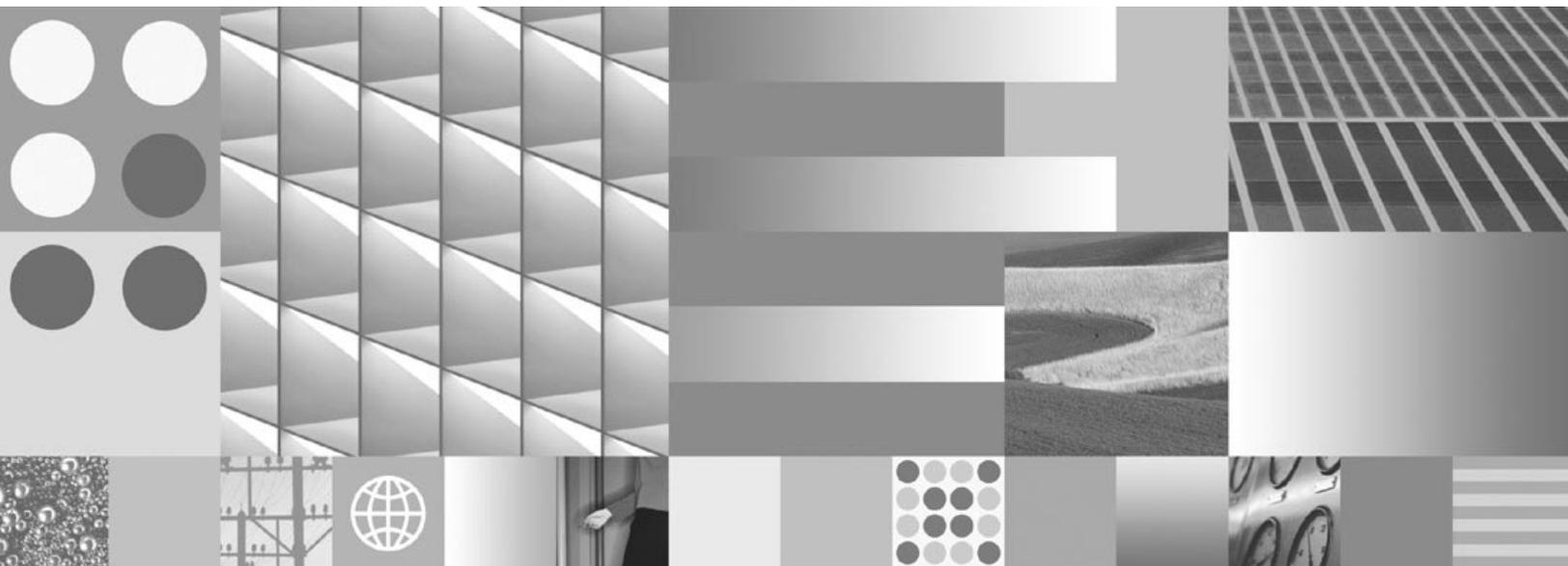


**Microsoft Cluster Server Installation and Upgrade Procedures for Windows Server**





**Microsoft Cluster Server Installation and Upgrade Procedures for Windows Server**

**Note**

Before using this information and the product it supports, read the information in "Notices" page 292.

This edition applies to version 4.1 of IBM FileNet Image Services (product number 5724-R95) and to all subsequent releases and modifications until otherwise indicated in new editions.

© **Copyright International Business Machines Corporation 1984, 2008. All rights reserved.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

## 1 Getting Started 13

**Document revision history** 13

**Supported Configurations** 14

**Cluster Server Overview** 14

Cluster Server Software Installation Flowchart 17

**Before you Begin** 21

Windows 2003 Server Operating System 21

Cable Length Requirements 22

Other Configuration Requirements 25

Server Naming Convention 26

Installation Worksheet 27

For Oracle 29

Verify That System Names Can Be Resolved to IP Addresses 30

Accessing IBM FileNet Documentation 30

---

**Setup Cluster Server Domain (New Installs Only) 31**

Native Mode Domain 31

Native Mode with Each Node as a Domain Controller 32

Native Mode without Either Node Being a Domain Controller 32

**Install Cluster Server Software (New Installs Only) 33**

## **2 Installing a Microsoft Cluster Server System with a Microsoft SQL Server Relational Database 35**

**Install Microsoft SQL Server Software 36**

Create the Site Database 37

**Set SQL Environment Variable (SQL Server 2000 only) 37****Install FileNet Software 41**

Installing Image Services Software on Node 1 43

Installing FileNet Software on Node 2 50

**Grant “Logon as Service” Right to the fnsfw User 56**

---

<b>Create Configuration Database</b>	<b>57</b>
<b>Initialize the Database</b>	<b>64</b>
<b>Verify/Set FileNet Dataset Permissions</b>	<b>65</b>
<b>Add New Resource</b>	<b>68</b>
<b>Create the “LocalAdminInstall” File</b>	<b>79</b>
<b>Enable Autostart IS Processes Option</b>	<b>80</b>
<b>Stop IS ControlService</b>	<b>81</b>
<b>Add NCHBroadcast Value to Registry Editor</b>	<b>82</b>
<b>Set Restart Threshold</b>	<b>89</b>
<b>Test Cluster Server Operation</b>	<b>91</b>
Move Control of Cluster Service to Node 2	91
Move Control of Cluster Service to Node 1	93
<b>Connect/Configure Optical Storage Library Devices</b>	<b>94</b>
Connect Storage Library Device	94
Configure SCSI Host Adapter Utility Settings	95
Automatically Configure Storage Library	101
Move Control of Cluster Server to Node 2	104

---

**Cluster Server Installation Completed 107**

## **3 Installing a Microsoft Cluster Server System with an Oracle Relational Database 108**

### **Install Oracle Software 108**

Install Oracle RDBMS Software 109

Install Oracle Fail Safe Software Release 3.3.3 or Higher 110

Create the SiteDB 110

### **Add Oracle SiteDB Group 110**

### **Move Shared Drive to Oracle SiteDB Group 117**

### **Configure Cluster Service for Oracle 119**

### **Test Cluster Failover 140**

Move Control of Cluster Service to Node 2 140

Move Control of Cluster Service to Node 1 142

### **Install FileNet Software 143**

Installing FileNet software on Node 1 145

Installing FileNet software on Node 2 151

---

<b>Start the Oracle Fail Safe Manager</b>	<b>155</b>
<b>Grant “Logon as Service” Right to the fnsv User</b>	<b>157</b>
<b>Create Configuration Database</b>	<b>158</b>
Define RDB Object Locations for Oracle	162
<b>Initialize the Database</b>	<b>165</b>
<b>Verify/Set FileNet Dataset Permissions</b>	<b>166</b>
<b>Add FileNet IS Resource</b>	<b>170</b>
<b>Create the “LocalAdminInstall” File</b>	<b>186</b>
<b>Enable Autostart IS Processes Option</b>	<b>187</b>
<b>Add NCHBroadcast Value to Registry Editor</b>	<b>188</b>
<b>Set Restart Policy</b>	<b>196</b>
<b>Test Cluster Server Operation</b>	<b>200</b>
Move Control of Cluster Service to Node 2	200
Move Control of Cluster Service to Node 1	202
<b>Connect/Configure Optical Storage Library Devices</b>	<b>203</b>
Connect Storage Library Device	203

---

Configure SCSI Host Adapter Utility Settings 204

Automatically Configure Storage Library 210

Move Control of Cluster Server to Node 2 212

**Cluster Server Installation Completed 215**

## **4 Updating Microsoft Cluster Server with Microsoft SQL Server 216**

**Update FileNet Image Services Software to IS 4.1 217**

Updating FileNet Image Services Software on Node 1 218

Updating FileNet Image Services Software on Node 2 223

Create the LocalAdminInstall File 228

Restart Node 1 229

Create the LocalAdminInstall File 231

**Cluster Server Update Completed 232**

## **5 Updating Microsoft Cluster Server with Oracle 233**

**Before you Begin 233**

---

Update Oracle RDBMS Software to Oracle9i R2 or Oracle 10g R2	233
Verify Resources Added to Same Group	234
Update Oracle Fail Safe Software to Release 3.3.3 or Higher	234
<b>Update FileNet Image Services Software to IS 4.1</b>	<b>235</b>
Updating FileNet Image Services Software on Node 1	236
Updating FileNet Image Services Software on Node 2	242
Create the LocalAdminInstall File	245
Restart Node 1	246
Create the LocalAdminInstall File	249
<b>Cluster Server Update Completed</b>	<b>250</b>

## **Appendix A – User and Group Security Configuration for Cluster 251**

## **Appendix B – Setting up a Secure Native Mode Domain Installation 253**

<b>Configure the Domain Controller</b>	<b>253</b>
--	------------

Create FileNet Groups 253

Create FileNet Users 256

Add Users to FNADMIN, FNOP, and FNUSR Groups 258

Add Nodes to Pre-Windows 2000 Compatible Access Properties 264

### **Configure Node 1 and Node 2 Servers 270**

Create the LocalAdminInstall File 270

Create New Groups 271

Add Users to Local Admin Group 279

Modify the Local Security Policy for the Domain Account (fnsw) 282

**Return to Main Body of this Document 291**

## **Notices 292**

**Trademarks 297**

**U.S. Patents Disclosure 299**

# Getting Started

This document contains information for installing and updating software on a Microsoft® Cluster Server.

## Document revision history

IS version	Date	Comment
4.1	June 2008	Documentation refresh. Incorporated SQL Server 2005 updates. Replaced fn_setup GUI with command line info.
4.1	Nov. 2007	Documentation refresh. Bluewashing. Added MSSQL 2005 information (IS 4.1.1).
4.1	June 2007	Initial release.

## Supported Configurations

Microsoft Cluster Server is **ONLY** supported for FileNet® Image Services Combined server (Root/Index/Storage Library) installations with local **Site-controlled** relational databases. These configurations can be run in either a **Native Mode** domain or in a **Mixed Mode** domain using only Windows® Server 2003 or Windows Server 2003 R2 servers.

Dual server Systems (separate Root/Index and Storage Library servers), Remote Entry Systems, WorkFlo Management Systems, or Application Server Systems are **not** supported.

## Cluster Server Overview

Clustering is a way to link two servers together to improve the reliability of your system. FileNet software uses a Microsoft clustering method called high-availability clustering, which links a second server to a primary server to act as a standby. If the primary server fails, the second server immediately takes over for the primary system. When the switch-over occurs, users usually don't know there was ever a problem.

**Note** Refer to the **Windows Server 2003 Enterprise Edition – Cluster Server Resource Center** on the Microsoft Web site for a wide selection of Microsoft documentation.

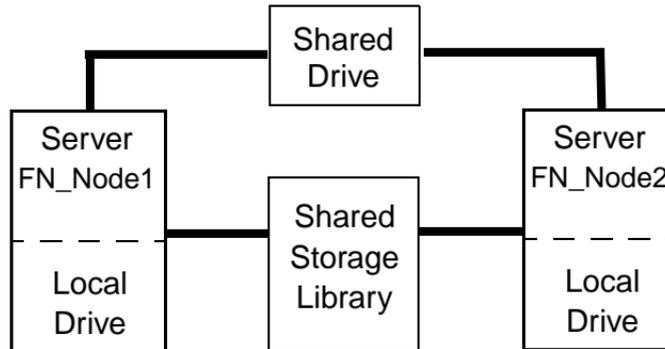
---

Microsoft Cluster Server software allows you to set up two servers which mirror each other exactly. They even have the same domain name and system serial number. Both servers are always running, but while one server is actually being used to run your FileNet and RDBMS software, the “hot standby” server is standing by to automatically take over in the event of a problem or system failure.

The two servers in the cluster, Nodes 1 and 2, must each have Windows Server 2003 Enterprise Edition or Windows Server 2003 R2 Enterprise Edition operating system software, and the Microsoft Cluster Server software installed on their local drives.

The FileNet Image Services and RDBMS software is also installed on the local drives. The shared drive contains the datasets, logs, and configuration files.

The following diagram shows a typical cluster server configuration. One server node has control of the FileNet groups, while the other node is the “hot standby” server.



**Note** In the diagram, FN\_Node1 and FN\_Node2 are the server names for Node 1 and Node 2 respectively.

## Cluster Server Software Installation Flowchart

The following flowchart outlines the installation path sequence that can be taken to setup your Cluster Server system. Seven steps are required.

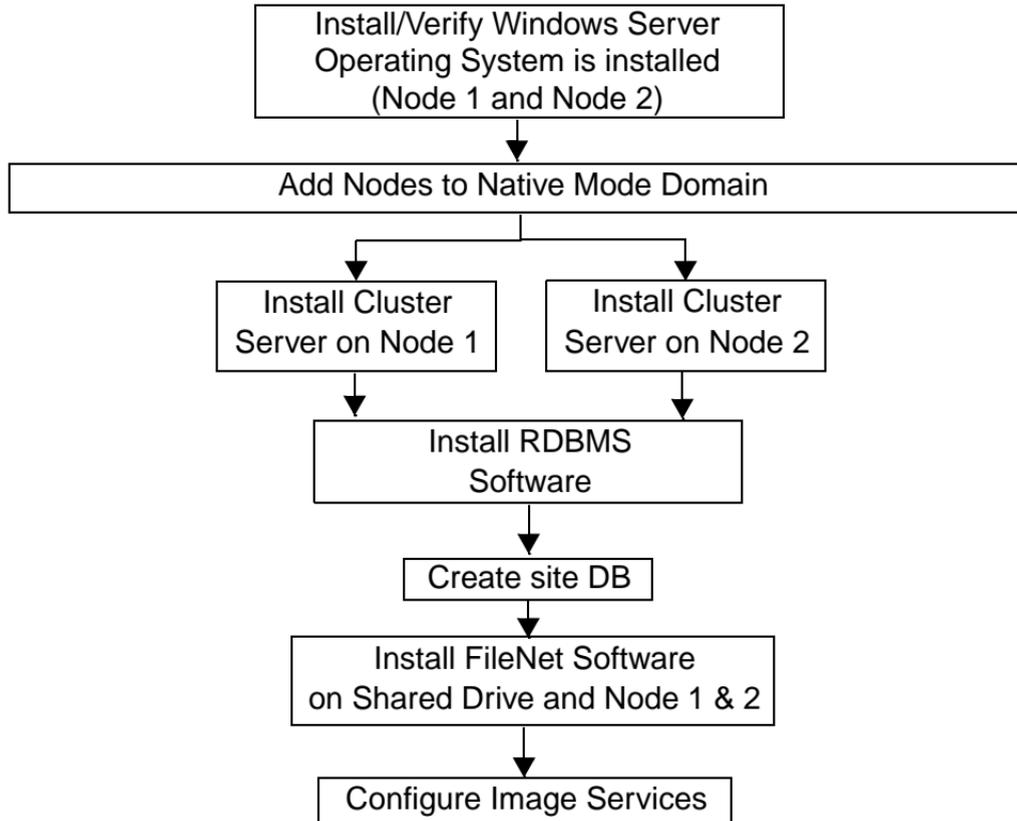
- 1 Ensure that the Windows Server 2003 Enterprise Edition or Windows Server 2003 R2 Enterprise Edition operating system is installed on each server.
- 2 Add Nodes to **Native Mode Domain**. (Native Mode Domain is the preferred configuration.)
- 3 Install the Cluster Server software on the Node 1 server, and then on Node 2.
- 4 Install the Relational Database software on each server node.
  - Microsoft SQL Server:
    - SQL Server 2000 plus SP4, or

- SQL Server 2005 plus SP2
- Oracle (need two pieces of software)
  - Oracle Fail Safe Manager 3.3.3 or 3.3.4
  - Oracle Database software
    - 9i Release 2 (9.2.0.8) or
    - Oracle 10g Release 2 (10.2.0.2 and up)
- 5 Create a local Site-controlled database.
- 6 Install the FileNet software on the Shared Drive and the local drives of each server as follows:
  - Install FNSW (Image Services executables) on the local drive for each node.
  - Install FNSW\_LOC (Image Services Local Files) on the shared drive.

## 7 Configure Image Services on Node 1 and 2.

**Note** The flowchart provides a visual representation, or “snap shot,” of the installation procedure steps. You probably won’t need to refer to this flowchart after you begin your Cluster Server installation.

---



## Before you Begin

Before you can install the cluster server software, each server in the cluster (Node 1 and Node 2) must have the following prerequisites.

### Windows 2003 Server Operating System

The following versions are supported:

- Windows Server 2003 SP1 or SP2
- Windows Server 2003 R2
- Windows Server 2003 R2 SP2

---

**Note**

To access fix packs for IBM FileNet products, navigate to the Information Management support page ([www.ibm.com/software/data/support](http://www.ibm.com/software/data/support)).

Select the appropriate IBM FileNet product from the "Select a category" list. From the Product Support page, click Fix Packs by version under Download.

---

The same version of Windows Server software must be installed on both servers in the IS cluster system.

## Cable Length Requirements

A very important aspect of setting up your cluster server system is determining the maximum allowable SCSI bus cable length.

The maximum length of the cable that connects the optical library to each node, including the terminators and the cable contained within the optical drive unit, cannot exceed the maximum length specified for the type of SCSI devices being used (Single Ended, Differential, Low Voltage Differential).

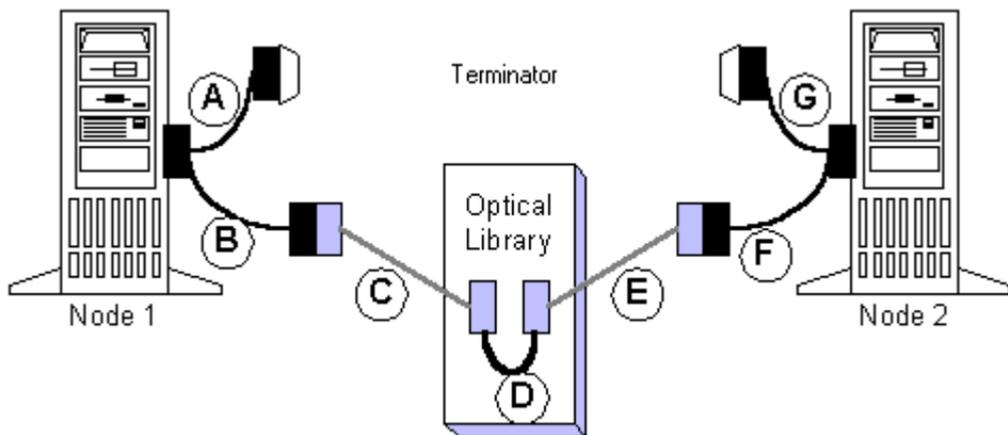
This is critical, because in a clustered environment the rules for cable length are very different than the rules for a non-clustered environment. It is very easy to exceed the maximum cable length in a cluster environment, and doing so would result in either intermittent errors or the system not working at all.

When measuring the cable be sure to consider all sections, including:

- The length of each end of the special Y-Connector at each node.
- The length from each node to the optical drive.
- The length of the cable contained within the optical drive.  
(For larger optical libraries, the length of cabling inside the unit is especially important.)

The diagram below explains how to determine the total cable bus length.

## SCSI Bus Length Determination



Total SCSI bus length is the sum of the segments  $A + B + C + D + E + F + G$

where A, B, F, and G are the lengths of the cable segments of the special "Y" cables, C and E are the lengths of SCSI cabling connecting the "Y" cable ends to the optical library, and D is the length of the SCSI cabling used inside the optical library.

