

**MasterScope Application Navigator
Manager, Agent (Windows Version)
Cluster Setup Guide
(ExpressCluster X Edition)**

July, 2016

Revision History

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Table of Contents

Chapter 1 Preface	1
Chapter 2 Set up Procedure	2
2.1 Setting up ExpressCluster X.....	2
2.2 Setting up MasterScope Application Navigator	11
Chapter 3 Uninstalling Application Navigator	18
3.1 Removing Files	18
Chapter 4 Other Notes	18
4.1 Registering Licenses	18
4.2 Version Upgrade	19

Chapter 1 Preface

This document describes the procedure for using ExpressCluster X to set up a cluster configuration (a duplex configuration) with two nodes. ExpressCluster X is an NEC product that can be used to switch running processes between nodes in a duplex system.

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

Supplemental information

[Upgrading an OS]

If an 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 based on the procedure on the setup card.

This also applies when applying a service pack.

Scope

This document is intended for EXPRESSCLUSTER X 1.x/2.x/3.x for Windows.

Chapter 2 Set up Procedure

This chapter provides a procedure for setting up a MasterScope Application Navigator cluster environment.

2.1 Setting up ExpressCluster X

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

* These documents can be downloaded from the following website:

<http://www.nec.co.jp/pfsoft/clusterpro/clp/download.html#hsg>

Click a link of the appropriate version, and click a link of "English."

- Creating new failover groups

For ExpressCluster X, nodes connected to a cluster are managed using units called failover groups (hereinafter, "groups").

For details about how to create groups, see the relevant ExpressCluster X document (chapter 5 in the Installation and Creation Guide).

Cluster Manager - Windows Internet Explorer

http://192.168.250.100:29003/

Cluster Manager

File View Service Tool Help

Operation Mode

cluster

- Servers
- Groups
 - ManagementGroup
 - MasterScope
 - fip1
 - md1
 - service
 - Monitors

Group Name: MasterScope Details

Properties	Value
Comment	
Status	Online
Started Server	excluster-en2
Resource Status	
fip1	Online
md1	Online
service	Online

Type	Received Time	Time	Server Name	Module Name	Event ID	
i	2011/07/07 16:05:35.822	2011/07/07 16:05:34.511	excluster-en2	rc	1051	The ▲
i	2011/07/07 16:05:35.806	2011/07/07 16:05:34.496	excluster-en2	rc	1011	The ☰
i	2011/07/07 16:05:25.791	2011/07/07 16:05:24.730	excluster-en2	lcns	3551	The
i	2011/07/07 16:05:25.791	2011/07/07 16:05:24.699	excluster-en2	rc	1010	The
i	2011/07/07 16:05:24.697	2011/07/07 16:05:24.697	excluster-en1	rc	1021	The ▼

Done Trusted sites | Protected Mode: Off 100%

Figure 2-1 WebManager

- Setting up shared resources

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

This explanation assumes the following for the shared resources:

- Floating IP address: 192.168.250.200
- Shared (mirror) disk: Y drive
- Service:
 - Manager: MasterScope UMF Operations Manager_n
 - Agent: MasterScope UMF Operations Logical Agent_n
 - (n stands for a Service number)

- * When using MasterScope Application Navigator Probe Option, configure the following service settings.

- Manager: MasterScope UMF Operations Manager_n
- Probe Agent: MasterScope Application Navigator Probe Agent_n
- (n stands for a Service number)

Start Builder, and then select a desired failover group ([MasterScope] in this example).

