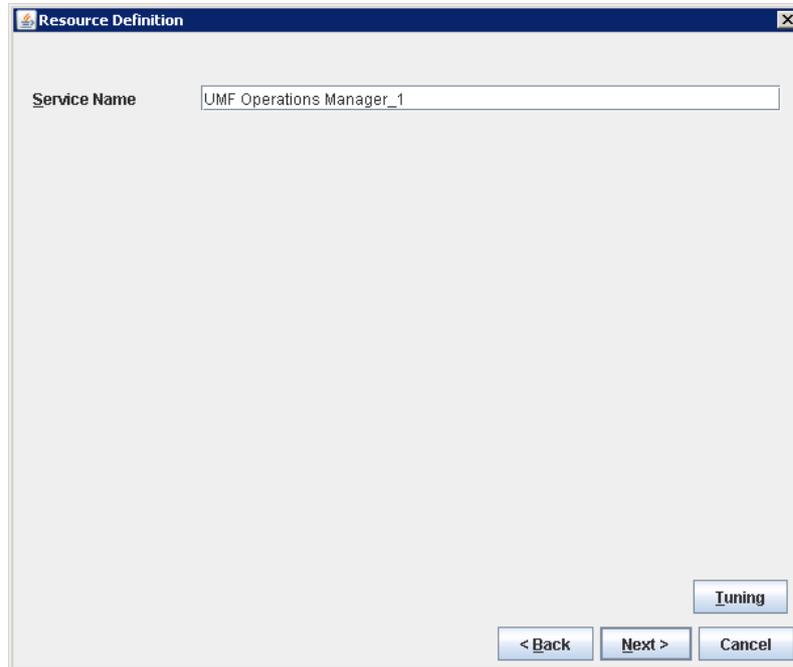
Type	service resource
Name	service
Comment	

Click Next to continue.

< Back   Next >   Cancel

**Figure 2-8 Definition of a resource (Service)**

Specify the Windows service name for the product in the [Service Name] text box.



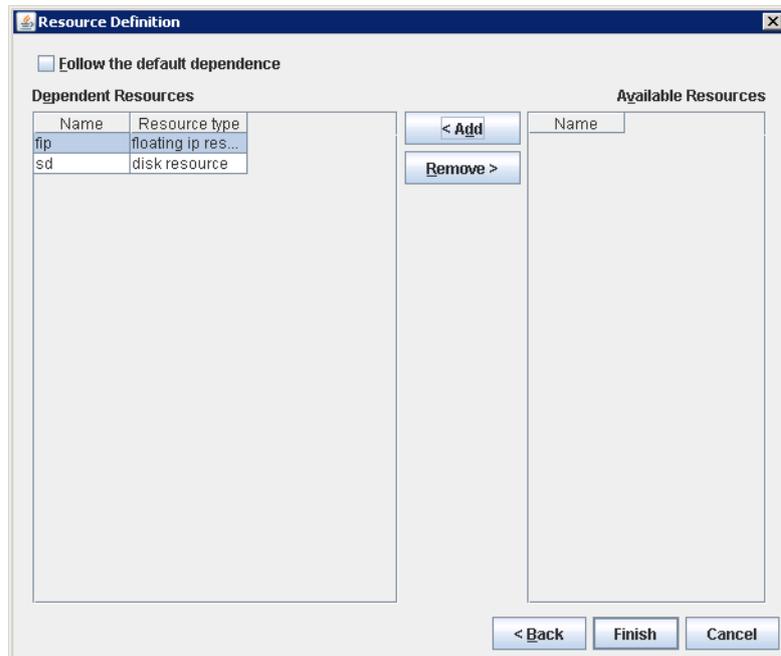
**Figure 2-9 Service Name Specification**

The service name varies depending on the node, so enter the following service name.

Node	Service Name
Manager	MasterScope UMF Operations Manager_serial-number

\* serial-number represents a number. Check the actual value in the Windows [Administrative Tools].

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 2-10 Dependency Specification**

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

\* If using the bundled DB, add the resource for the bundled DB service in the same way. Set up the resource dependencies so that the bundled DB is dependent on MISSION CRITICAL OPERATIONS.

Service name is [fdb\_wfdbn].

n indicates a service number of 1 or higher.

(The value is set during installation of MasterScope products.)

\* If using the CDO message API, add the resource for the MasterScope 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.

\* To use the ACOS linkage, add the resources for the MasterScope MISSION CRITICAL RPC Control service in the same way. Set up the resource dependencies so that RPC Control is dependent on MISSION CRITICAL.

This manual describes startup settings for failover groups.

Separately set up service monitoring in accordance with the relevant ExpressCluster X document.

**This concludes the ExpressCluster X setup.**

## Chapter 3 Uninstalling MISSION CRITICAL

### OPERATIONS

#### 3.1 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).

#### 3.2 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 4 Other Notes

#### 4.1 Registering Licenses

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