## Other Configuration Requirements

- Only optical libraries with SCSI robotic arms are supported.
- Microsoft requires dual Ethernet cards, dual SCSI cards, special RAID controllers, and specifically listed RAID drives.
- All hardware used in the Cluster System **must** be on the Microsoft Hardware Compatibility list (HCL).

---

### **Important**

Do not use any use any hardware components that are not Cluster compatible.

---

- To view the Microsoft Hardware Compatibility list (HCL) go to the Microsoft Web site and search for “HCL”. This list identifies certified products tested for the Cluster Server environment.

## Server Naming Convention

Properly naming Image Services servers is an important step when setting up your Image Services system. Server domain names can have a maximum of 128 characters and should only contain ASCII alpha-numeric characters and underscore characters.

---

**Note** Do not use non-alphanumeric characters and hyphens.

---

This convention prevents server names from changing when NCH (Network Clearing House) crosses a router to find a server. It could convert the domain name to an IP host name using specific criteria, one of which is dropping the underscore character and all non-alphanumeric characters.

## Installation Worksheet

Identify the two machines that will be used in the Cluster as Node 1 and Node 2. This reference will be used in the Microsoft *Guide to Creating and Configuring a Server Cluster under Windows Server 2003 White Paper*, as well as in this document for installing IS in your Cluster Service environment.

Obtain the following information before you begin your installation:

Cluster and Machine Names	Public IP Address
Cluster DNS Name:	
Node 1: Machine Name:	
Node 2: Machine Name:	

Refer to the **“[Server Naming Convention](#)” on page 26**, to identify a network name for your FileNet cluster resource. This will be the same name that you use for your SQL Server or Oracle network name.

Image Services (and RDBMS) Network Name: \_\_\_\_\_

Public IP Address: \_\_\_\_\_

System Serial Number: \_\_\_\_\_

---

**Note**

The System Serial Number will be the same for both nodes.

---

The drive letter for the Shared drive where IS shared files will reside: \_\_\_\_\_

---

**Important**

**Do Not** use the same drive letter for the quorum drive and the shared drive. The quorum drive, which is used to store cluster configuration database checkpoints and log files, should be a separate drive from the Shared drive where IS shared files will reside. **The examples shown in this document, use Z or S as the shared drive.**

---

**Note** The Shared drive should also be a separate logical drive from the application drive which will hold the relational database.

---

### For SQL Server

SQL Server database name: \_\_\_\_\_

### For Oracle

Oracle Service Name:  
(siteDB.world, for example) \_\_\_\_\_

Oracle Instance Name:  
(SiteDB, for example) \_\_\_\_\_

Oracle Database Name:  
(siteDB, for example) \_\_\_\_\_

Oracle Parameter File:  
(Z:\siteDB\init\_siteDB.ora, for example) \_\_\_\_\_

## Verify That System Names Can Be Resolved to IP Addresses

Verify that you can resolve the system names to IP Addresses for this system and any servers you want to communicate with remotely. **Do not** proceed with the cluster installation procedure if you are unable to verify.

## Accessing IBM FileNet Documentation

To access documentation for IBM FileNet products:

- 1 Navigate to the Information Management support page ([www.ibm.com/software/data/support](http://www.ibm.com/software/data/support)).
- 2 Select the appropriate IBM FileNet product from the "Select a category" list.
- 3 From the Product Support page, click Product Documentation under Learn.
- 4 From the Product Documentation page

- a If necessary, click the Doc Link for the appropriate component product to display the document list.
- b Click the icon in the appropriate release column to access the document you need.

## Setup Cluster Server Domain (New Installs Only)

Your Cluster Server installation can be configured on either:

- a **Native Mode domain** using only Windows 2003 servers, or
- a **Mixed Mode domain** using Windows 2000 and 2003 servers.

### Native Mode Domain

Using a Native Mode domain is the preferred network configuration for Cluster Server.

There are two types of Native Mode domain configurations. One where each node of the cluster is a domain controller, and one where neither mode is a domain controller.

### **Native Mode with Each Node as a Domain Controller**

In this configuration, each node of the cluster is a domain controller. This configuration **requires** Full Domain Administrator Rights for the user who installs the Cluster Server system.

To setup your system, simply add the two nodes you will be using as cluster servers to your Native Mode domain. After adding the nodes, skip the procedure below and continue to the section, **[“Install Cluster Server Software \(New Installs Only\)” on page 33.](#)**

### **Native Mode without Either Node Being a Domain Controller**

In this configuration, neither node of the cluster is a domain controller. Use this configuration if you **do not** want the user who installs the Cluster Server system to have Full Domain Administrator Rights. To

setup this configuration, go to [\*\*“Appendix B – Setting up a Secure Native Mode Domain Installation” on page 253.\*\*](#)

## Install Cluster Server Software (New Installs Only)

Follow the procedures provided by Microsoft to install the Cluster Server software on both servers. Install the software on the Node 1 server first.

---

**Tip**

The Microsoft installation procedures are available on the Microsoft Web site. When you have finished installing Cluster Server software on both server nodes, continue to one of the following chapters:

---

- [\*\*Chapter 2, “Installing a Microsoft Cluster Server System with a Microsoft SQL Server Relational Database,” on page 35\*\*](#)
- [\*\*Chapter 3, “Installing a Microsoft Cluster Server System with an Oracle Relational Database,” on page 108\*\*](#)
- [\*\*Chapter 4, “Updating Microsoft Cluster Server with Microsoft SQL Server,” on page 216\*\*](#)

- **Chapter 5, “Updating Microsoft Cluster Server with Oracle,” on page 233**

# Installing a Microsoft Cluster Server System with a Microsoft SQL Server Relational Database

This chapter contains information for installing a Microsoft Cluster Server system using a Microsoft SQL Server relational database.

---

**Note** Only Microsoft SQLServer 2000 Enterprise Edition with SP4 and SQL Server 2005 Enterprise Edition with SP2 software are supported for Cluster Server.

Be aware that SQL Server 2000 enables remote access by default, but SQL Server 2005 does not. You will need to enable remote access on your SQL Server 2005 servers.

---

## Install Microsoft SQL Server Software

Refer to the Microsoft installation instructions to install the SQL software. Perform this procedure from the Node 1 server. You can find these instructions on the Microsoft Web site.

The Microsoft installation procedure automatically installs the SQL software on both nodes.

---

### **Important!**

You must choose Custom setup type for the installation of SQL Server and enter the following information:

- In the Authentication Mode dialog box, choose Mixed Mode.
  - In the Collation Settings dialog box, choose Latin1\_General as the Collation designator and choose Binary Sort order.
- 

---

### **Note**

All resources must reside in only one group. Use the Cluster Administrator to check that all resources have been added to the same group.

---

### Create the Site Database

Perform this procedure on the Node 1 server.

Refer to the SQL Server installation documentation (found on the Microsoft Web site) and Chapter 3 of the *Guidelines for Installing/Updating Site-Controlled RDBMS Software for Windows* document for Local SQL Server RDBMS Guidelines. To download this document from the IBM support page, see [“Accessing IBM FileNet Documentation” on page 30.](#)

### Set SQL Environment Variable (SQL Server 2000 only)

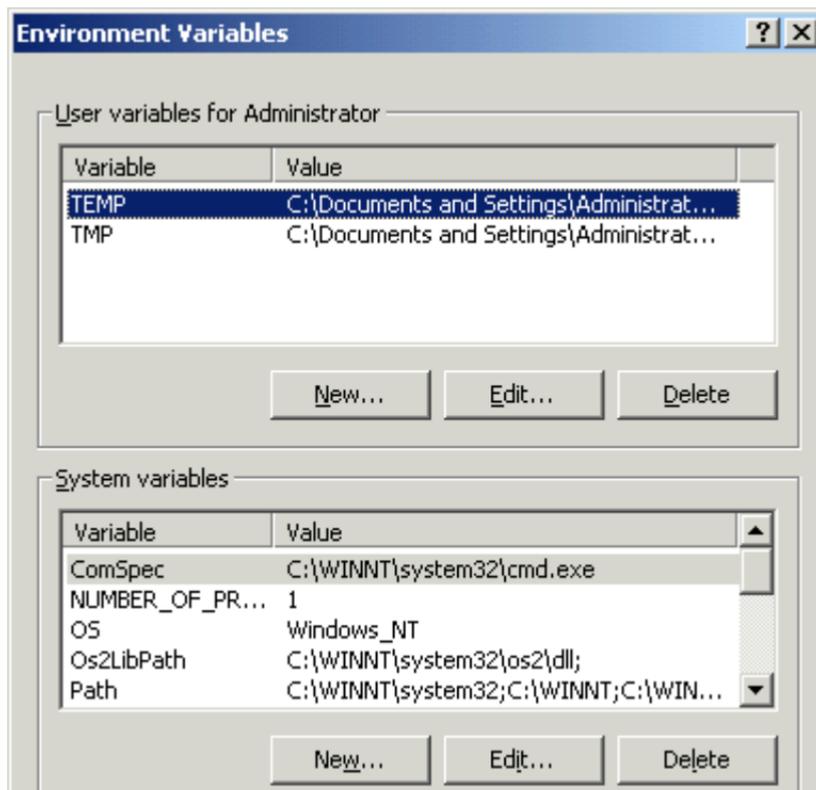
If you are using SQL Server 2005, skip to [“Install FileNet Software” on page 41.](#)

Before starting the installation of FileNet software, set the following environment variable on both nodes. Set the environment variable on the Node 1 server first.

- 1 In the **Control Panel** window, double-click on the **System** icon. The System Properties window opens.

- 2 Locate and click the *Advanced* tab of the System Properties window.
- 3 In the Environment Variables field, click the *Environment Variables...* button.

The Environment Variables dialog box opens.



- 4 In the System Variables field, click **New**.

The New System Variables dialog box opens.



- 5 Enter **ISQLServer** in the Variable Name: box.
- 6 In the Variable Value: box, enter the SQL Network Name of your cluster system.
- 7 Click **OK** to set the variable. The new variable will be added to the list of System Variables in the System Variables: field.

- 8 Click **OK** to exit from the Environment Variables dialog box.
- 9 Click **OK** to exit from the System Properties window.
- 10 Repeat this entire procedure for the second node of your cluster system. After both nodes have set the SQL environment variables, continue with the next section.

## Install FileNet Software

Install the FileNet software on the primary server local drive (Node 1) first.

Install the FileNet software on the Shared Drive and the local drives of each server as follows:

- FNSW (Image Services executables) will be installed on the local drive for each node.
- FNSW\_LOC (Image Services Local Files) will be installed on the shared drive.

**Important** **Do Not** use the same drive letter for the quorum drive and the shared drive. The quorum drive, which is used to store cluster configuration database checkpoints and log files, should be a separate drive from the Shared drive where IS shared files will reside. **The examples shown in this document, use Z or S for the shared drive.**

---

**CAUTION** The domain name and SSN (system serial number) used during the installation procedure **must** be the same for both servers.

---

**Note** The shared drive can only be accessed by one node at a time.

---

This installation procedure can be complicated. To prevent errors, follow the steps in this procedure **exactly** as they are written.

- 1 Refer to **Chapter 1, “Getting Started,”** to ensure that all Hardware and Software requirements and other prerequisites are met for each server node. After ensuring that all requirements have been met, return to this page.
- 2 Shut down node 2.

**Note** Because Cluster Service has already been installed on both nodes, it is important to **keep Node 2 off** so that the rebooting of Node 1 during setup does not cause the cluster supported components, including the shared drive, to failover to Node 2.

---

## Installing Image Services Software on Node 1

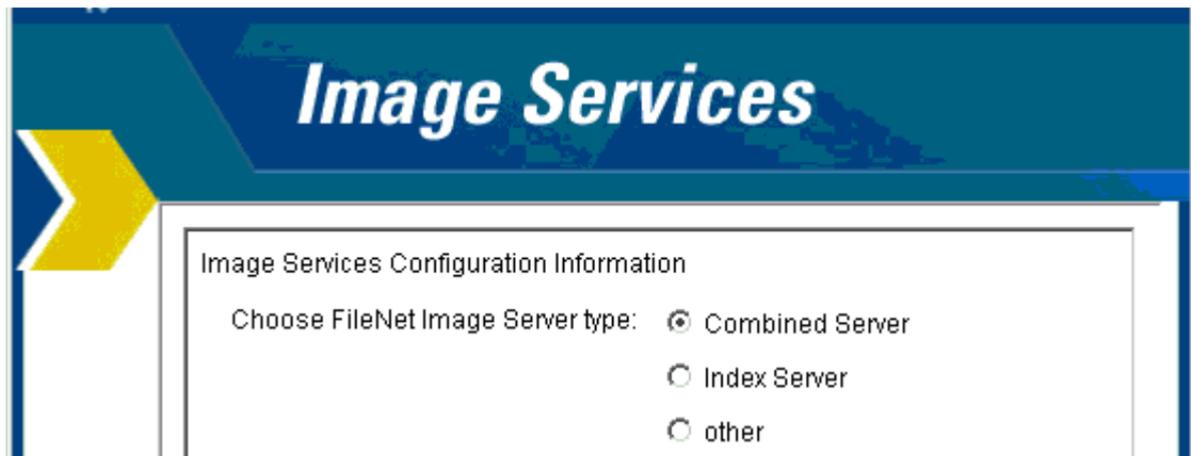
- 1 Turn on power to the Node 1 server **only**. Logon as Windows **Administrator** for the domain.

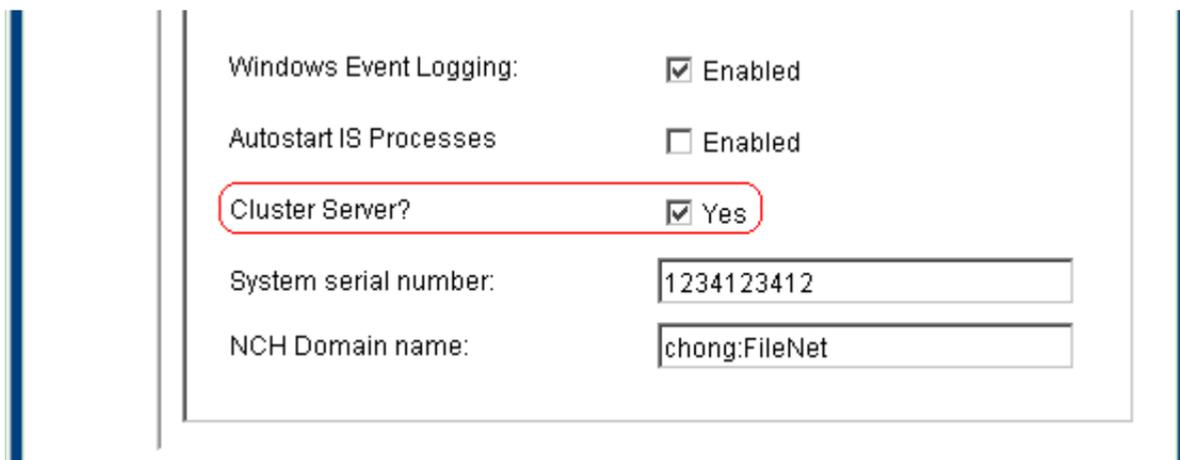
**Note** If you are installing software as a user **without** Full Domain Administrator Rights, logon with the user name and password that you created in the section, **[“Create FileNet Users” on page 256](#)** in Appendix C.

---

- 2 Access the **Image Services 4.1 for Windows Server** on Node 1.
- 3 Follow the instructions in the Image Services 4.1 *Installation and Configuration Procedures for Windows Server* to launch the Image Services installer. To download this document from the IBM support page, see **[“Accessing IBM FileNet Documentation” on page 30](#)**.

- 4 When the End User License Agreement screen displays, click **Yes** to accept the agreement.
- 5 When the Image Services Configuration Information screen displays, locate the check box for “Cluster Server?”.

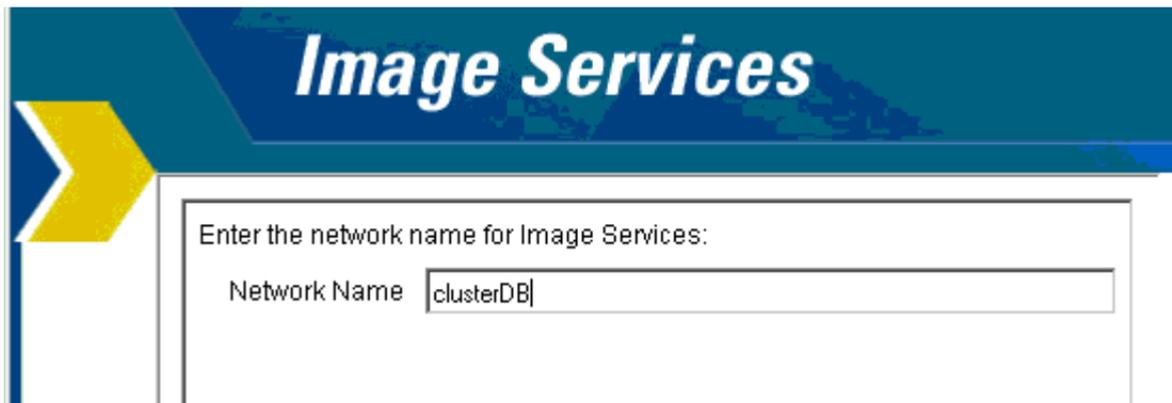




Windows Event Logging:	<input checked="" type="checkbox"/> Enabled
Autostart IS Processes	<input type="checkbox"/> Enabled
Cluster Server?	<input checked="" type="checkbox"/> Yes
System serial number:	<input type="text" value="1234123412"/>
NCH Domain name:	<input type="text" value="chong:FileNet"/>

Make sure it's checked **Yes**, and continue the installation.

- 6 When the Enter Network Name screen displays, enter the network name from your **["Installation Worksheet" on page 27.](#)**



The Network Name must match the SQL Server virtual name used during the SQL Server setup. Click **Next** to continue.

- 7 Continue the Image Services software installation as usual.
- 8 When the installation is complete, reboot the Node 1 server and logon as the FileNet software user, such as **fns**.
- 9 Check the Windows Event Viewer for any errors. Resolve any errors before continuing.

10 Turn on power to the Node 2 server.

---

**Note** **Do not** shut down the Node 1 server unless directed to do so.

---

11 After the Node 2 server comes up, logon as **Administrator** for the domain.

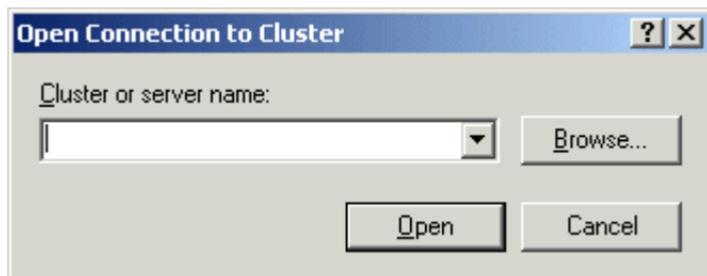
---

**Note** If you are installing software as a user **without** Full Domain Administrator Rights, logon with the user name and password that was created in the section, **“Create FileNet Users” on page 256** of Appendix C.