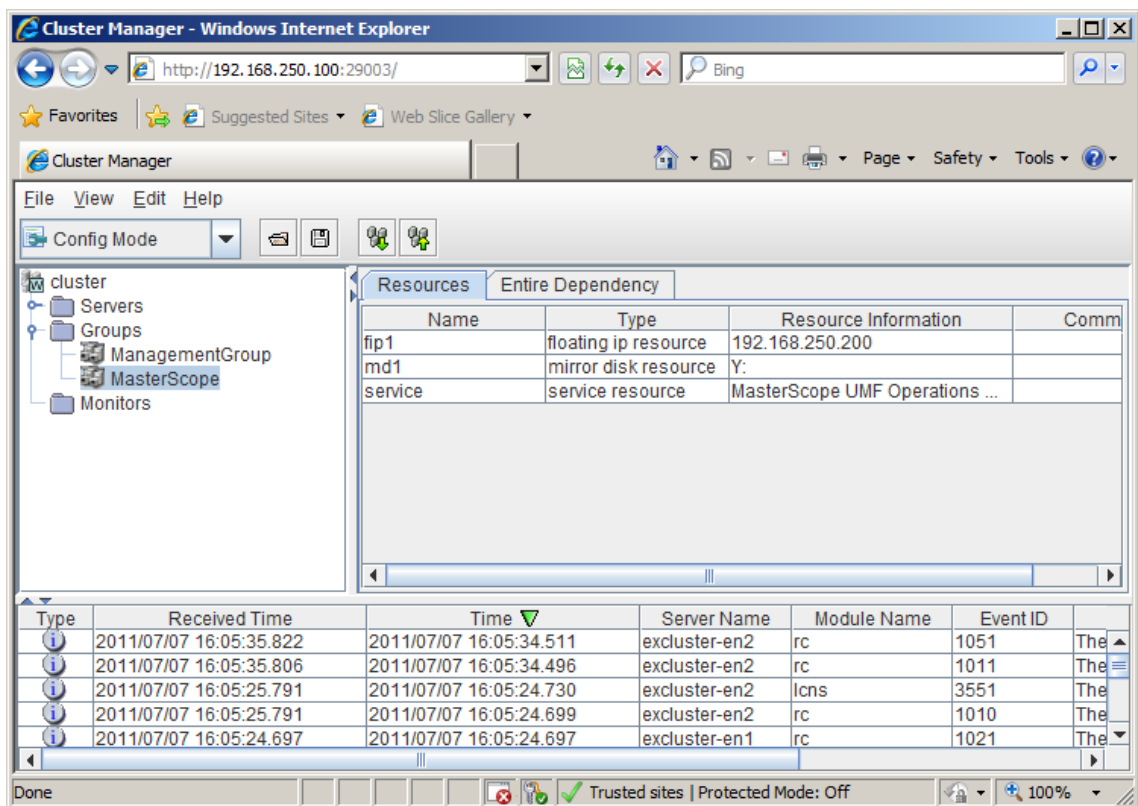


Figure 2-2 Group Properties

Right click the group, and then select [Add Resource] from the displayed pop-up menu to display the [Resource Definition] dialog box.

First, set up the shared disk. From [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, following the instructions in the dialog box.

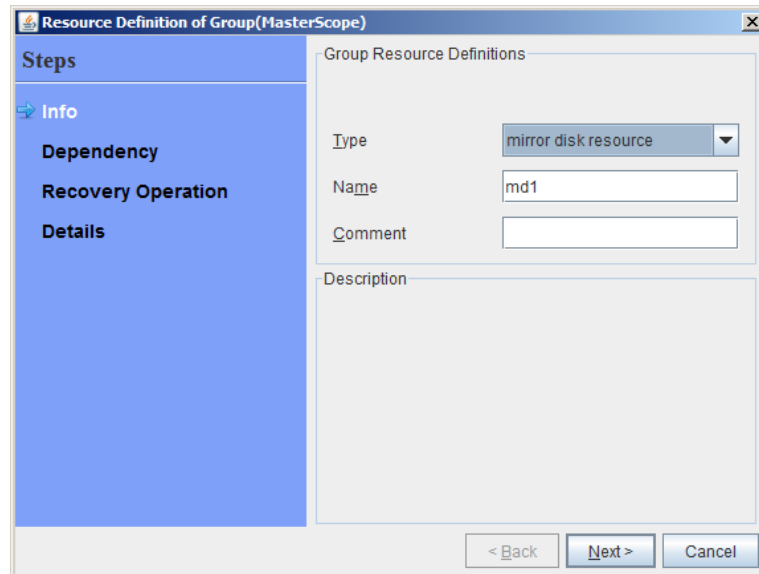


Figure 2-3 Resource Definition (Shared Disk)

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

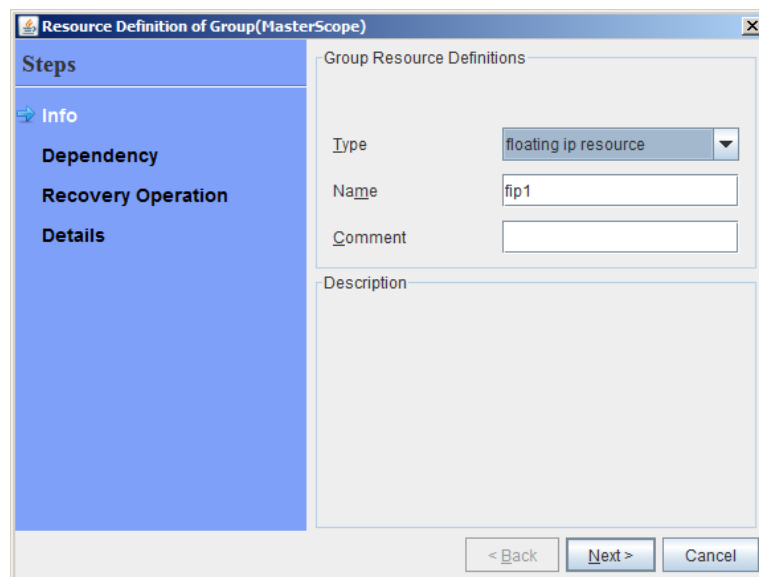


Figure 2-4 Resource Definition (Floating IP Address)

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

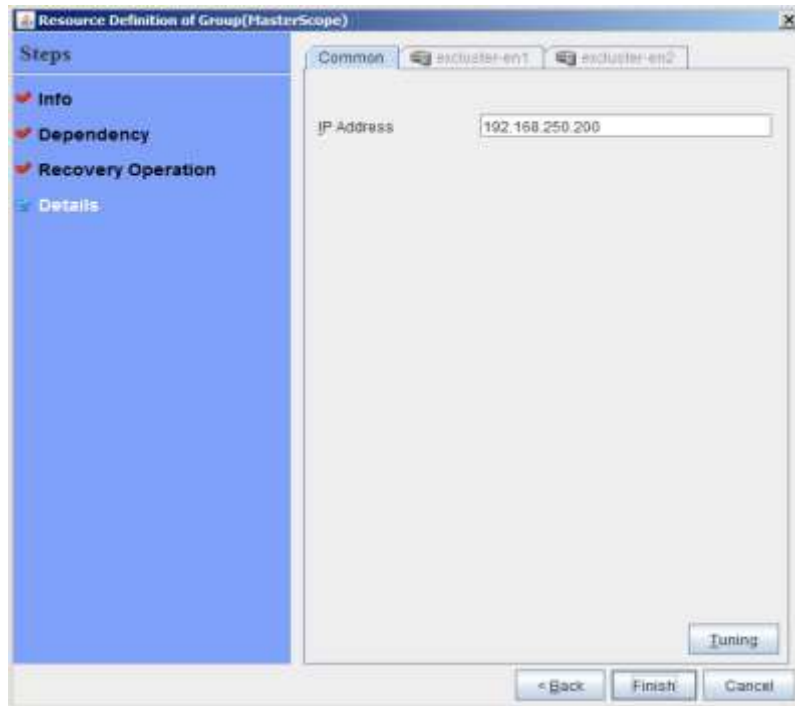


Figure 2-5 Floating IP Address Addition

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

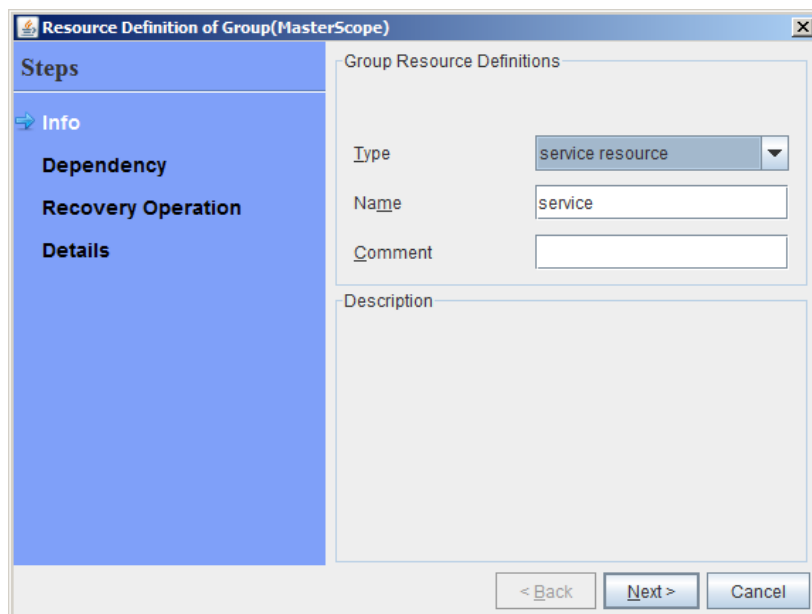


Figure 2-6 Resource Definition (Service)

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

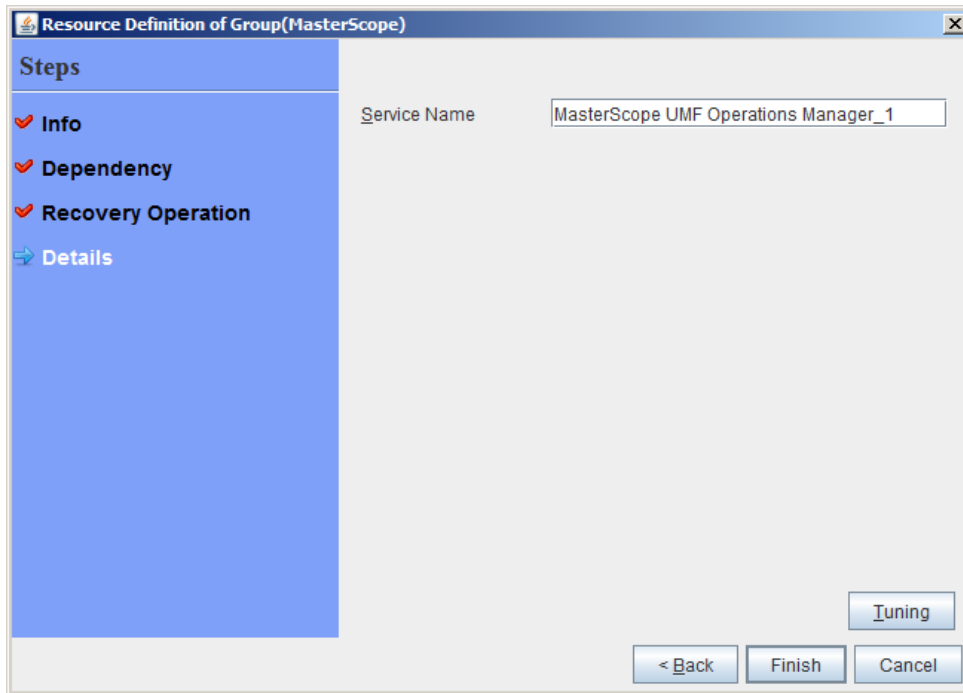


Figure 2-7 Service Name Specification

As the service name varies depending on the nodes, enter the following service name:

Node	Service Name
Manager	MasterScope UMF Operations Manager_[Service number]
Agent	MasterScope UMF Operations Logical Agent_[Service number]

*[Service number] represents a number. Check the actual value in the Windows [Administrative Tools].

When using MasterScope Application Navigator Probe Option, enter the following service name:

Node	Service Name
Manager	MasterScope UMF Operations Manager_[Service number]
Agent	MasterScope Application Navigator Probe Agent_[Service number]

*[Service number] represents a number. Check the actual value in the Windows [Administrative Tools].

To set up the dependencies, uncheck the [Follow the default dependency] check box, and then add the floating IP address and shared disk to the [Dependent Resources].