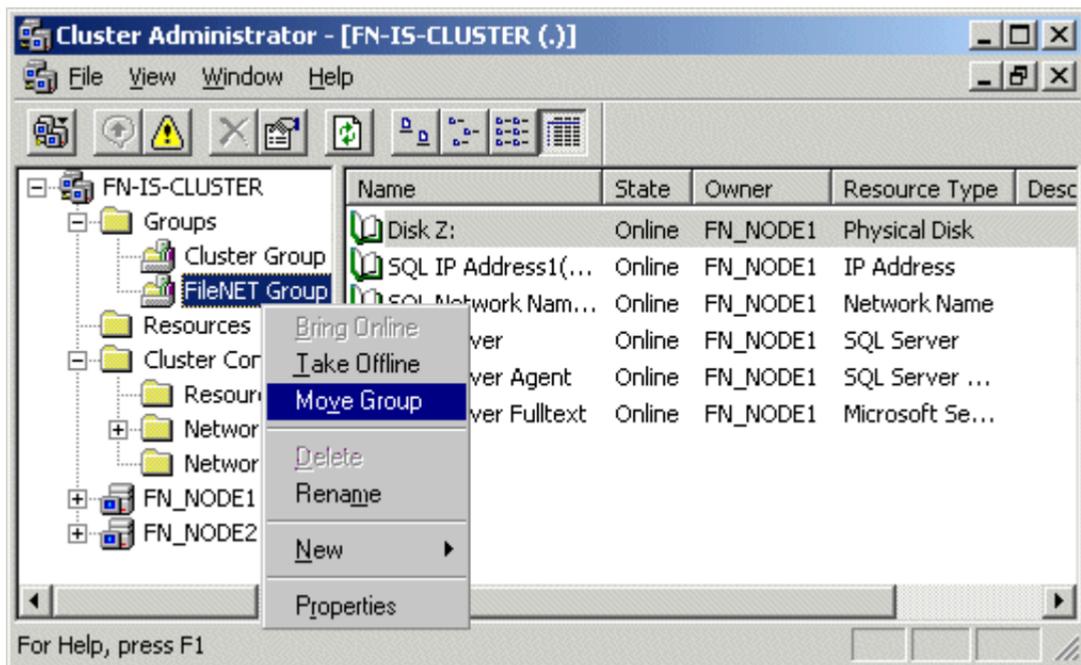
---

12 Open the Cluster Administrator.

13 The Open Connection to Cluster dialog box **might** appear.



- 14 a If the Open Connection to Cluster dialog box appears, continue to **step 15**.
- b If the Open Connection to Cluster dialog box does not appear, skip to **step 17**.
- 15 Click **Browse**, locate the Cluster name, and click **OK**.
- 16 When the Cluster name is in the “Cluster or server name:” box, click **Open**. The Cluster Administrator window appears.

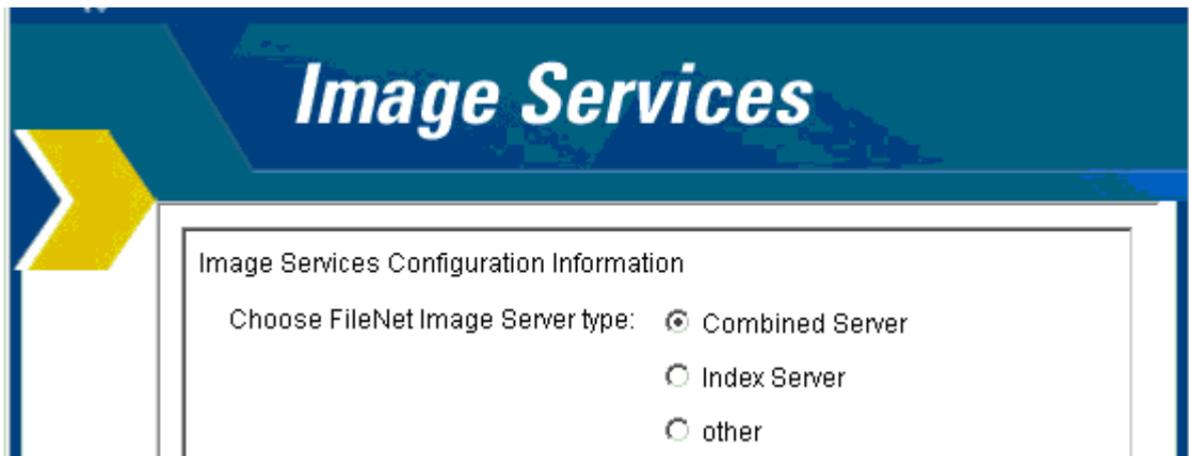


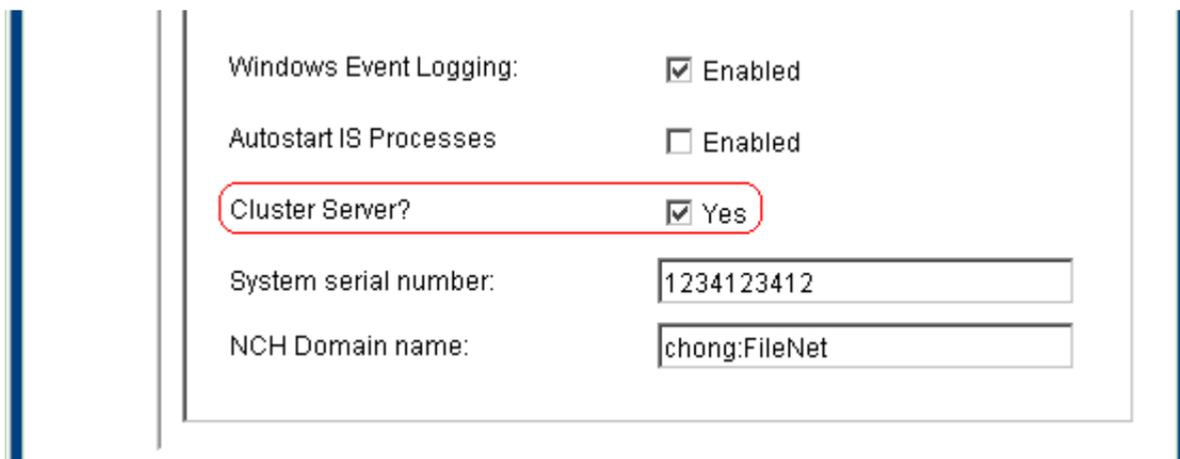
- 17 Right-click on FileNet Group (or the group where SQL Server is located) and click **Move Group**. In a few minutes the Owner of the Cluster Server will switch from Node 1 to Node 2.
- 18 In the Cluster Administrator, verify that the owner of the Cluster Server is now Node 2. Node 2 needs possession of the shared drive in order to setup Image Services correctly in the next section.

### Installing FileNet Software on Node 2

- 1 Access the **Image Services 4.1 for Windows Server** on Node 2.
- 2 Follow the instructions in the Image Services 4.1 *Installation and Configuration Procedures for Windows Server* to launch the Image Services installer. To download this document from the IBM support page, see [\*\*“Accessing IBM FileNet Documentation” on page 30.\*\*](#)
- 3 When the End User License Agreement screen displays, click **Yes** to accept the agreement.

- 4 When the Image Services Configuration Information screen displays, locate the check box for “Cluster Server?”.

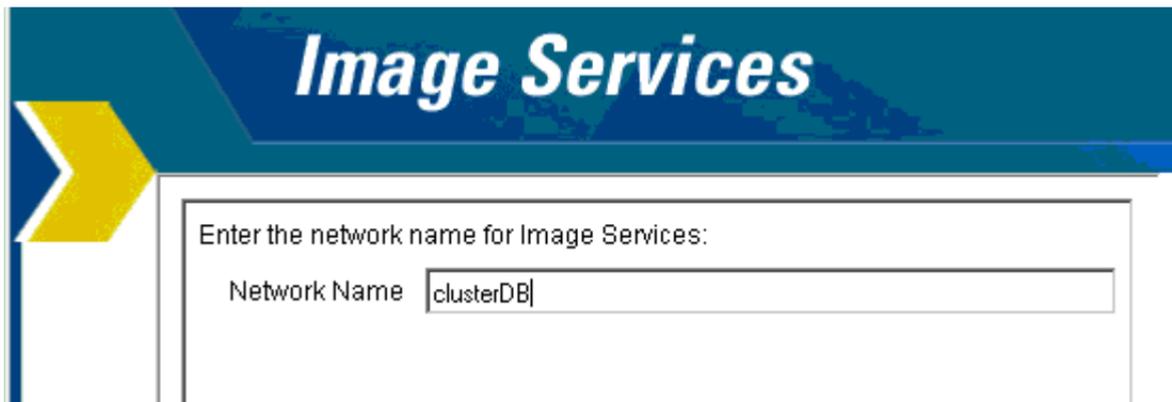




Windows Event Logging:	<input checked="" type="checkbox"/> Enabled
Autostart IS Processes	<input type="checkbox"/> Enabled
Cluster Server?	<input checked="" type="checkbox"/> Yes
System serial number:	<input type="text" value="1234123412"/>
NCH Domain name:	<input type="text" value="chong:FileNet"/>

Make sure it's checked **Yes**, and continue the installation.

- 5 When the Enter Network Name screen displays, enter the network name from your **["Installation Worksheet" on page 27.](#)**



For SQL Server installations, this must match the SQL Server virtual name used during the SQL Server setup. Click **Next** to continue.

- 6 Continue the Image Services software installation as usual.
- 7 When the installation is complete, reboot Node 2. This will automatically move control of the cluster to Node 1.
- 8 While Node 2 is rebooting, open the Cluster Administrator on Node 1.

The Open Connection to Cluster dialog box **might** appear.



- 9 a If the Open Connection to Cluster dialog box appears, continue to **step 10**.
- b If the Open Connection to Cluster dialog box does not appear, skip to **step 12**.
- 10 Click the *Browse* button, locate the Cluster name, and click **OK**.
- 11 When the Cluster name is in the “Cluster or server name:” box, click **Open**. The Cluster Administrator window appears.

- 12 From the Cluster Administrator window, verify that the control of the cluster has been moved to Node 1.

---

**Note** If you want to configure Image Services with SQL Server 2005 Cluster, you **must** install IS 4.1 SP1 **BEFORE** completing any of the configuration steps.

---

## Grant "Logon as Service" Right to the fnsw User

"Logon as Service" right will automatically be granted when the user manually re-enters the password in the Service properties panel for the IS ControlService. A '1069 logon failure' error will occur if the IS ControlService user does not have that right. This should be done whether the user is local or a domain level user.

To guard against this error, the System Administrator, must reset the password for the user with fnsw privileges in the Service Control Panel for the IS service (ISControlService).

- 1 Logon as the FileNet software user, such as **fnsw**, if you aren't already.
- 2 From the Control Panel, open the Administrative Tools folder, and double-click the *Services* icon.
- 3 Right-click *IS ControlService* and the IS ControlService Properties dialog opens.
- 4 In the IS ControlService Properties window, complete the following:

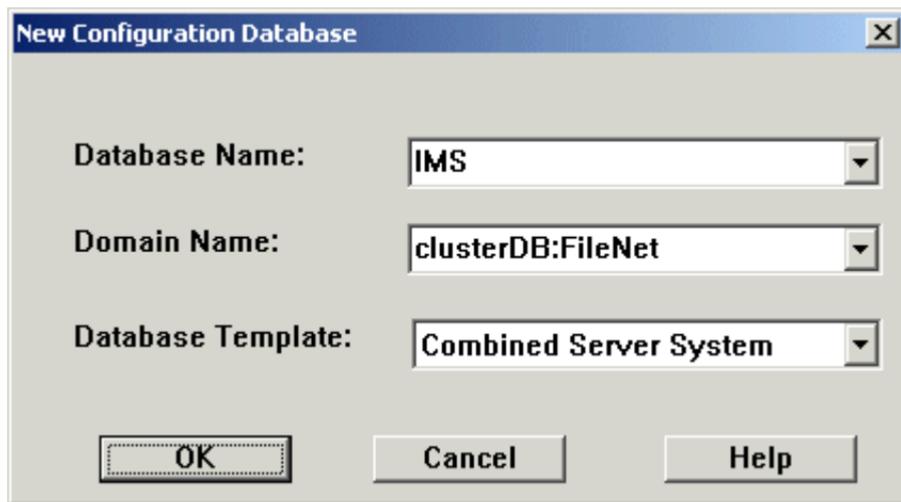
- a Select the Logon tab.
  - b Re-enter the password and confirm the password.
  - c Click **OK** to exit the IS ControlService Properties window.
- 5 Close the Services window.

## Create Configuration Database

Perform the following procedure on the Node 1 server.

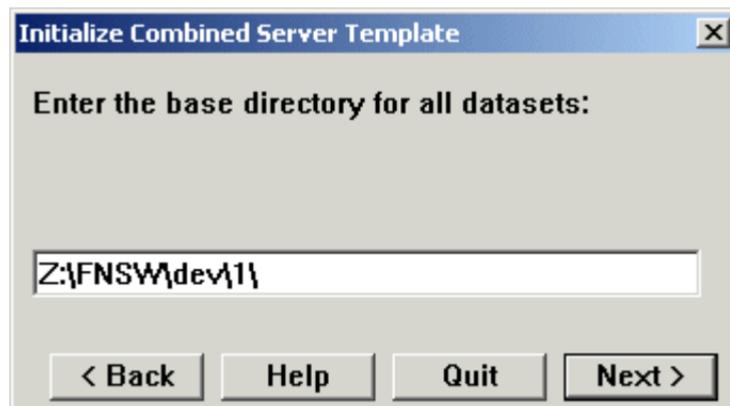
- 1 Open the FileNet System Configuration Editor.

The New Configuration Database window opens.



- 2 Click **OK** to continue.

The Initialize Combined Server Template window opens.



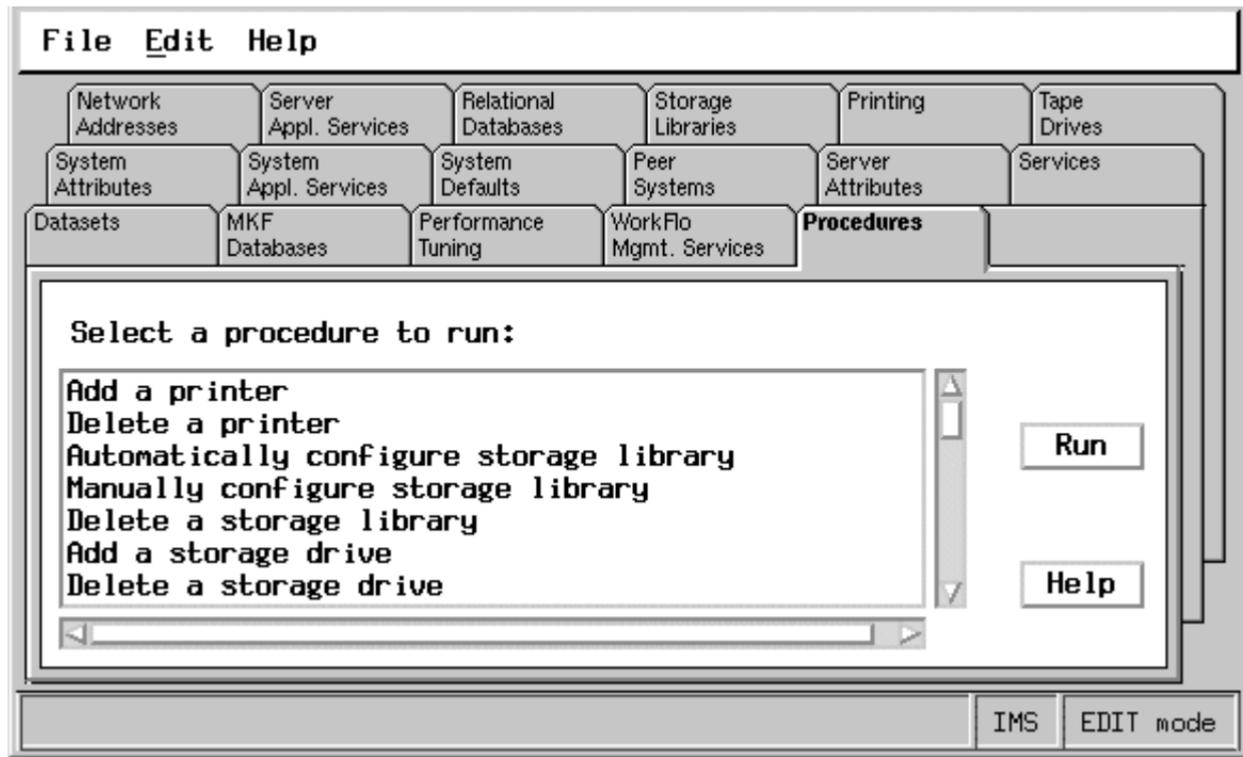
- 3 In the Initialize Combined Server Template window, change the drive letter to the shared drive, and click **Next**.  
In the example above, it is drive Z.
- 4 A series of dialog boxes and prompts for the Combined Server Template appears next. Answer each prompt as appropriate for your site to configure your system.

**Note** **Do not** configure a Storage Library at this time.

---

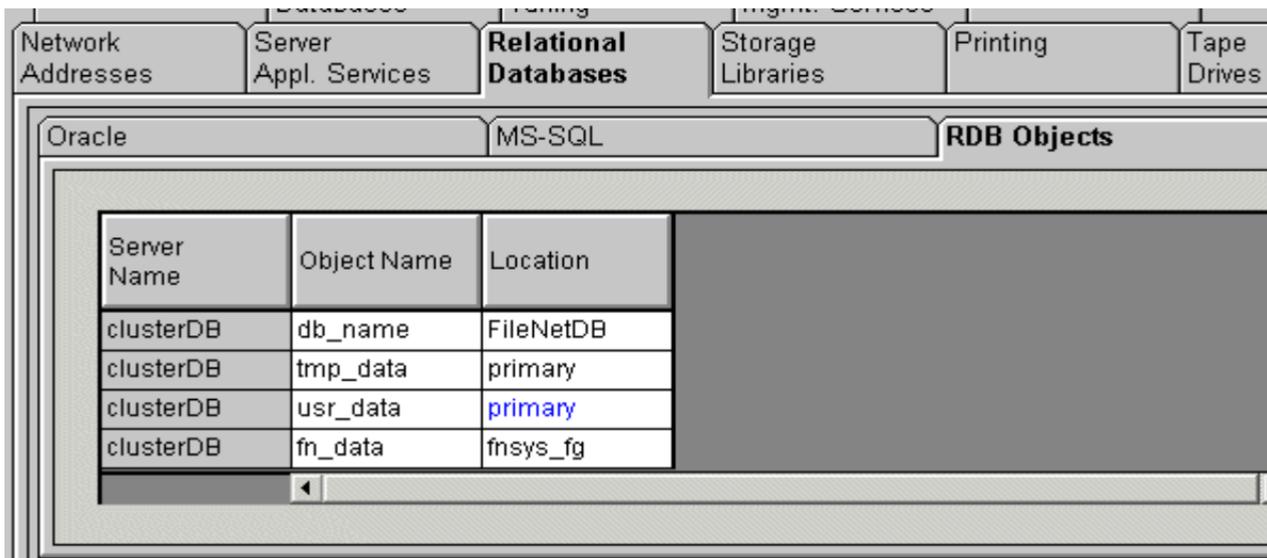
- 5 When your configuration is complete, the “Configuration is Complete...” message appears. Click **Next** to continue.