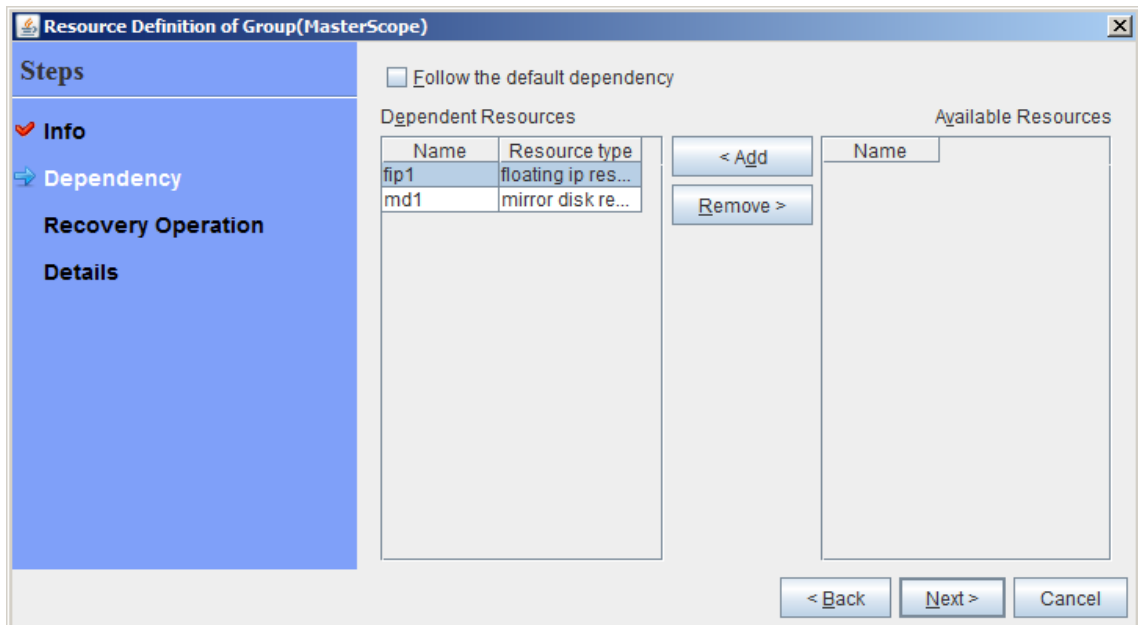


Figure 2-8 Dependency Specification

After specifying the settings, return to the failover group properties, and then confirm that the settings have been reflected (or that the window appears as shown in Figure 2-2 Group Properties).

- Switching between connected nodes

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

Open the 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.

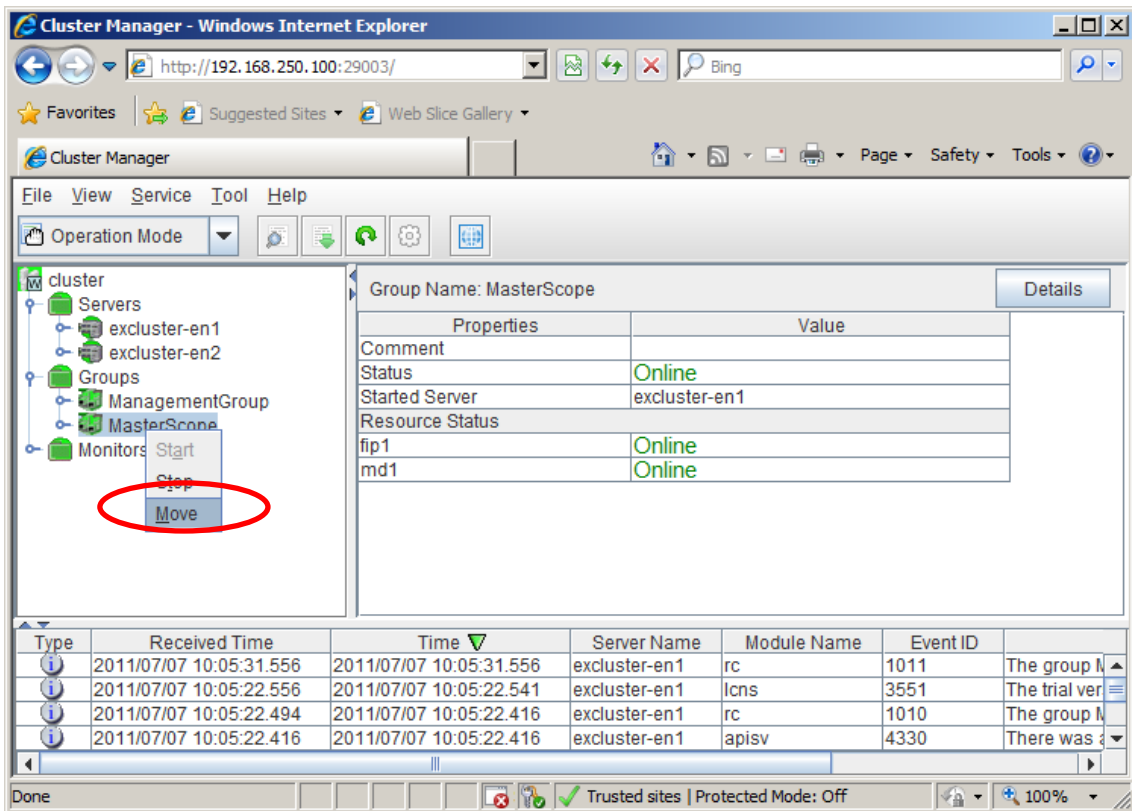


Figure 2-9 Switching between Connected Nodes

2.2 Setting up MasterScope Application Navigator

This section will show you how to install MasterScope Application Navigator Manager or Agent on a Windows computer to be used as the active or standby node. (A cluster configuration is supported for Manager and Agent only. You do not have to install the console both to the active node and to the standby node.)

This section describes important points to support a cluster environment when installing MasterScope Application Navigator Manager or Agent, and the console.

For details about how to install each product, see the Release Notes supplied with each product, and the Logical Agent Installation Guide.

When using MasterScope Application Navigator Probe Option, see the MasterScope Application Navigator Probe Option Probe Agent Duplex Setup Guide.