The *FileNet Image Services System - Configuration Editor* window displays.



**Tip** When you are finished configuring the database, you can select tabs in the Configuration Editor to verify that you entered the information correctly.

- 6 Click the Relational Databases tab, then click the RDB Objects subtab.



- 7 In the Location column of the RDB Objects subtab, click on the location cell for FileNetDB and change the default location to the database file groups you defined in the Chapter 3 of the *Guidelines for Installing/Updating Site-Controlled RDBMS Software for Windows* document. To download this document from the IBM support page, see [\*\*“Accessing IBM FileNet Documentation” on page 30.\*\*](#)
- 8 Click on the MS-SQL subtab. In the Remote SQL Server Name field, enter the virtual hostname of the SQL server group.

---

**Note** Leave the location parameter for fn\_data as is, set to fnsys\_fg.

---

- 9 Exit from the *FileNet Image Services - System Configuration Editor* and save the configuration changes you just made.

## Initialize the Database

As the FileNet software user such as **fns**, initialize the index database and all the MKF databases (includes permanent, transient, and security databases) by entering the following commands on the Image Services server (the Node 1 server):

```
fn_setup_rdb -f
```

```
fn_util init > \fnsw_loc\local\logs\init.log
```

This process may take a while (sometimes up to 30 minutes without any feedback to the user); the larger the datasets, the longer the wait. After the initialization process finishes, the prompt returns.

---

**Note** View the **init.log** file after initializing to verify that there were no errors in the database initialization process.

---

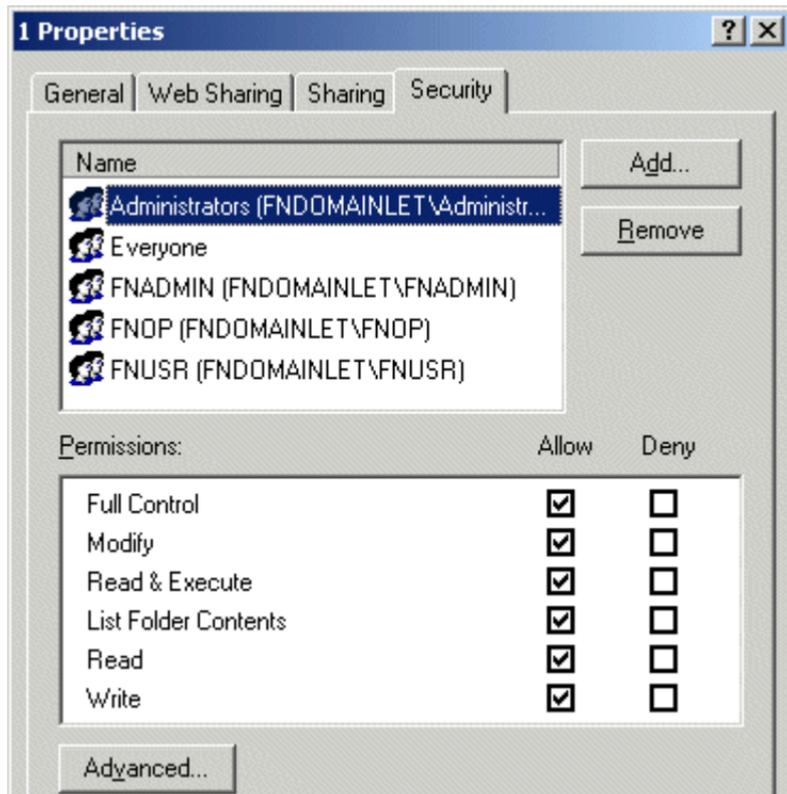
## Verify/Set FileNet Dataset Permissions

Perform the following procedure on the Node 1 server.

Because the FileNet datasets reside on a different drive than the FileNet Image Services software, you must set the group permissions.

- 1 If you aren't already, logon as Domain user **fnsw**.
- 2 Open Windows Explorer, and select a directory containing the desired FileNet dataset, such as Z:\fnsw\dev\1
- 3 From the File menu, select the Properties menu option.
- 4 In the Properties window, select the Security tab.

The Security Properties for \fnsw\dev\1 display on this tab.



- 5 For each group in the table below, set the following permissions in the Security tab dialog box:

Group	Permissions
Administrators*	Full Control
fnadmin	Full Control
fnop	Read & Execute, List Folder Contents, Read, and Write
fnusr	Read & Execute, List Folder Contents, Read, and Write

\* The Administrators group can be listed on the Owners tab which is accessed by clicking the Advanced button on the Security Properties window.

- 6 Click **OK** to set the permissions and close the Properties dialog box.

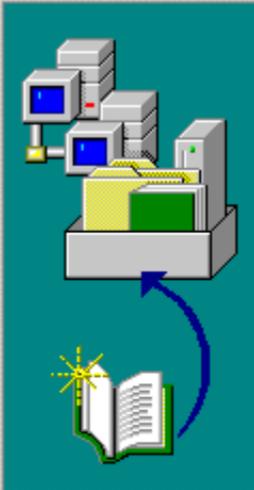
## Add New Resource

Perform the following procedure on the Node 1 server.

- 1 Open the Cluster Administrator.
- 2 Locate and right-click on DiskGroup1 (or the group where SQL Server is located), point to **New** and click **Resource**.

The following dialog box opens.

**New Resource**



FileNet IS

Name: FileNet IS

Description: FileNet Image Services

Resource type: Generic Service

Group: FileNet Group

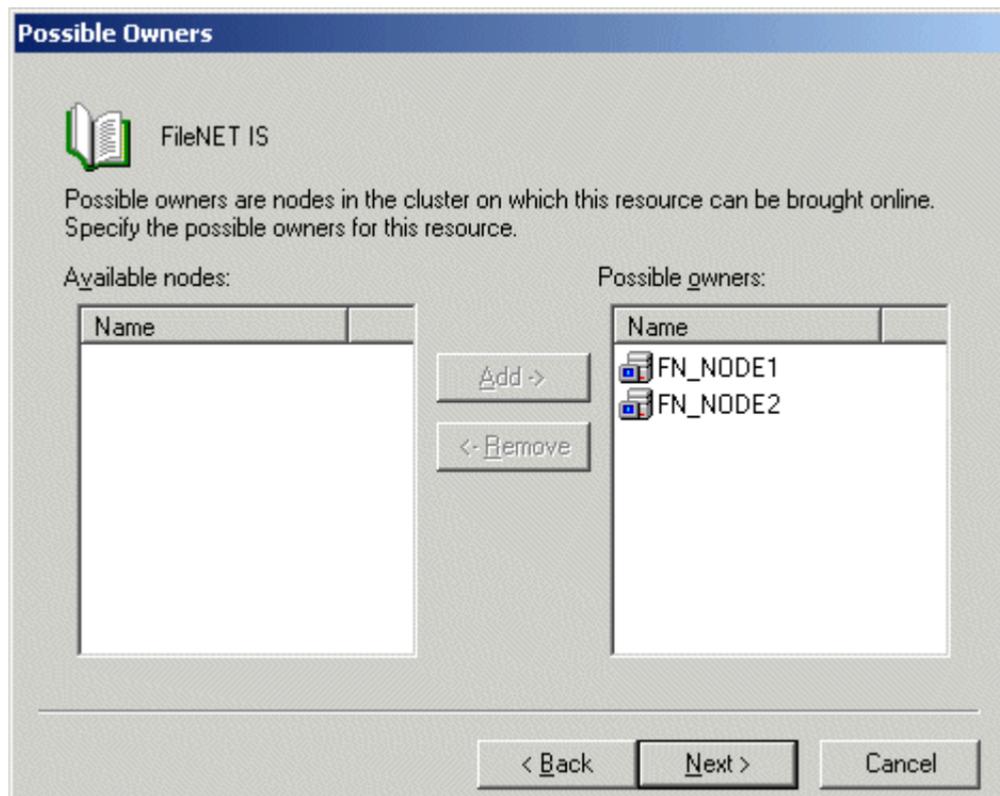
Run this resource in a separate Resource Monitor

To continue, click Next.

< Back   Next >   Cancel

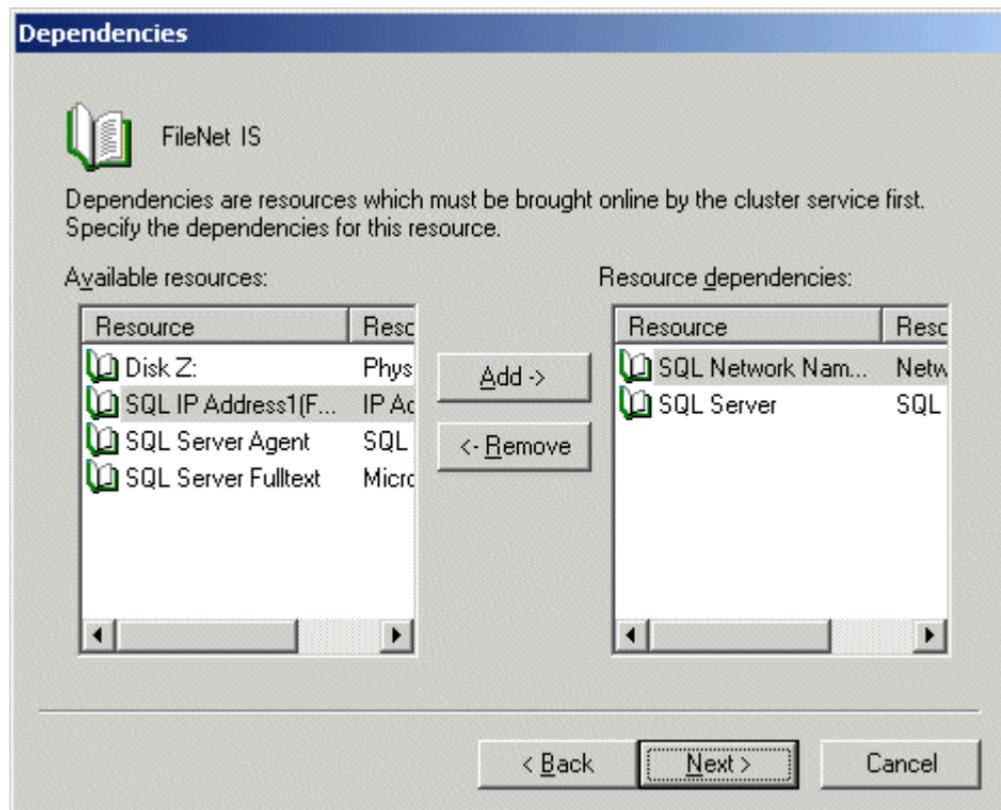
- 3 In the New Resource dialog box, enter the following:
  - a a name for the new resource. For example, FileNet IS.
  - b Enter a description for the new resource. For example, FileNet Image Service
  - c Select Generic Service as the resource type.
- 4 Click **Next** to continue.

The Possible Owners window appears showing the nodes that can be Possible owners.



- 5 Verify that the nodes you want are in the Possible owners list, and click **Next**.

The Dependencies screen appears.



- 6 Select SQL Network Name and SQL Server from the list of Available resources, click the **Add** button, and click **Next**.

The Generic Service Parameters window appears.

**Generic Service Parameters**

 FileNet IS

Service name:

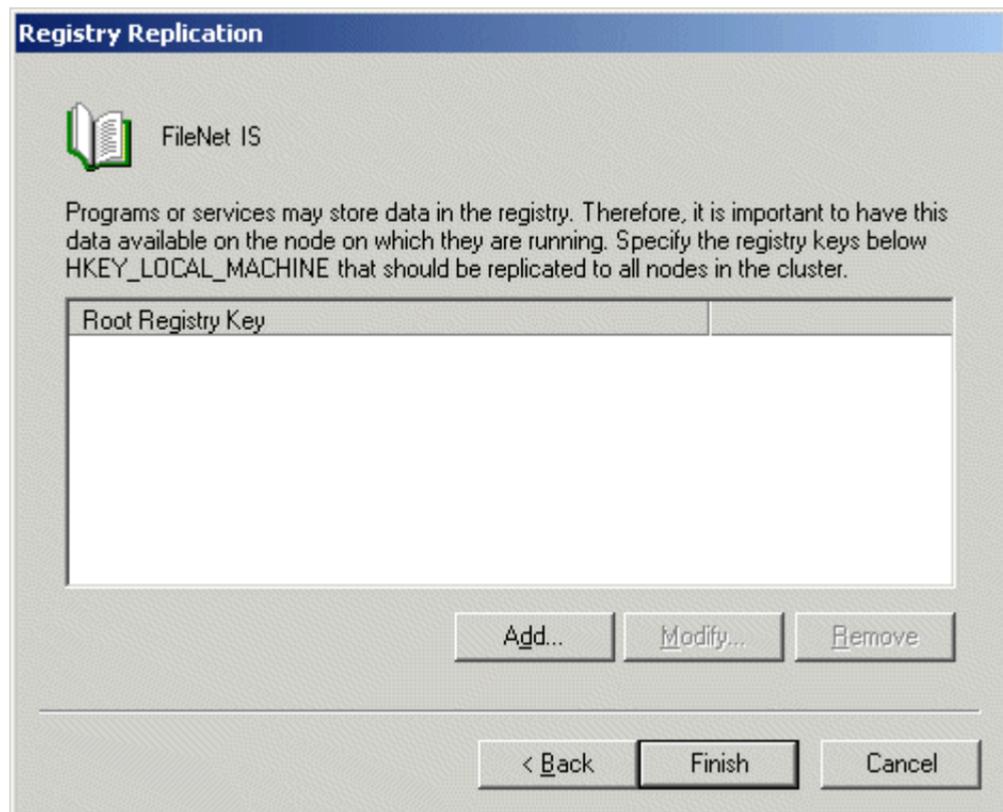
Start parameters:

Use Network Name for computer name

< Back    Next >    Cancel

- 7 In the Generic Service Parameters window, enter IMSService in the Service name: box.
- 8 Check the box, “Use Network Name for computer name” and click **Next**.

The Registry Replication screen appears.



- 9 Click **Finish** at the above dialog box.



- 10 Click **OK** to complete the procedure.

## Create the "LocalAdminInstall" File

Perform this procedure on the Node 1 and Node 2 servers. Use this procedure to create the "LocalAdminInstall" file in the C:\TEMP directory.

---

**Note** If you have used Appendix C to configure your system in Native Mode, the "LocalAdminInstall" file has already been created in the C:\TEMP directory. In this case, skip this procedure and continue to the section, **"Enable Autostart IS Processes Option" on page 80.**

---

- 1 Verify that the Cluster Server software is up and running on each node.
- 2 Open a Command Prompt window.
- 3 Change to the c:\temp directory by entering:

```
cd c:\temp
```

- 4 Enter the command:

```
copy con LocalAdminInstall
```

- 5 Press and hold Ctrl key, and press the Z key.
- 6 Press **Enter**.
- 7 Verify the LocalAdminInstall file was successfully created in the c:\temp directory.

## Enable Autostart IS Processes Option

Perform this procedure on the Node 1 server. Use the **fn\_setup** tool to enable the Autostart IS processes.

- 1 Logon as the FileNet software user with **root** privileges and run the **fn\_setup** utility as follows:

```
\fnsw\bin\fn_setup
```

- 2 Answer all the prompts with information related to your system. Reply to the prompts with the requested information. Answer **y** at the following prompt:

```
Autostart IS Processes (y=yes, n=no) [y]:
```

## Stop IS ControlService

Perform this procedure on the Node 1 and Node 2 servers.

- 1 Open Administrative Tools and double-click the *Services* icon.

The Services dialog box displays.

- 2 Double-click the IS ControlService, in the Services window. The FileNet IS Service Properties dialog box opens.
- 3 Click the *Stop* button to stop the FileNet IS Service. In a few seconds the service status in the FileNet IS Service Properties window will indicate that the service has stopped.
- 4 Click the Startup type drop-down arrow and set the Startup type to **Manual**.
- 5 Click **OK** to exit the IS ControlService Properties window.
- 6 Close the Services window.

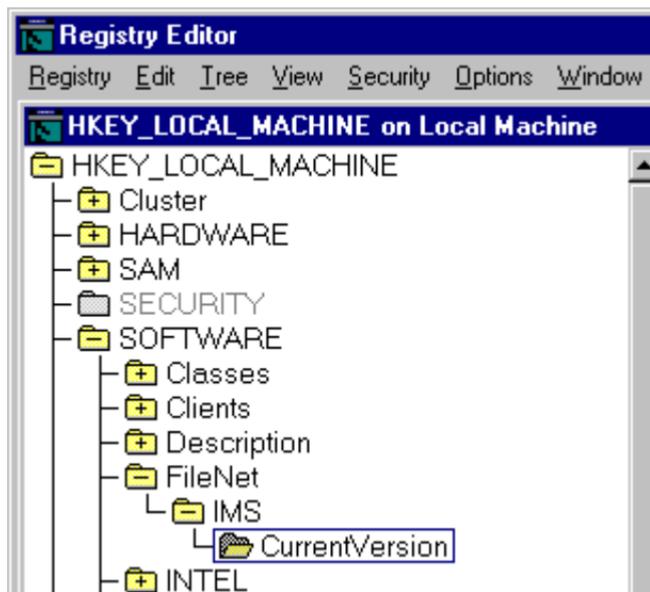
## Add NCHBroadcast Value to Registry Editor

Perform the following procedure on the Node 1 server.

- 1 Open a Command Prompt, and enter the following command:

**regedt32**

The Registry Editor window opens.

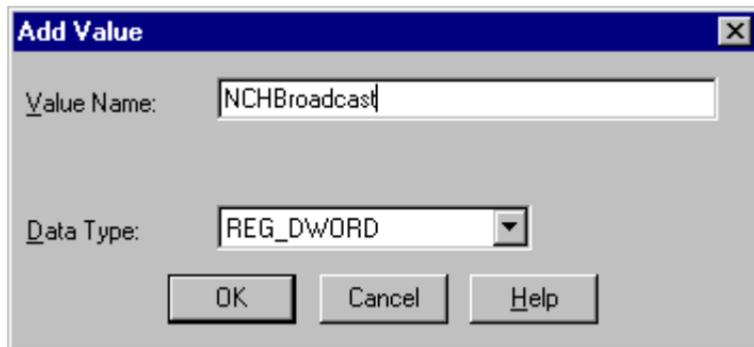


- 2 In HKEY\_LOCAL\_MACHINE on Local Machine, navigate to the CurrentVersion folder using the path:

SOFTWARE>FileNet>IMS>CurrentVersion

- 3 From the Registry Editor Edit menu, select **Add Value**.

The Add Value dialog box opens.