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

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

Notes:

- * Installation must be performed on an active node first, and then installation on a standby node afterward.
- * The shared disk must be able to be referenced when installing the features.
For this reason, you must set up the shared disk to be referencable by following the instructions in the “Switching between connected nodes” section before performing the installation operation on an active node and on a standby node.
- * Use the same drive name and same folder name for the installation destination for MasterScope Application Navigator on the active node and on the standby node.

(1) Setting up MasterScope Application Navigator Manager

The following describes the procedure for installing the MasterScope Application Navigator Manager feature:

- First, start the cluster from the active node, and then install MasterScope Application Navigator Manager on the node.
- Switch the connected nodes and start the cluster from the standby node. Install MasterScope Application Navigator Manager on the standby node.

First, install MasterScope Application Navigator Manager on the active node. Start the setup, and select [Install].

When the [Installation Selection] window appears, select the product you want to install from the product list.

Check [Manager] for [MasterScope Application Navigator].

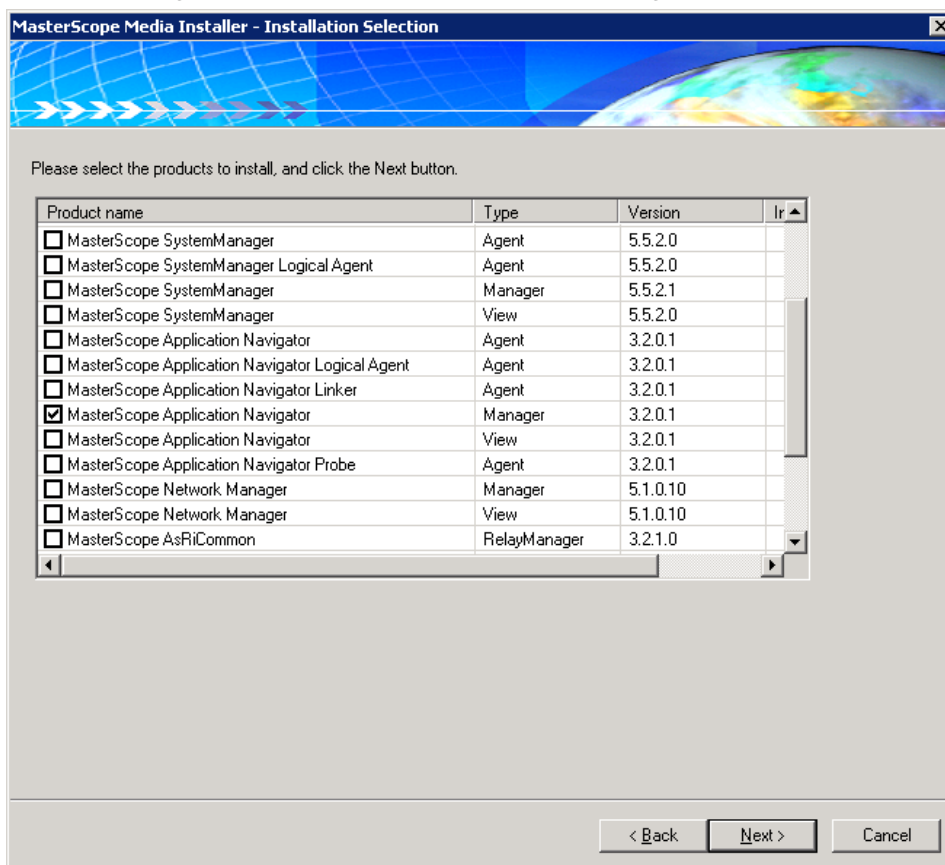


Figure 2-10 Installation Selection

Click [Next] to display the [Product Installation Settings] window.

In this window, set the information on the installation product. Select [Service] under [Manager] in the [Configuration list] to display [Setting Content].