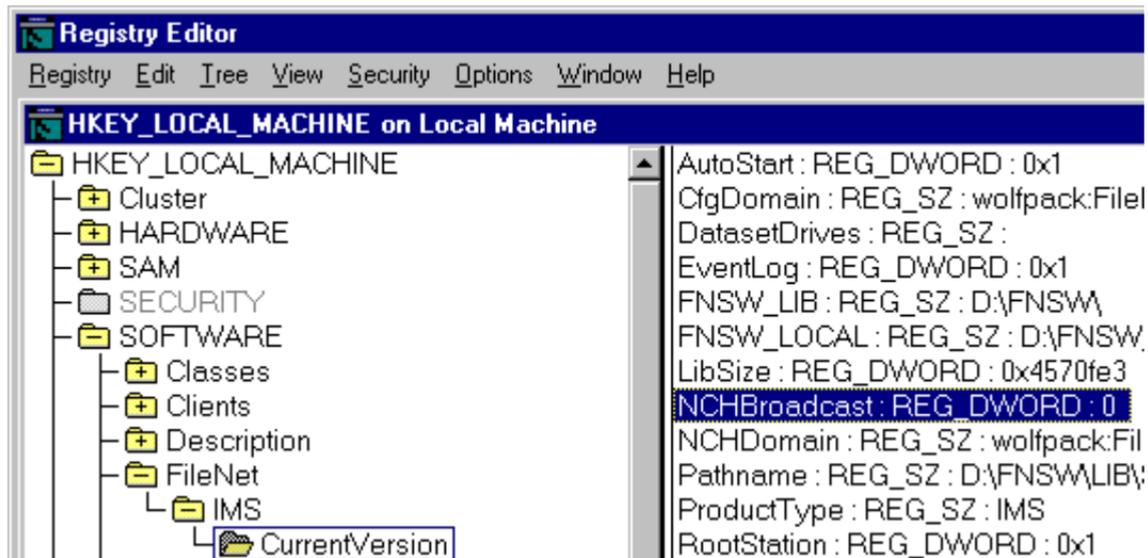
- 4 As shown above, enter NCHBroadcast in the Value Name box, and select REG\_DWORD from the Data Type box drop-down list; then click **OK**.

The DWORD Editor dialog box opens.



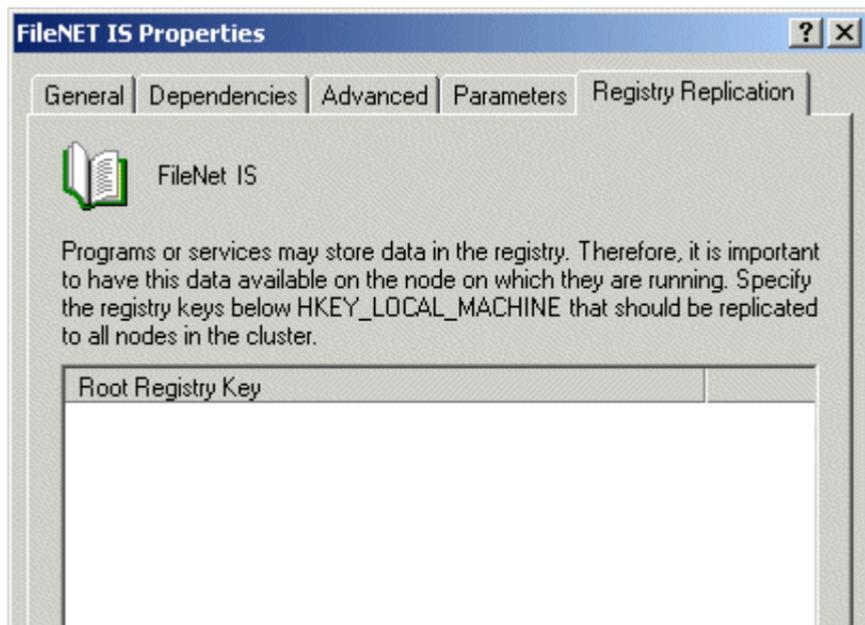
- 5 Enter 0 in the Data box, and click **OK**.

The Registry Editor now shows the new NCHBroadcast entry as shown below.

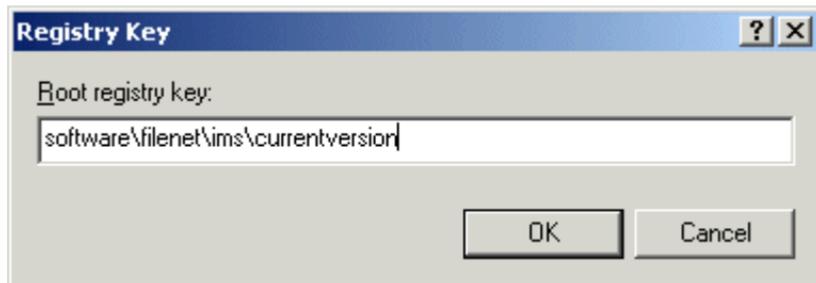


- 6 Close the Registry Editor.
- 7 From the Cluster Administrator window, right-click the FileNet IS and click **Bring Online**.

- 8 From the Cluster Administrator, double-click the FileNet IS resource to display the FileNet IS Properties window.
- 9 Click the Registry Replication tab. The following dialog box appears.



- 10 Click the **Add** button. The Registry Key window opens.



- 11 In the Registry Key box enter the following text,

**software\filenet\ims\currentversion**

- 12 Click **OK** to add the Registry Key.

- 13 Click the **Add** button again and enter the following text,

**system\CurrentControlSet\Services\IMSService**

- 14 Click **OK** to add the Registry Key.

- 15 Click **Apply** to have the changes you made take effect.
- 16 Click **OK** to close the FileNet IS Properties window.

## Set Restart Threshold

In order to insure proper failover, the restart threshold needs to be set to zero.

- 1 Open the Cluster Administrator and select the Active Resources Folder.
- 2 Double-click the *IS ControlService* resource (FileNet IS).

The IS ControlService Properties dialog box opens.

**IS ControlService Properties** [?] [X]

General | Dependencies | **Advanced** | Parameters | Registry Replication

IS ControlService

Do not restart

**Restart**

Affect the group

Threshold:  Period:  seconds

"Looks Alive" poll interval:

Use value from resource type

Specify value:  milliseconds

"Is Alive" poll interval:

Use value from resource type

Specify value:  milliseconds

Pending timeout:  seconds

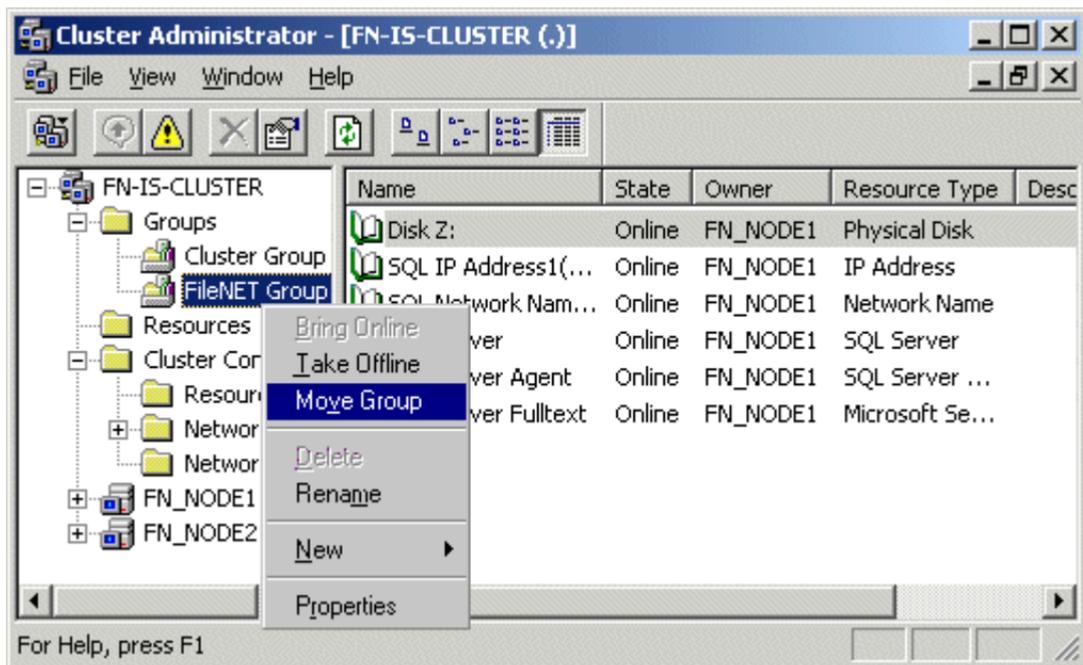
- 3 Select the Advanced tab and do the following:
  - a Select the **Restart** radio button.
  - b Check the **Affect the group** check box.
  - c Verify, or set, the Threshold value to **0**.
- 4 Click **OK**.
- 5 Repeat steps 2 through 4 for the shared drive and the sitedb.

## Test Cluster Server Operation

Perform the procedures in this section to test the failover of Image Services.

### Move Control of Cluster Service to Node 2

- 1 Open the *Cluster Administrator*, if it's not already open.



- 2 Right-click on FileNET Group (or the group where SQL Server is located) and click **Move Group**.

In a few minutes the Owner of the Cluster Server will switch from Node 1 to Node 2. This will test that the Cluster is setup properly and is able to failover Image Services to Node 2.

- 3 Enter the following command:

```
fn_util create_data_source
```

- 4 Verify that Image Services comes up under Cluster control on Node 2.
- 5 Check the Image Services logs on Node 2 to verify that it started without error.

### Move Control of Cluster Service to Node 1

- 1 After all the resources in the group are online at Node 2, *Reboot* the Node 1 server.
- 2 After Node 1 has rebooted, right-click the group and select **Move Group** to move Cluster control back to Node 1.
- 3 Verify that the owner of the Cluster Server is now Node 1.

- 4 Check the Image Services logs on Node 1 to verify that it started without error.

## Connect/Configure Optical Storage Library Devices

This procedure is used to connect and configure your SCSI Optical Storage Devices.

### Connect Storage Library Device

- 1 Logoff both Windows server nodes and turn them off.
- 2 Connect the storage library device to each node, and power the device on.

Wait until the storage library device is ready before you continue to the next procedure.

---

**Note** The storage library device must have its own separate SCSI controller.

---

## Configure SCSI Host Adapter Utility Settings

Use this procedure to configure the SCSI Host Adapter Utility Settings.

---

**Note** The settings in this procedure are for configuring an Adaptec AHA-2944UW SCSI Adapter. Other SCSI adapters can have different settings. Refer to the Microsoft Web site for a list of other supported SCSI adapters.

---

- 1 Turn on power to the Node 1 server and watch the screen as the storage device initializes.

A message will display that tells you what keystroke to enter to access the SCSI Adapter Utility.

For example, if you see the following message, you would press CTRL+A:

**<<<Press <CTRL><A> for SCSISelect(TM) Utility!>>>**

**Note** The manufacturer of the SCSI adapter determines what keystroke you need to enter to access the SCSI Adapter Utility. For example, the Adaptec 2944 uses the keystroke, **CTRL+A**.

---

- 2 While the SCSI adapter for the optical library is initializing, type **CTRL+A** (or other keystroke) to access the SCSI Adapter Utility.

The SCSI Adapter Utility opens.

- 3 Select the option to configure the Host Adapter Settings.
- 4 Verify the Host Adapter SCSI ID is 7.

**Note** The setting for each node must be different and Node 1 should already be set to 7.

---

- 5 Change the Host Adapter SCSI Termination to, “Low OFF/High OFF”
- 6 Select Advanced Configuration Options and make the following changes:
  - a Verify that the Host Adapter BIOS is set to, “Enabled”

b Change the Support removable disks under BIOS as fixed disks to “Disabled”

7 Save the changes and exit the SCSI Adapter Utility. The Node 1 server will automatically reboot.

8 After the server automatically reboots, logon as the FileNet user, such as **fns**.

9 Open a Command Prompt window, and enter the following command:

**fnddcfg**

When the command is finished, you will receive a message instructing you to reboot the server to make the changes effective.

10 Reboot the Node 1 server, and logon again as the FileNet user, such as **fns**.

11 Open a Command Prompt window, and enter the following command:

**fndev**

- 12 The physical addresses of all attached storage library devices should appear.
- 13 Turn off power to the Node 1 server.

---

**Note** Since the Host Adapter Settings have been changed, Node 1 must be off to prevent Node 2 from hanging as it starts up.

---

- 14 Turn on power to the Node 2 server and watch the screen as the storage device initializes.

A message will display that tells you what keystroke to enter to access the SCSI Adapter Utility.

For example, if you see the following message, you would press CTRL+A:

**<<<Press <CTRL><A> for SCSISelect(TM) Utility!>>>**

**Note** The manufacturer of the SCSI adapter determines what keystroke you need to enter to access the SCSI Adapter Utility. For example, the Adaptec 2944 uses the keystroke, **CTRL+A**.

---

- 15** While the SCSI adapter for the optical library is initializing, type **CTRL+A** (or other keystroke) to access the SCSI Adapter Utility.

The SCSI Adapter Utility opens.

- 16** Select the option to configure the Host Adapter Settings.

- 17** Change the Host Adapter SCSI ID to 6.

**Note** The setting for each node must be different and Node 1 should already be set to 7.

---

- 18** Change the Host Adapter SCSI Termination to, “Low OFF/High OFF”

- 19** Select Advanced Configuration Options and make the following changes:

- a Verify that the Host Adapter BIOS is set to, “Enabled”
  - b Change the Support removable disks under BIOS as fixed disks to “Disabled”
- 20** Save the changes and exit the SCSI Adapter Utility. The Node 2 server will automatically reboot.
- 21** After the server automatically reboots, logon as the FileNet software user, such as **fns**.
- 22** Open a Command Prompt window, and enter the following command:
- fnddcfg**
- Once the command is finished, you will receive a message instructing you to reboot the server to make the changes effective.
- 23** Reboot the Node 2 server, and logon again as the FileNet software user, such as **fns**.
- 24** Open a Command Prompt window, and enter the following command:

### **fndev**

- 25 The physical addresses of all attached storage library devices should appear.
- 26 Turn-off power to the Node 2 server.

---

**Note** Node 2 is turned off to prevent it from starting-up before Node 1 in the next procedure.

---

## **Automatically Configure Storage Library**

- 1 Turn-on power to the Node 1 server.
- 2 When Node 1 is ready, logon as the FileNet software user, such as **fns**w, or Windows **Administrator** for the domain.
- 3 Open the Cluster Administrator and select the Active Resources Folder.

- 4 Right-click the *IS Control/Service* resource (FileNet IS), and select *Take offline*.
- 5 Open the *FileNet Image Services System Configuration Editor*.
- 6 Verify that the two-part domain information is correct, and click **OK**.

The FileNet Image Services System Configuration Editor window opens with the Procedures tab displayed.

- 7 From the Procedures tab, select Automatically Configure a Storage Library from the list of available procedures.
- 8 Click **Run**.
- 9 After you have completed configuring the storage library, exit the System Configuration Editor and save your changes.
- 10 At a Command Prompt, run the following command to initialize the configuration database:

**fn\_build -a**

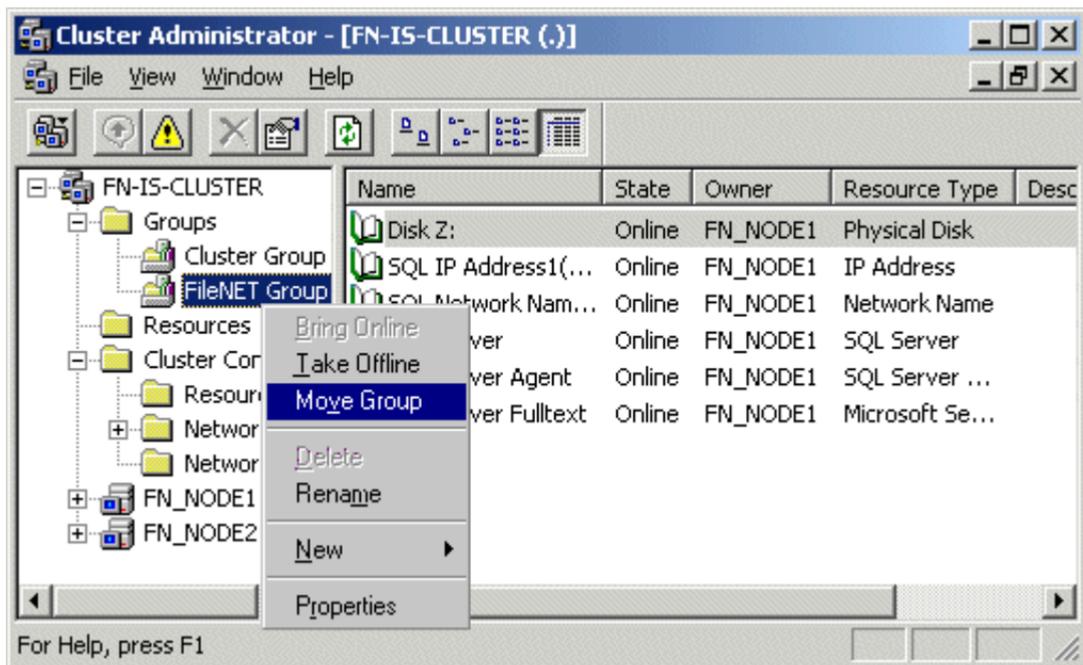
- 11 At the Cluster Administrator window, select the Active Resources Folder.
- 12 Right-click the *IS Control/Service* resource (FileNet IS), and select **Bring online**.
- 13 Check the following logs for any errors that would indicate that the IS did not start correctly.
  - a Open the Windows Event Viewer and check the Application and System Logs.
  - b Open the FileNet Task Manager and check the Event Logs.
  - c Resolve any errors before continuing.

## Move Control of Cluster Server to Node 2

This procedure will test that control of the cluster server and the Storage Library Device can be moved from one node to another.

- 1 Turn-on power to the Node 2 server and logon as **fns** or Windows **Administrator** for the domain.
- 2 When Node 2 is ready, move control of the FileNet group to Node 2.
  - a From the **Taskbar** at either node, click the **Start** button, point to **Programs**, point to the **Administrative Tools (Common)**, and click **Cluster Administrator**.

The Cluster Administrator window opens.



- b Right-click on FileNet Group (or the group where SQL software is located) and click *Move Group*. In a few minutes the Owner of the Cluster Server will switch from Node 1 to Node 2.
  - c Verify that the owner of the Cluster Server is now Node 2.
- 3 Use FileNet Task Manager (or other means) to verify that the Image Services software processes started successfully.
- 4 This procedure is completed. If you want to move control of the cluster back to node 1, you can do so now.

## Cluster Server Installation Completed

Congratulations. You have successfully installed and configured Cluster Service on your system.

### **CAUTION**

---

If you decide to test the cluster server and force a fail-over with the Image Services software setup and functioning, you must reboot the failed node before it can be considered ready for an actual use. Until this server node is rebooted it will not be ready to take over if the other node fails.

---

# Installing a Microsoft Cluster Server System with an Oracle Relational Database

This chapter contains information for installing a Microsoft Cluster Server system using an Oracle relational database.

## Install Oracle Software

This section describes how to install the Oracle database and Oracle Fail Safe Manager software.

---

**Note** Install the database software first and then Oracle Fail Safe Manager.

---

## Install Oracle RDBMS Software

**Note** The supported versions are 9i Release 2 (9.2.0.8) and Oracle 10g Release 2 (10.2.0.2 and up).

---

Perform this procedure on the Node 1 server first and then on Node 2.