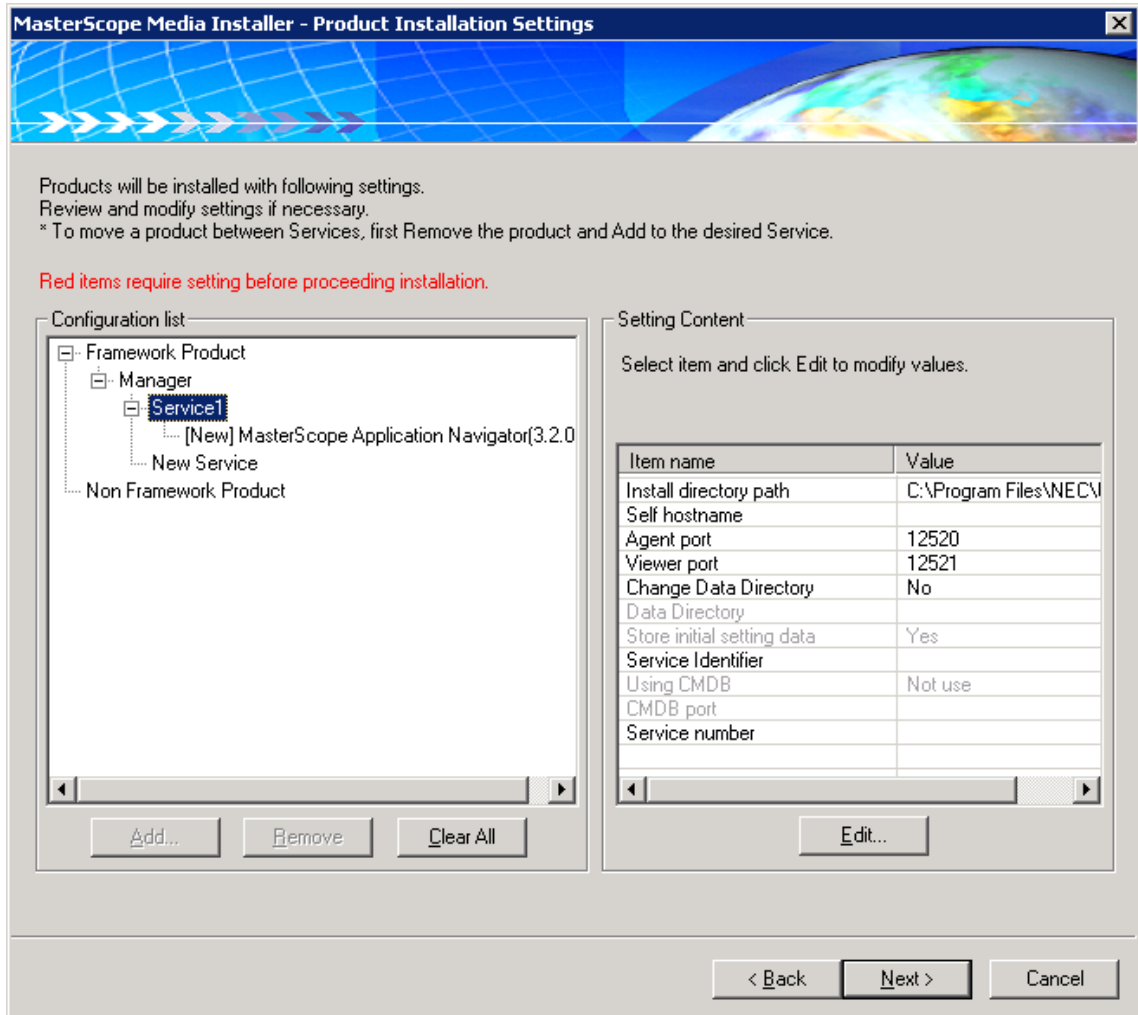


Figure 2-11: Product Installation Settings

Here, set up the product installation parameters. The parameters can be edited by selecting a desired item in [Item name] under [Setting Content] and clicking the [Edit] button.

Enter (or select) the path to the local drive for [Install directory path], the virtual hostname for [Self hostname], “Yes” for [Change Data Directory], and the path to the shared disk for [Data Directory]. “\Manager\sg” will automatically be added to the entered folder in Data Directory and the setting information that must be shared will be stored in the folder. For the active node, select “Yes” for [Store initial setting data].

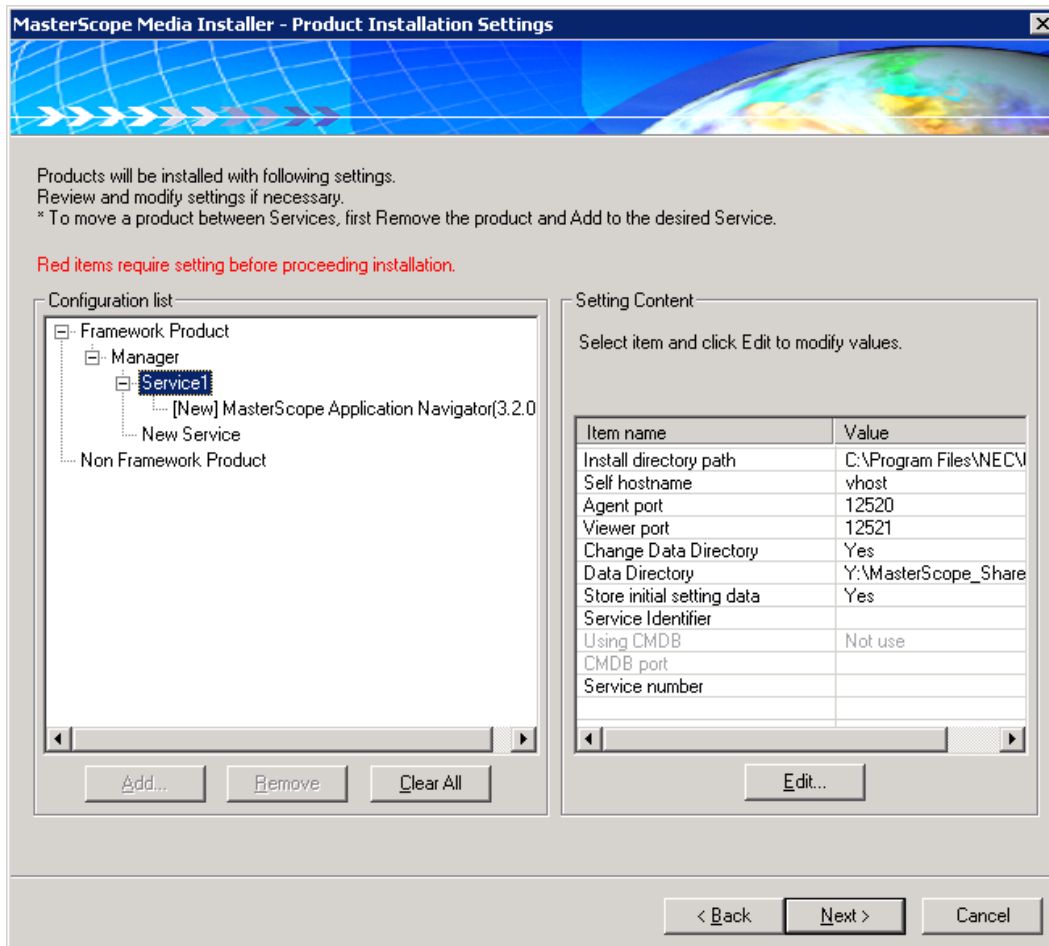


Figure 2-12: Product Installation Settings (for Manager on the Active Node)

Click [Next] to continue the installation operation.