To install the Oracle database software, refer to the Oracle installation documentation (found on the Oracle CD-ROM) and the Oracle guidelines in the *Guidelines for Installing/Updating Site-Controlled RDBMS Software for Windows* document. To download this document from the IBM support page, see [\*\*“Accessing IBM FileNet Documentation” on page 30.\*\*](#)

After the Oracle database installation is completed, all resources must reside in only one group. Use the Cluster Administrator to check that all resources have been added to the same group.

## Install Oracle Fail Safe Software Release 3.3.3 or Higher

Perform this procedure on the Node 1 server first and then on Node 2.

Refer to the Oracle installation documentation found on the Oracle CD-ROM to install the Fail Safe Manager. You can download Oracle Fail Safe software from Oracle's Web site.

## Create the SiteDB

Perform this procedure on the Node 1 server.

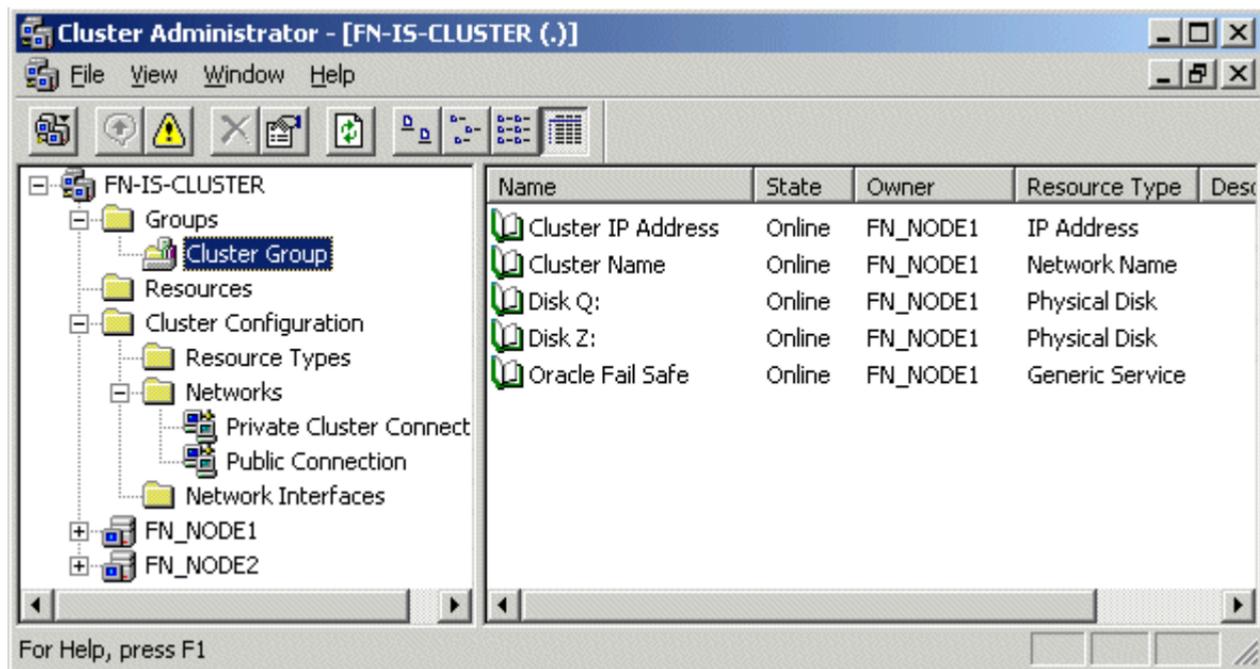
Refer to the Oracle installation documentation (found on the Oracle CD-ROM) and the Oracle guidelines in the *Guidelines for Installing/Updating Site-Controlled RDBMS Software for Windows* document. To download this document from the IBM support page, see [“Accessing IBM FileNet Documentation” on page 30.](#)

## Add Oracle SiteDB Group

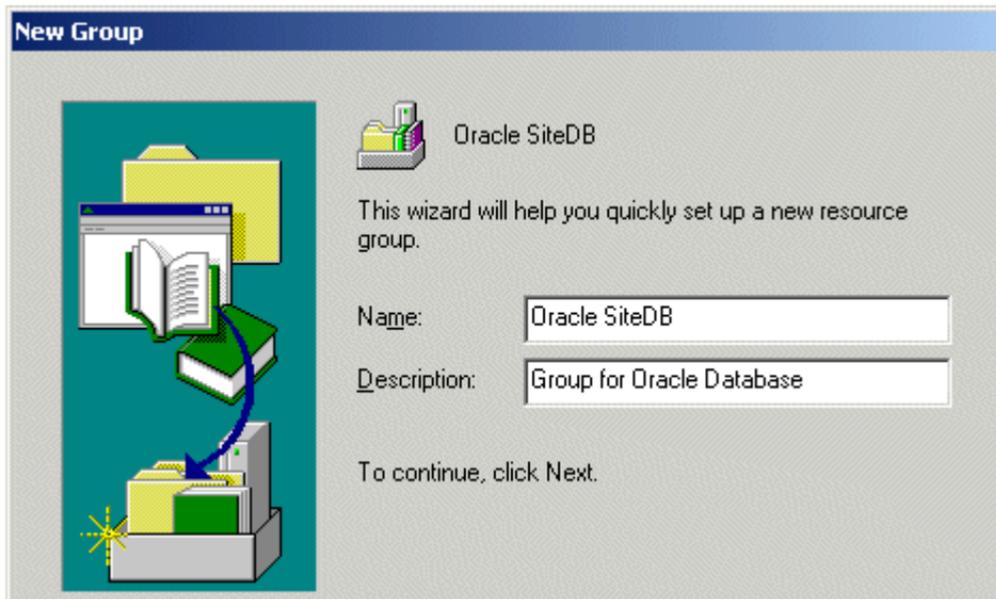
Perform this procedure on the Node 1 server.

Follow these steps to add the Oracle SiteDB group.

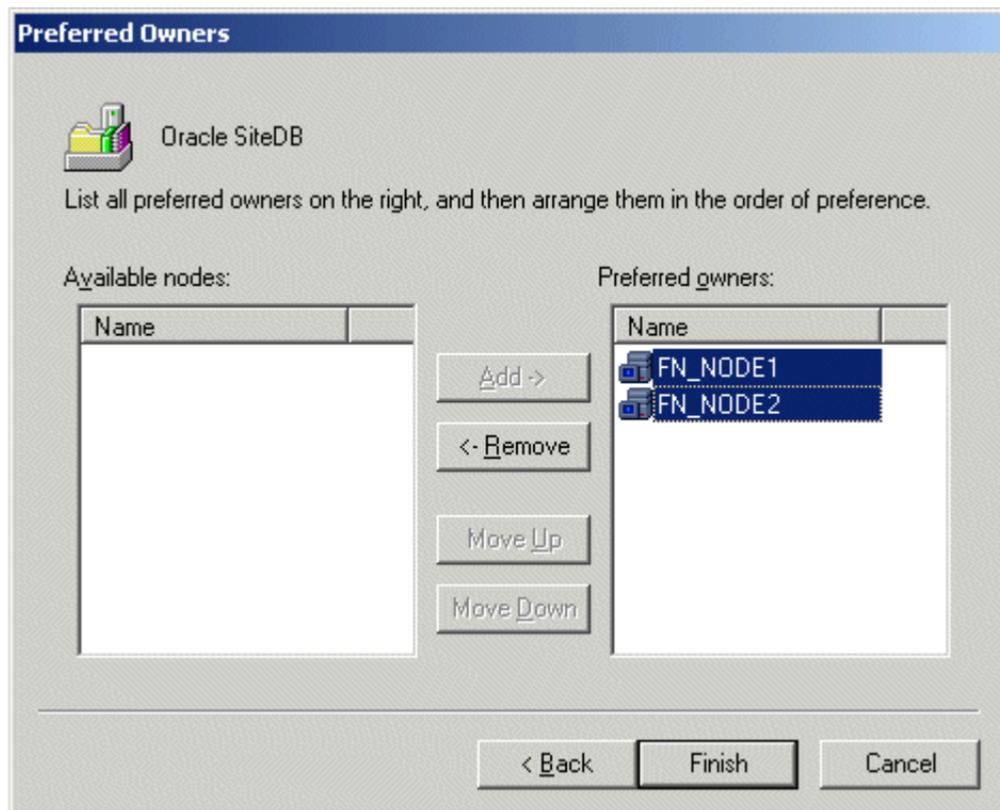
- 1 Open the Cluster Administrator. The Cluster Administrator window opens.



- 2 Right-click on Cluster Group and select **New Group**. The New Group window opens.



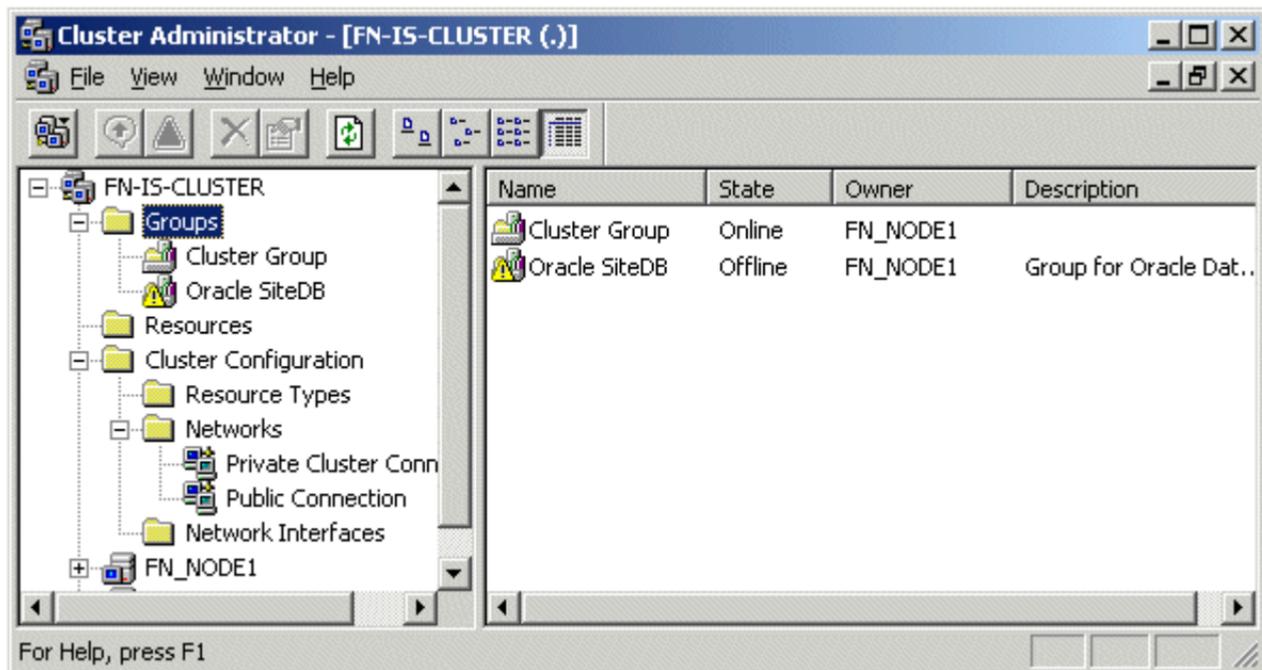
- 3 Enter the name and description for the new group and click **Next**.



- 4 In the Preferred Owners window, verify that the two cluster nodes are listed in the Preferred Owners list and click **Finish**.



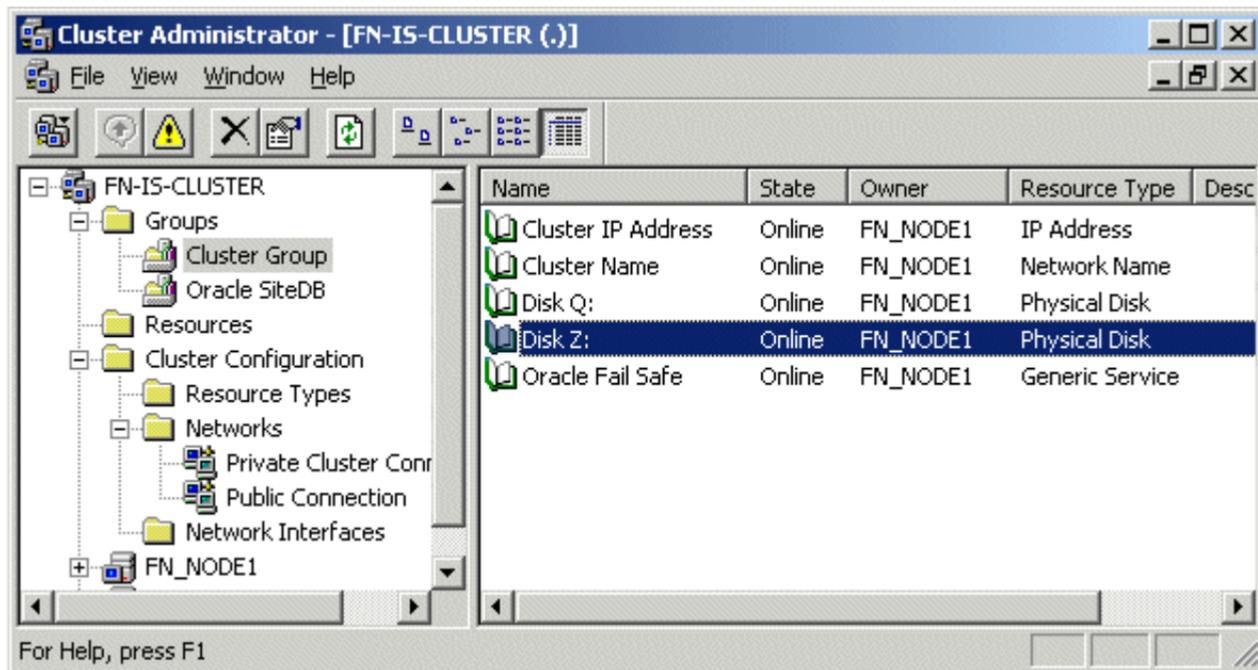
- 5 Click **OK** at the above message window. The Cluster Administrator window re-appears with the Oracle SiteDB listed in the Groups folder.



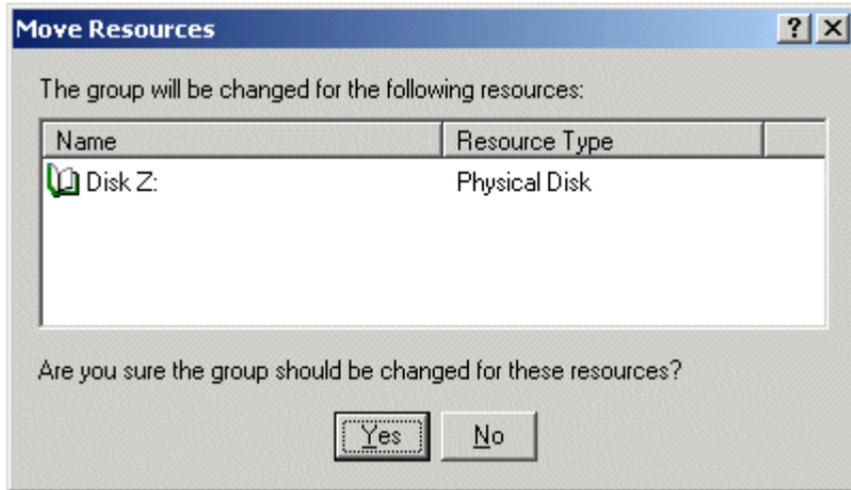
- 6 Right-click the Oracle SiteDB group and select **Bring Online**. The state of the Oracle SiteDB group will change from Offline to Online.

## Move Shared Drive to Oracle SiteDB Group

- 1 Select Cluster Group to list the Cluster Group resources.



- 2 Right-click on the shared drive (Drive Z in the above example), select Change Group, and click **Oracle SiteDB**. This will move the shared drive (Drive Z) to the Oracle SiteDB group.
- 3 Click **Yes** at the Cluster Administrator confirmation dialog box to confirm the move.



- 4 Click **Yes** again at the Move Resources confirmation window. The Cluster Administrator re-appears showing the shared drive (Drive Z) listed in the Oracle SiteDB resources.

## Configure Cluster Service for Oracle

All configuration of cluster for Oracle **MUST** be done using the Oracle Fail Safe Manager.

---

**Note** Oracle File Safe Manager information contained in this section is for reference only. If issues are encountered as a result of the installation or configuration of Oracle Fail Save Manager please refer to the documentation that was provided or contact Oracle support.

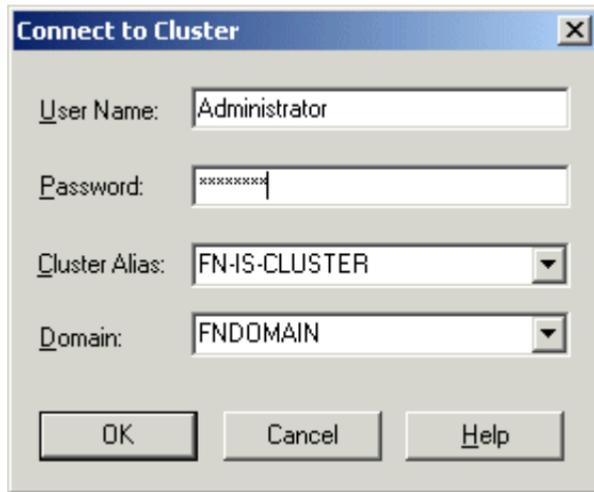
---

---

**Caution** Before you can start the Oracle Fail Safe Manager you **MUST** first close the Cluster Administrator on both Node 1 and Node 2 servers. The Cluster Administrator **cannot** be opened at the same time as the Fail Safe Manager.

---

- 1 Close the Cluster Administrator, or verify that it is closed, on both the Node 1 and Node 2 servers.
- 2 Start the Oracle Fail Safe Manager from the Programs folder in the start menu. The following dialog box appears.

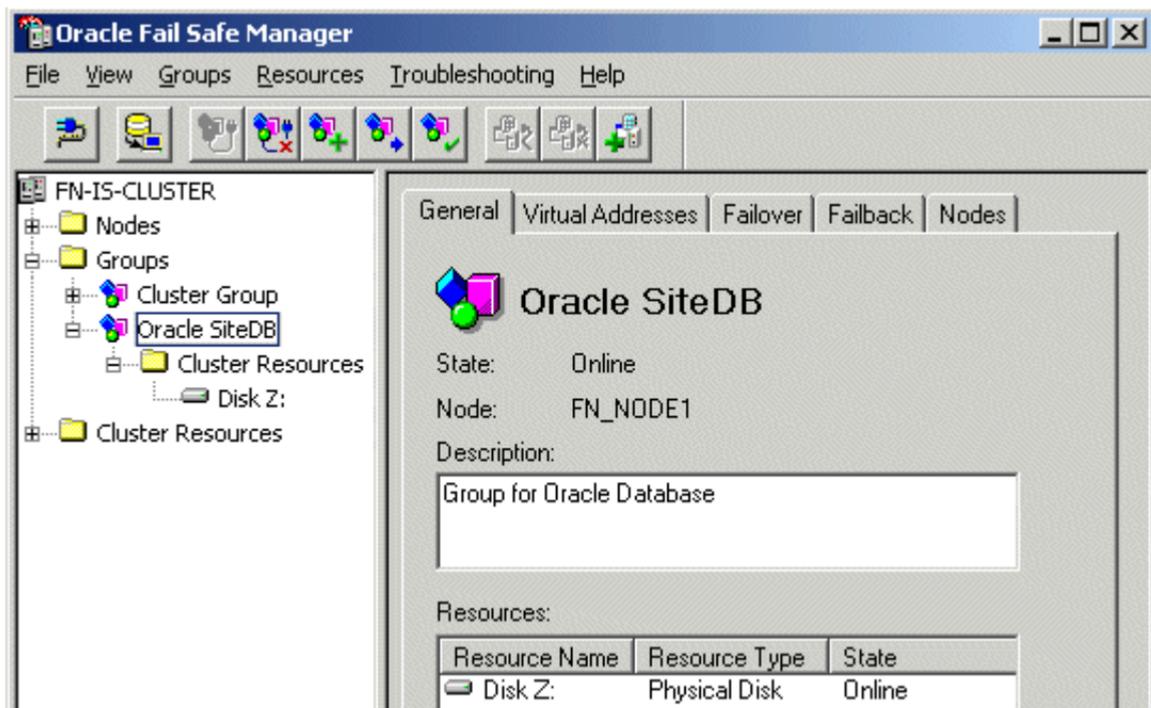


- 3 Enter the user name and password, select the Cluster Alias and Domain, and click **OK**. The Oracle Fail Safe Manager opens.

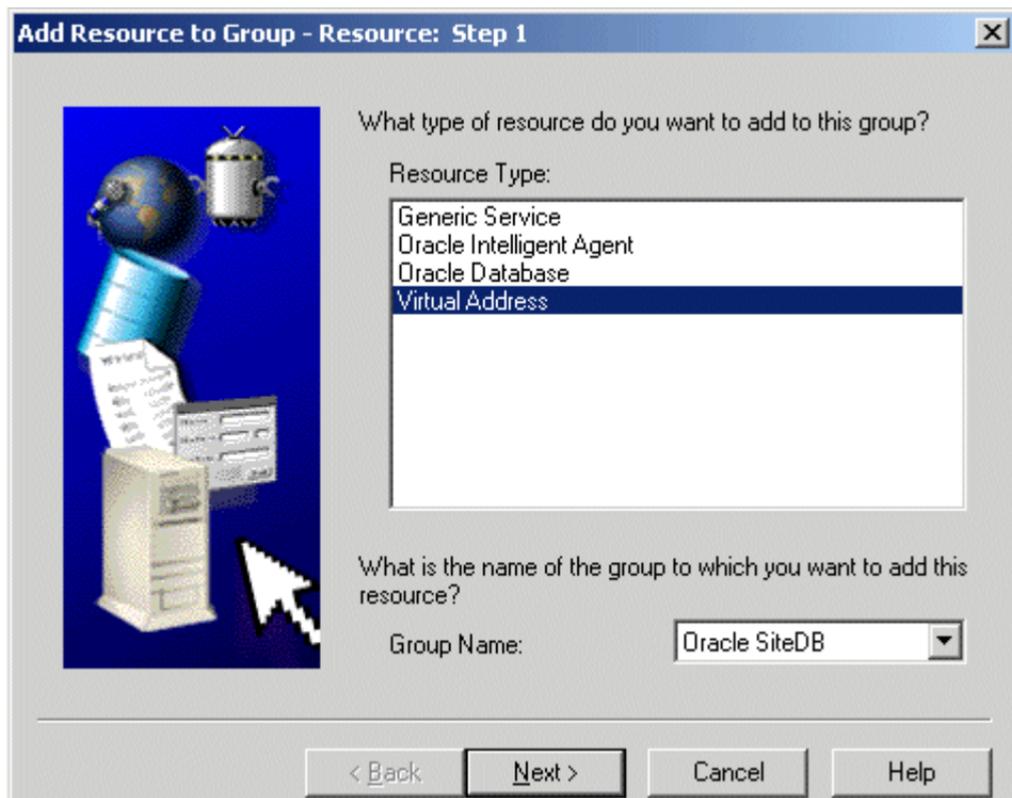
---

**Note** If you have not verified your cluster by this time you will be prompted to do so now. Do not continue until all problems have been resolved.

---

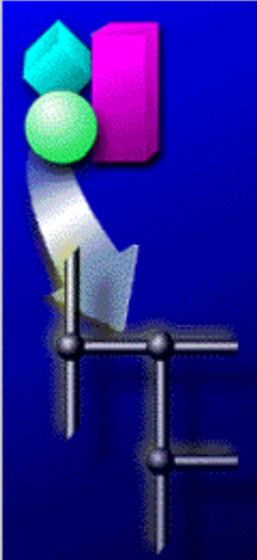


- 4 Right-click on Oracle SiteDB group and select **Add Resource to Group**.



- 5 In the Add Resource to Group - Resources dialog box, select, or verify, the Group Name is Oracle SiteDB.
- 6 Select the resource, Virtual Address, and click **Next**.

**Add Resource to Group - Virtual Address: Step 2 of 2** [X]



A virtual address is defined by the network on which it runs, its host name, and the associated IP address.

Network:

Show networks accessible by clients  
 Show networks private to the cluster

Network:

Subnet Address:

Subnet Mask:

Virtual Address:

Host Name:

IP Address:

< Back   Finish   Cancel   Help

- 7 To add the Virtual Address resource, enter or verify the following:
  - a The radio button, “Show networks accessible by clients” is checked.
  - b In the Network drop-down list box enter, or select, the connection appropriate for your site.
  - c In the Host Name box, enter the Oracle network name.

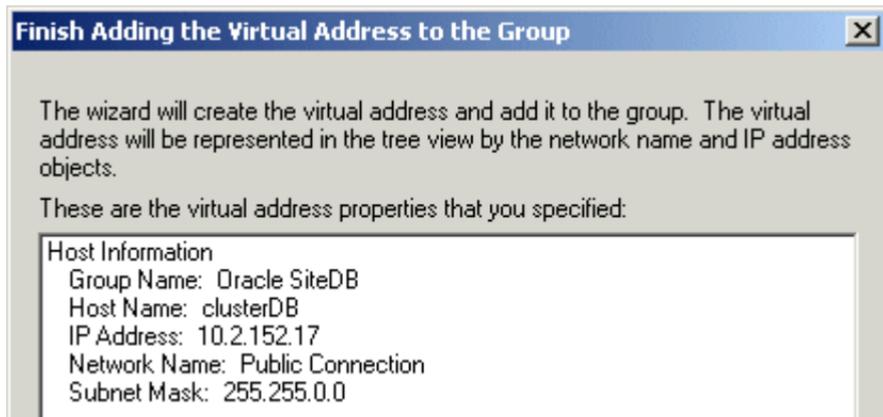
---

**Note** For the Oracle network name and IP address, refer to the [“Installation Worksheet” on page 27.](#)

---

- d In the IP Address box, enter the IP address for the host.
- e Click **Finish**.

A window similar to the following appears showing the properties you entered for the virtual address resource.



- 8 Verify the properties above and click **OK**.

The Oracle Fail Safe Manager re-appears showing the Network Name and IP Address you added for the virtual address resource.

The screenshot displays the Oracle Fail Safe Manager interface. The left-hand tree view shows the hierarchy for the cluster 'FN-IS-CLUSTER', including 'Nodes', 'Groups', 'Cluster Group', 'Oracle SiteDB', 'Cluster Resources', and 'Cluster Resources'. The 'Oracle SiteDB' resource is selected, and its configuration is shown in the main pane.

The main pane has tabs for 'General', 'Virtual Addresses', 'Failover', 'Failback', and 'Nodes'. The 'General' tab is active, showing the following information:

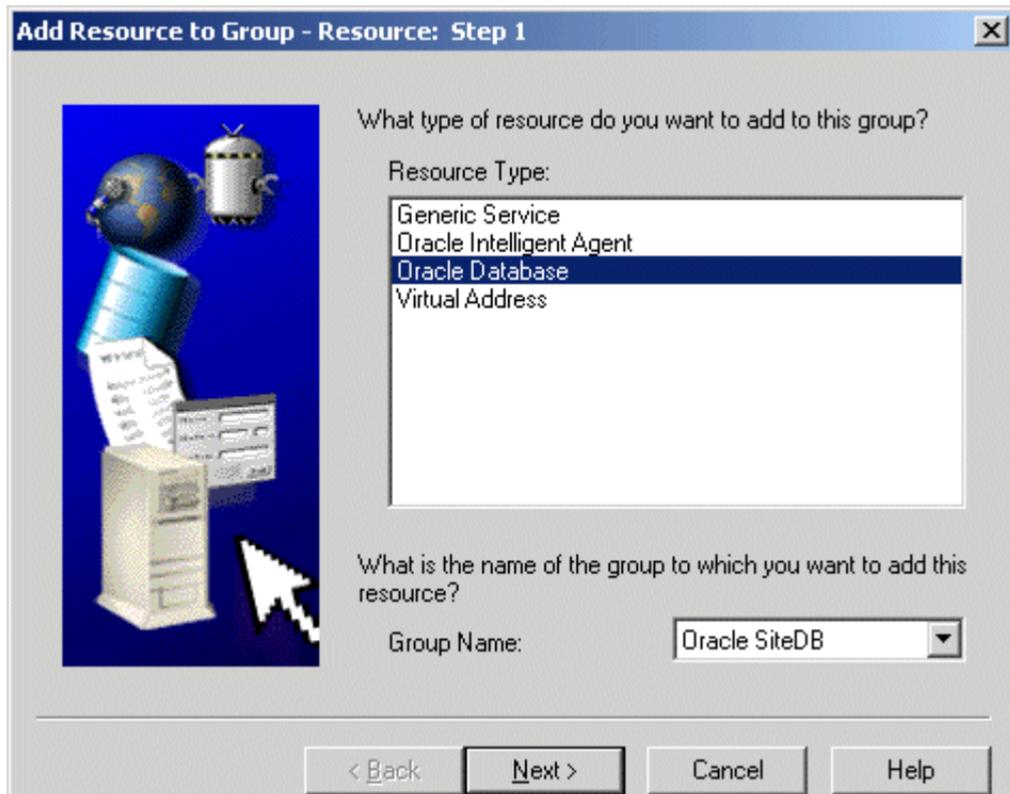
- State:** Online
- Node:** FN\_NODE1
- Description:** Group for Oracle Database

Below the description, the 'Resources' section contains a table listing the resources associated with this group:

Resource Name	Resource Type	State
Disk Z:	Physical Disk	Online
IP Address 1...	IP Address	Online
Network Na...	Network Name	Online

- 9 Right-click on Oracle SiteDB and select, **Add Resource to Group**.

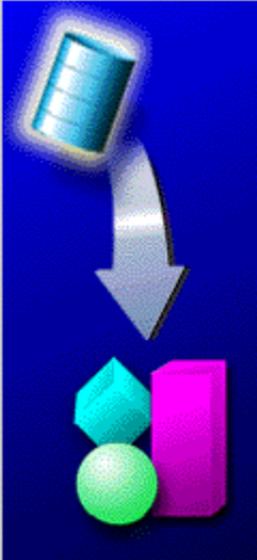
The Add Resource to Group dialog box appears.



- 10 In the Add Resource to Group - Resources dialog box, select, or verify, the Group Name is Oracle SiteDB.
- 11 Select the resource, Oracle Database, and click **Next**.

The Add Resource to Group - Database Identity dialog box opens.

**Add Resource to Group - Database Identity: Step 2 of 3** [X]



Group Name: Oracle SiteDB

What is the identity of the database?

Service Name:

Instance Name:

Database Name:

What is the name of the initialization parameter file?

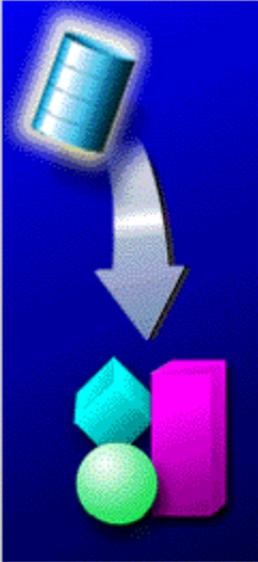
Parameter File:

< Back   Next >   Cancel   Help

- 12** Enter, or verify, the following information:
- a Enter or select the database Service Name.
  - b Enter the database Instance Name.
  - c Enter the Database Name.
  - d Enter the initialization parameter file name.
  - e After entering the information above, click **Next**.

The following dialog box opens.

**Add Resource to Group - Database Authentication: Step 3 of 3**



Oracle Fail Safe Server must access the database for configuration information. What is the Internal account password?

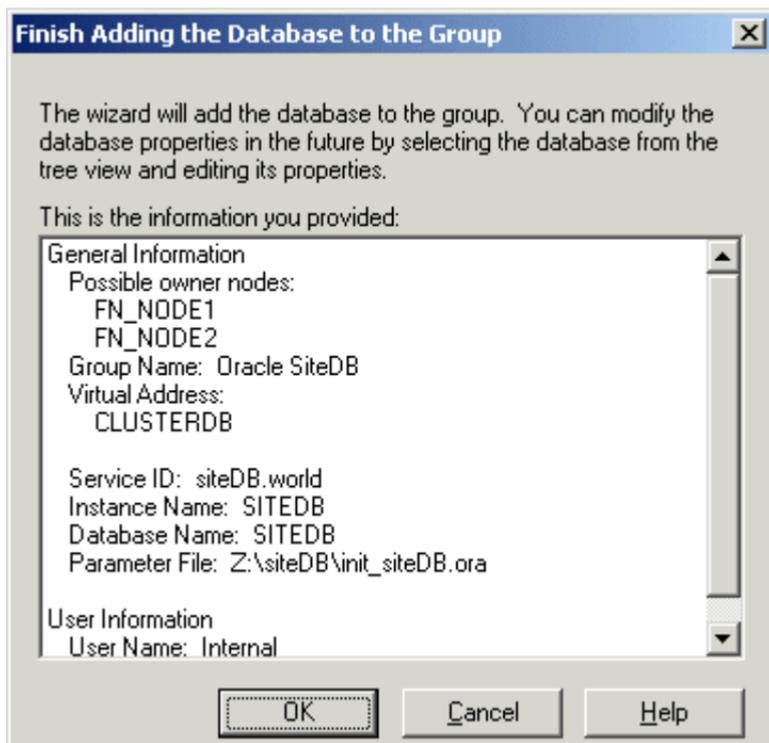
User Name:

Password:

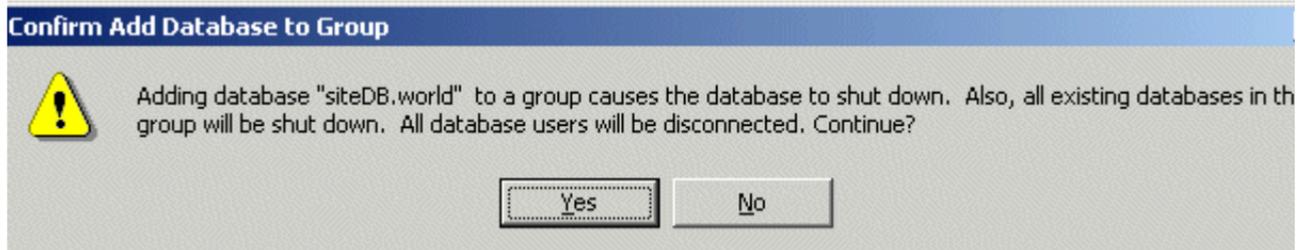
Confirm Password:

< Back   Finish   Cancel   Help

- 13** Fill-in the boxes for User Name, Password, and Confirm Password, and click **OK**.



- 14 Verify the information that appears in the window above is correct, and click **OK**. The Confirm Add Database to Group message window appears.



- 15 Read the message in the window above and click, **Yes**.
- 16 A window appears showing the status of the new database as it is being added. Read the output of this screen and then close the window.

A message window appears showing that the operation completed successfully.



- 17 Click **OK** at the window above.

The Oracle Fail Safe Manager re-appears showing the database service name added as the Oracle SiteDB database resource.

The screenshot displays the Oracle Fail Safe Manager interface. The left pane shows a tree view for the 'FN-IS-CLUSTER' with the following structure:

- Nodes
- Groups
  - Cluster Group
  - Oracle SiteDB
- Cluster Resources
  - Disk Z:
  - IP Address 10.2.152.17
  - Network Name clusterDB
  - OracleoraHome81TNSListe
  - siteDB.world
- Cluster Resources

The right pane shows the 'General' tab for the 'FN-IS-CLUSTER'. It displays the nodes in the cluster and the status of the groups:

Nodes in the Cluster:

FN_NODE1	Up
FN_NODE2	Up

Groups:

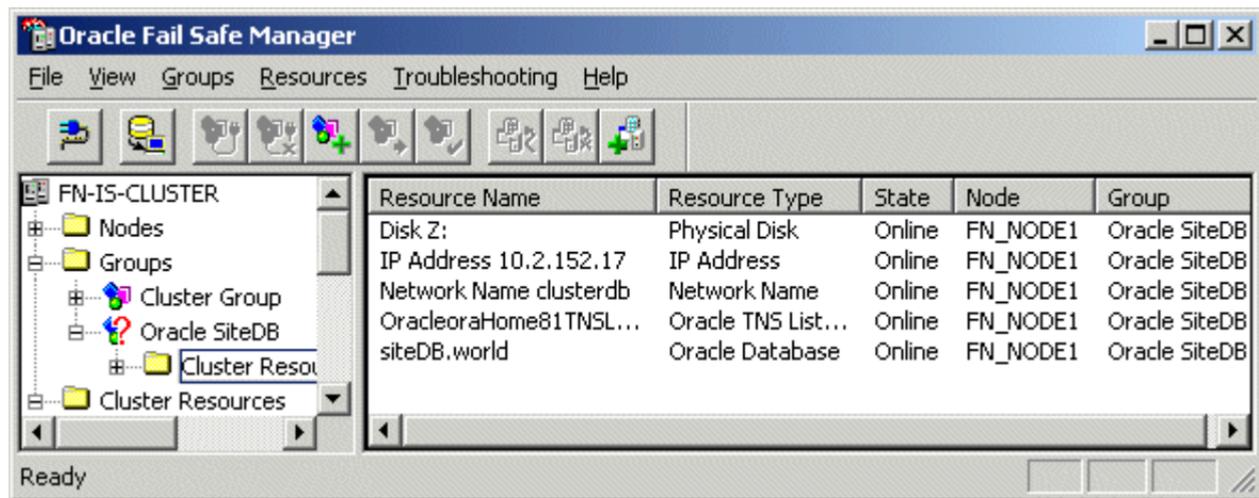
Cluster Group	Online
Oracle SiteDB	Online

## Test Cluster Failover

Before you install the FileNet software in the next section, it's important that you test your system to make sure that it will failover successfully from node 1 to 2, and then back to node 1.

### Move Control of Cluster Service to Node 2

- 1 Open the Oracle Fail Safe Manager.



- 2 Right-click on Oracle SiteDB group (or the group where Oracle is located) and click **Move to a Different Node**.  
In a few minutes the Owner of the Cluster Server will switch from Node 1 to Node 2. This will test that the Cluster is setup properly and is able to failover to Node 2.
- 3 Verify that Oracle comes up under Cluster control on Node 2.