When the installation process has been completed, ensure that “\Manager\sg” is created in the shared folder.

When the installation process has been completed, click [Start] - [Administrative Tools] - [Services], stop the [MasterScope UMF Operations Manager_*n*] service (*n* stands for a Service number), and then change the [Startup type] in the properties from [Automatic] to [Manual].

Next, switch the active node to the standby node in the cluster, set up the MasterScope Application Navigator Manager on the standby node by following the similar procedure. Specify the path to the shared folder with the same one as that for the active node. Note that you must select “No” for [Store initial setting data] for this second node in the [Product Installation Settings] window.

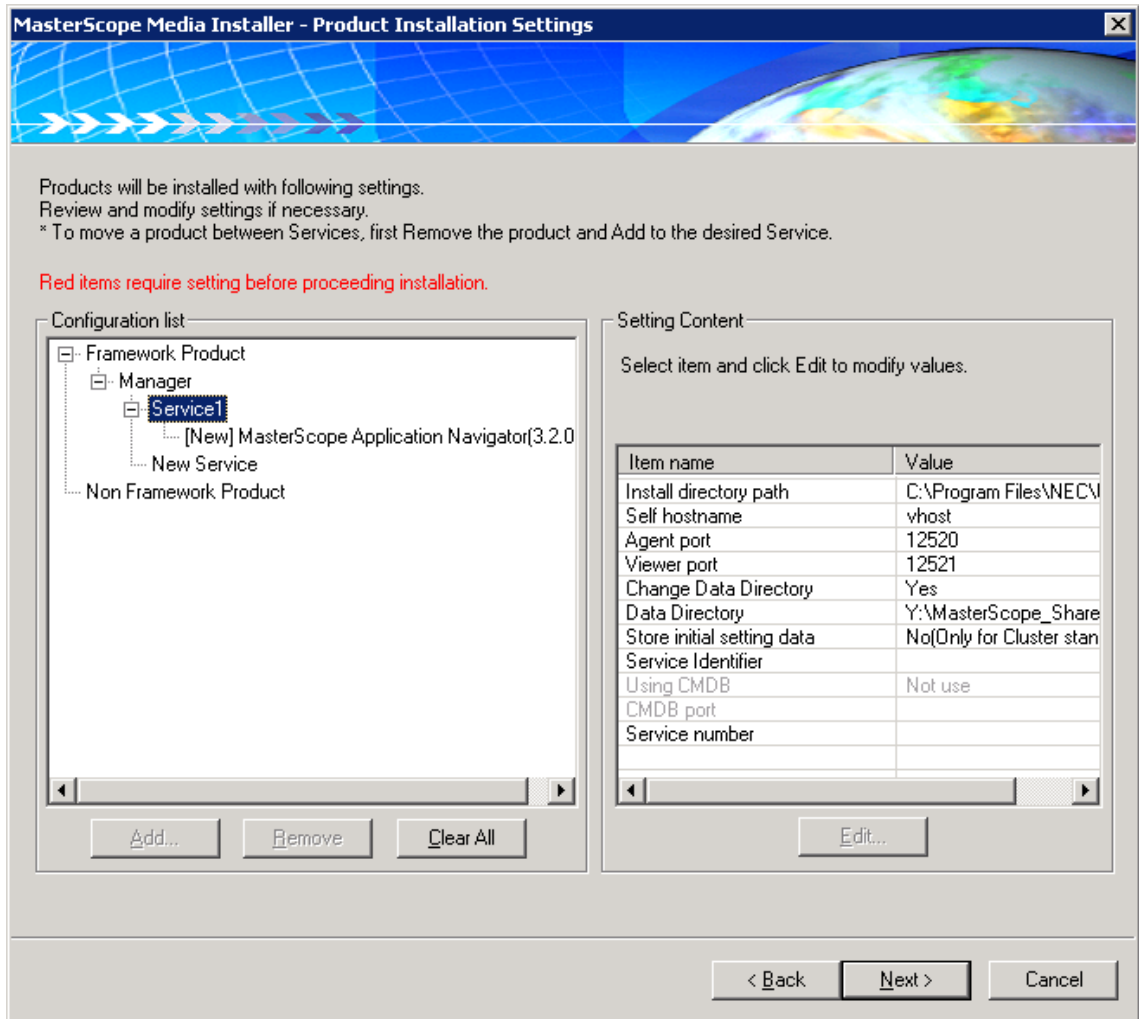


Figure 2-13: MasterScope Product Installation Settings (for Manager on the Standby Node)

(2) Setting up MasterScope Application Navigator Agent

The following describes the procedure for installing the MasterScope Application Navigator Agent feature:

- First, start the cluster from the active node, and then install the MasterScope Application Navigator logical system agent on the node.
- Switch the connected nodes and start the cluster from the standby node. Install the MasterScope Application Navigator logical system agent on the standby node.

For details about the installation procedure, refer to the Logical Agent Installation Guide.

When using MasterScope Application Navigator Probe Option, the following describes the procedure for installing the MasterScope Application Navigator Probe Agent feature:

- First, start the cluster from the active node, and then install the MasterScope Application Navigator Probe Agent on the node.
- Switch the connected nodes and start the cluster from the standby node. Install the MasterScope Application Navigator Probe Agent on the standby node.

For details about the installation procedure, refer to the “MasterScope Application Navigator Probe Option Probe Agent Duplex Setup Guide”.

(3) Setting up the console

This section describes a consideration when connecting a MasterScope Application Navigator console to the Managers in a cluster environment.

When setting up the MasterScope Application Navigator console, enter the virtual hostname in the cluster environment for [Manager hostname] in the [Product Installation Settings] window.

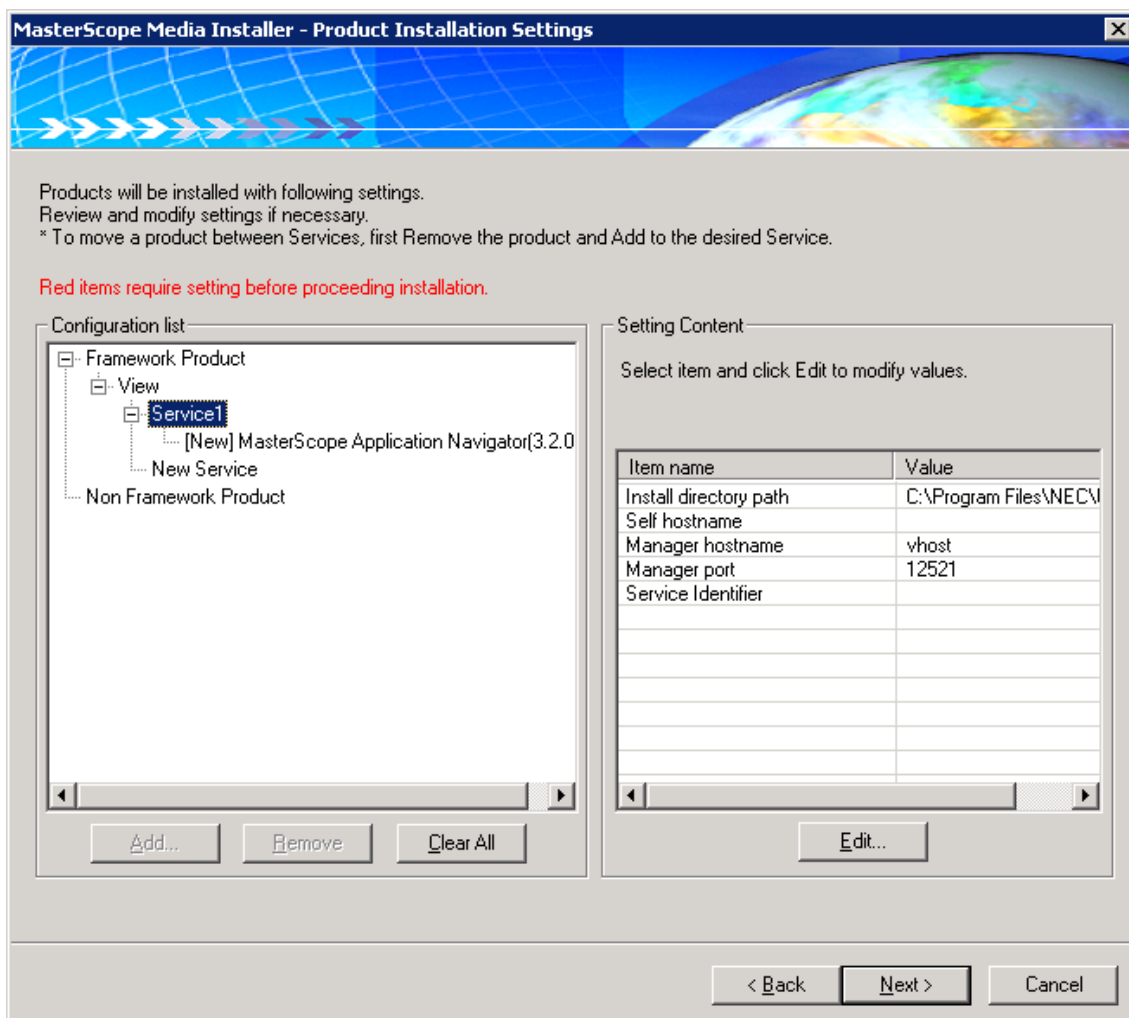


Figure 2-14: MasterScope Product Installation Setting (for Console)

Now, you have set up MasterScope Application Navigator.

Chapter 3 Uninstalling Application Navigator

Uninstall Application Navigator by following the procedures described in the Application Navigator Release Memo.

3.1 Removing Files

After uninstalling Application Navigator, the files and directories on the shared disk are not removed. Manually remove from the shared disk the directories you specified in the installation process.

Chapter 4 Other Notes

4.1 Registering Licenses

(1) How licenses are counted

The licenses are counted in the way that one license is required for each physically installed node.

(2) In a cluster environment for Manager

In an environment, where Manager is clustered, the licenses must be registered both on the active node and on the standby node. The license in a cluster system is treated in the following manner:

- You need to have a manager license for each of the active and standby nodes.
- You need to have the same number of monitored agent licenses as that of monitored servers in each active system.

In each standby system, you need to have the same number of HA Option licenses as that of monitored servers.

- The number of console licenses you need must be twice the number of consoles, because they must be registered both on the active system and on the standby system.

(3) In a cluster environment for Agent

In an Agent's cluster environment, logical system agents are installed. In this case, one license is required for each physical server.

(4) The Target License When Using the MasterScope Application Navigator Probe Option

- You need to have the same number of licenses as that of monitoring targets in each active system.

In each standby system, you need to have the same number of HA Option licenses as that of monitored servers.

4.2 Version Upgrade

When upgrading a version, SysMonAgt.ini is overwritten by file of an installation media. If upgrading version from Ver3.0.2 or earlier, and you have modified SysMonAgt.ini to set up the cluster environment, please modify it again after an upgrade. Before upgrading a version, stop the agent.