- 4 Using the path, \<ORACLE\_HOME>\rdbms\trace\, check the Oracle logs on Node 2 to verify that it started without error.

## Move Control of Cluster Service to Node 1

- 1 After all the resources in the group are online at Node 2, *Reboot* the Node 1 server.
- 2 After Node 1 has rebooted, right-click the group and select **Move to a Different Node** to move Cluster control back to Node 1.
- 3 Verify that the owner of the Cluster Server is now Node 1.
- 4 Check the Oracle logs on Node 1 to verify that it started without error.

## Install FileNet Software

Install the FileNet software on the primary server local drive (Node 1) first. Install the FileNet software on the Shared drive and the local drives of each server as follows:

- FNSW (Image Services executables) will be installed on the local drive of each node using the same drive letter on each node.

---

### CAUTION

It is crucial that the same drive letter be used on each node when installing Image Services executables on the local drive. If different drive letters are used, the system will not be able to failover.

---

- FNSW\_LOC (Image Services Shared Files) will be installed on the shared drive.

---

### Important

**Do Not** use the same drive letter for the quorum drive and the shared drive. The quorum drive, which is used to store cluster configuration database checkpoints and log files, should be a separate drive from the Shared drive where IS shared files will reside. **The examples shown in this document, use Z or S for the shared drive.**

---

**Note** The shared drive can only be accessed by one node at a time.

---

**CAUTION** The domain name and SSN (system serial number) used during the installation procedure **must** be the same for both servers.

---

This installation procedure can be complicated. To prevent errors, follow the steps in this procedure **exactly** as they are written.

- 1 Refer to **Chapter 1, “Getting Started,”** to ensure that all Hardware and Software requirements and other prerequisites are met for each server node. After ensuring that all requirements have been met, return to this page.
- 2 Shut down Node 2.

**Note** Because Cluster Service has already been installed on both nodes, it is important to **keep Node 2 off** so that the rebooting of Node 1 during setup does not cause the cluster supported components, including the shared drive, to failover to Node 2.

---

## Installing FileNet software on Node 1

- 1 Turn on power to the Node 1 server **only**. If you aren't already, logon as Windows **Administrator** for the domain.

---

**Note** If you are installing software as a user **without** Full Domain Administrator Rights, logon with the user name and password that was created in the section, **“Create FileNet Users” on page 256** of Appendix C.

---

- 2 Access the **Image Services 4.1 for Windows Server** software on Node 1.
- 3 Follow the instructions in the Image Services 4.1 *Installation and Configuration Procedures for Windows Server* to launch the Image Services installer. To download this document from the IBM support page, see **“Accessing IBM FileNet Documentation” on page 30**.
- 4 When the End User License Agreement screen displays, click **Yes** to accept the agreement.

- 5 When the Image Services Configuration Information screen displays, locate the check box for “Cluster Server?”.

# Image Services

## Image Services Configuration Information

Choose FileNet Image Server type:  Combined Server  
 Index Server  
 other

Windows Event Logging:  Enabled

Autostart IS Processes  Enabled

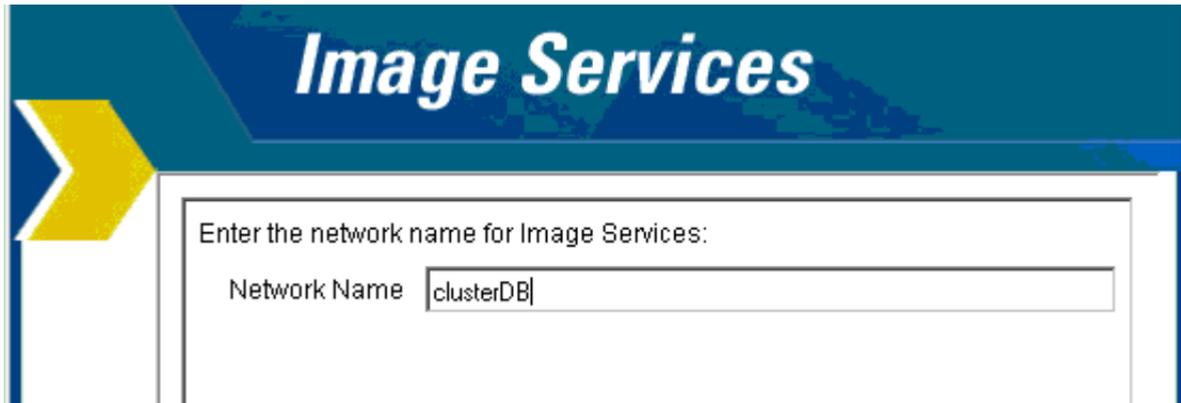
Cluster Server?  Yes

System serial number:

NCH Domain name:

Make sure it's checked **Yes**, and continue the installation.

- 6 When the Enter Network Name screen displays, enter the network name from your **"Installation Worksheet" on page 27.**



**Image Services**

Enter the network name for Image Services:

Network Name

The Network Name must match the Oracle virtual name used during the Oracle installation. Click **Next** to continue.

- 7 Continue the Image Services software installation as usual.

- 8 When the installation is complete, reboot the Node 1 server and logon as the FileNet software user, such as **fns**.
- 9 Check the Windows Event Viewer for any errors. Resolve any errors before continuing.
- 10 Turn-on power to the Node 2 server.

---

**Note** **Do not** shut down the Node 1 server unless directed to do so.

---

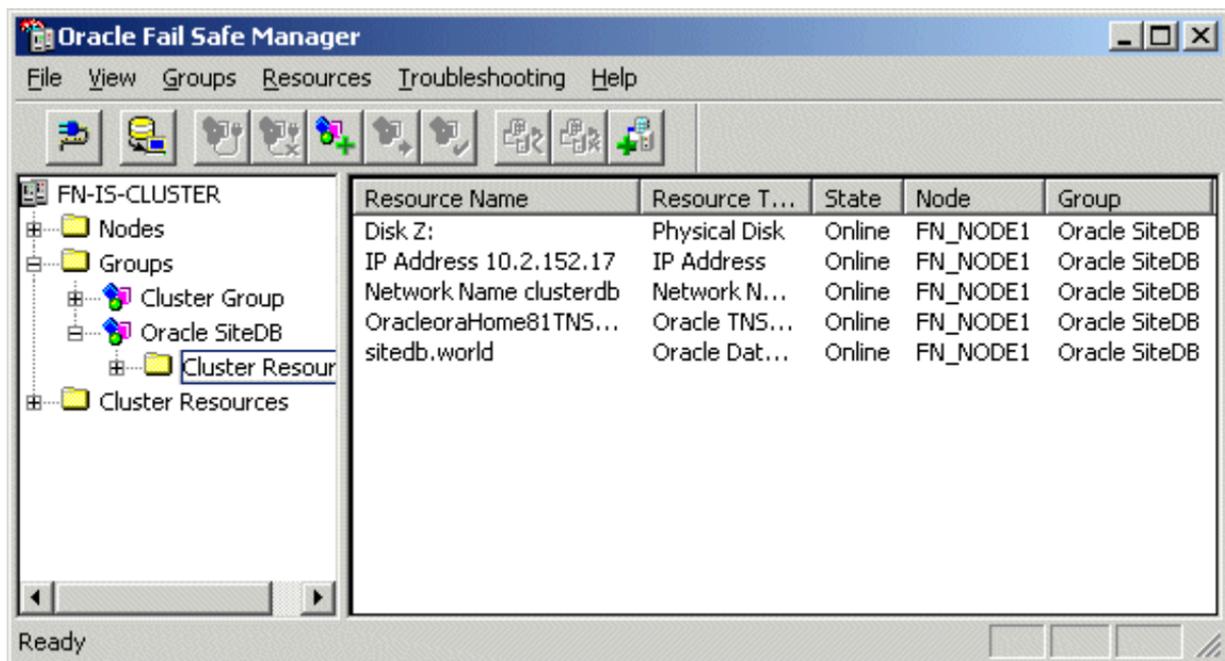
- 11 After the Node 2 server comes up, logon as **Administrator** for the domain.

---

**Note** If you are installing software as a user **without** Full Domain Administrator Rights, logon with the user name and password that was created in the section, **“Create FileNet Users” on page 256** of Appendix C.

---

- 12 Open the Oracle Fail Safe Manager.



The screenshot displays the Oracle Fail Safe Manager interface. The window title is "Oracle Fail Safe Manager". The menu bar includes "File", "View", "Groups", "Resources", "Troubleshooting", and "Help". The toolbar contains various icons for cluster management. The left pane shows a tree view for "FN-IS-CLUSTER" with sub-items: "Nodes", "Groups", "Cluster Group", "Oracle SiteDB", "Cluster Resour", and "Cluster Resources". The right pane shows a table of resources.

Resource Name	Resource T...	State	Node	Group
Disk Z:	Physical Disk	Online	FN_NODE1	Oracle SiteDB
IP Address 10.2.152.17	IP Address	Online	FN_NODE1	Oracle SiteDB
Network Name clusterdb	Network N...	Online	FN_NODE1	Oracle SiteDB
OracleoraHome81TNS...	Oracle TNS...	Online	FN_NODE1	Oracle SiteDB
sitedb.world	Oracle Dat...	Online	FN_NODE1	Oracle SiteDB

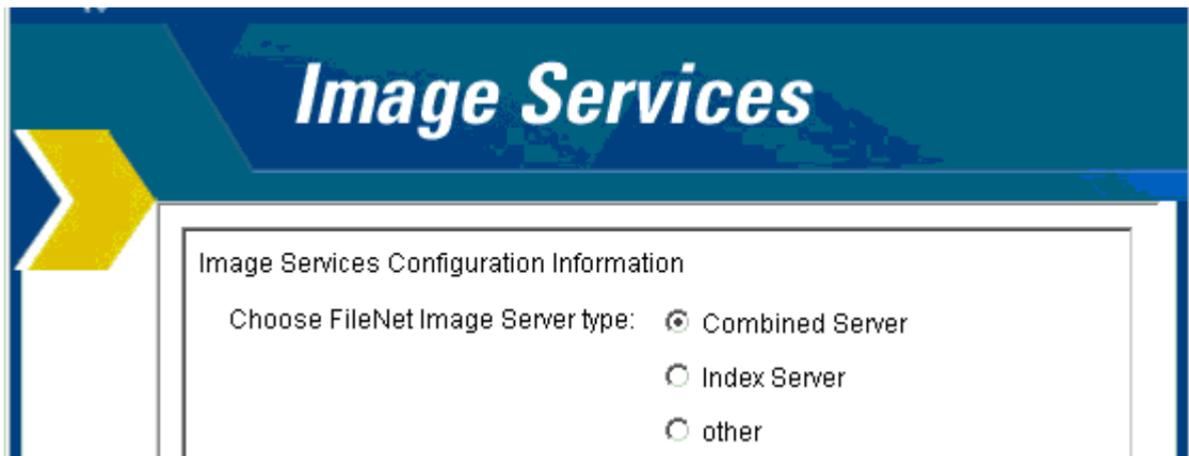
Ready

- 13 Right-click on Oracle SiteDB group (or the group where Oracle is located) and click *Move to a Different Node*. In a few minutes the Owner of the Cluster Server will switch from Node 1 to Node 2.
- 14 In the Oracle Fail Safe Manager, verify that the owner of the Cluster Server is now Node 2. Node 2 needs possession of the shared drive in order to setup Image Services correctly in the next procedure.

## Installing FileNet software on Node 2

- 1 Access the **Image Services 4.1 for Windows Server** software on Node 2.
- 2 Follow the instructions in the Image Services 4.1 *Installation and Configuration Procedures for Windows Server* to launch the Image Services installer. To download this document from the IBM support page, see **[“Accessing IBM FileNet Documentation” on page 30.](#)**
- 3 When the End User License Agreement screen displays, click **Yes** to accept the agreement.

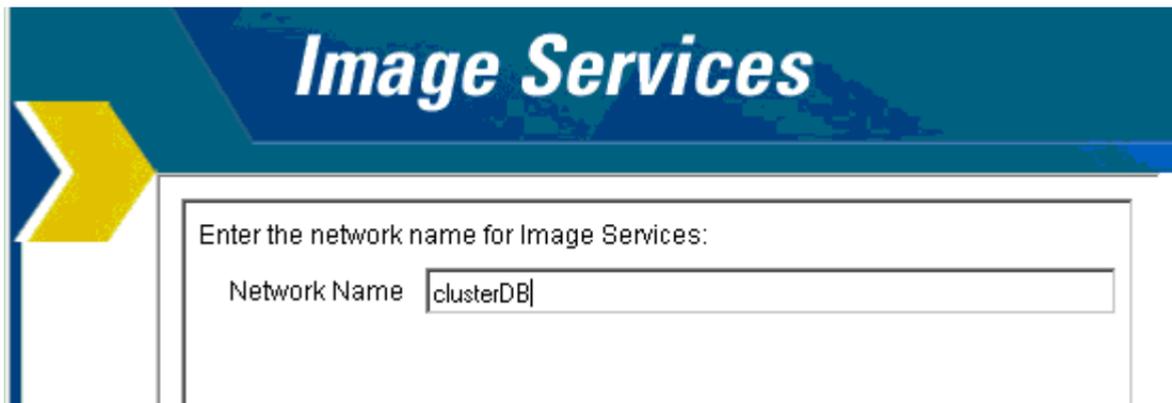
- 4 When the Image Services Configuration Information screen displays, locate the check box for “Cluster Server?”.



Windows Event Logging:	<input checked="" type="checkbox"/> Enabled
Autostart IS Processes	<input type="checkbox"/> Enabled
Cluster Server?	<input checked="" type="checkbox"/> Yes
System serial number:	<input type="text" value="1234123412"/>
NCH Domain name:	<input type="text" value="chong:FileNet"/>

Make sure it's checked **Yes**, and continue the installation.

- 5 When the Enter Network Name screen displays, enter the network name from your **"Installation Worksheet" on page 27.**



The Network Name must match the Oracle virtual name used during the Oracle installation. Click **Next** to continue.

- 6 Continue the Image Services software installation as usual.
- 7 When the installation is complete, reboot Node 2. This will automatically move control of the cluster to Node 1.

## Start the Oracle Fail Safe Manager

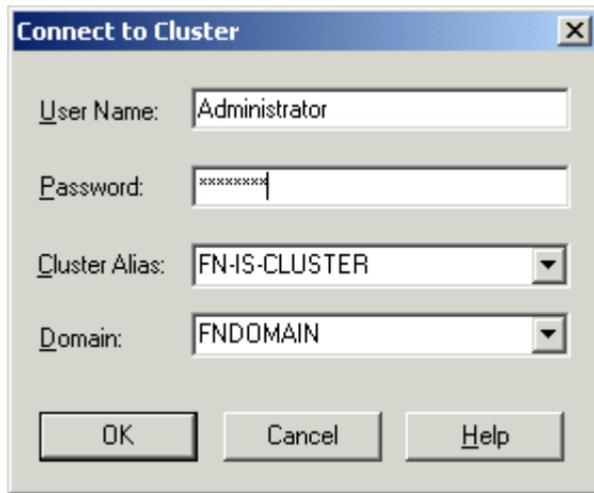
- 1 On Node 1, start the Oracle Fail Safe Manager from the Programs folder in the start menu.

The Connect to Cluster dialog box might display.

---

**Note** In some situations, the Connect to Cluster dialog box might not appear and the Oracle Fail Safe Manager window could open directly. In this case, skip to **step 3**.

---



- 2 a If the above Connect to Cluster dialog box appears, enter the user name and password, and click **OK**. The Oracle Fail Safe Manager window appears.
- b If the above Connect to Cluster dialog box does not appear, continue to **step 3**.

- 3 From the Oracle Fail Safe Manager window, verify that the control of the cluster has been moved to Node 1.

## Grant "Logon as Service" Right to the fnsw User

"Logon as Service" right will automatically be granted when the user manually re-enters the password in the Service properties panel for the IS ControlService. A '1069 logon failure' error will occur if the IS ControlService user does not have that right. This should be done whether the user is local or a domain level user.

To guard against this error, the System Administrator, must reset the password for the user with fnsw privileges in the Service Control Panel for the IS service (ISControlService).

- 1 Logon as the FileNet software user, such as **fnsw**, if you aren't already.
- 2 From the Control Panel, open the Administrative Tools folder, and double-click the *Services* icon.

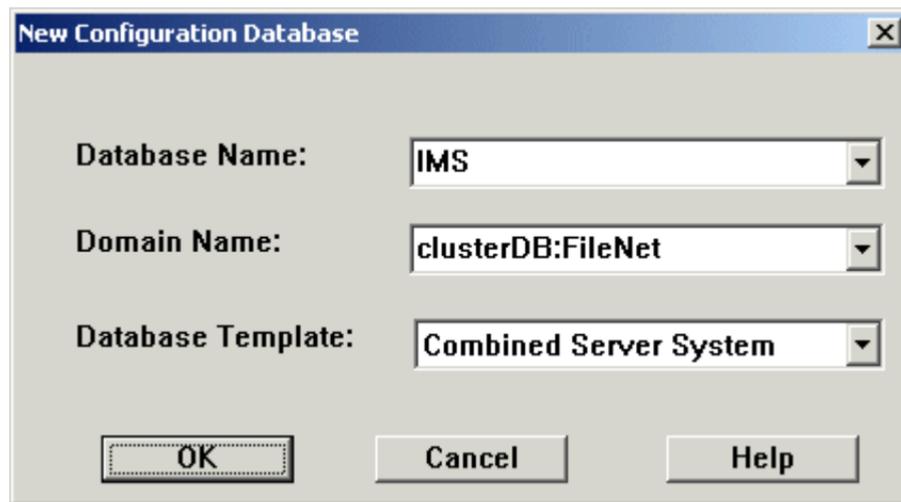
- 3 Right-click *IS ControlService* and the IS ControlService Properties dialog opens.
- 4 In the IS ControlService Properties window, complete the following:
  - a Select the Logon tab.
  - b Re-enter the password and confirm the password.
  - c Click **OK** to exit the IS ControlService Properties window.
- 5 Close the Services window.

## Create Configuration Database

Perform the following procedure on the Node 1 server.

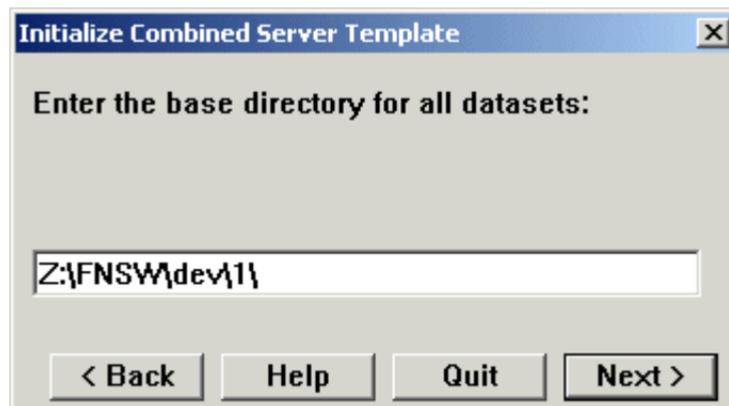
- 1 Open the FileNet System Configuration Editor.

The New Configuration Database window opens.



- 2 Click **OK** to continue.

The Initialize Combined Server Template window opens.

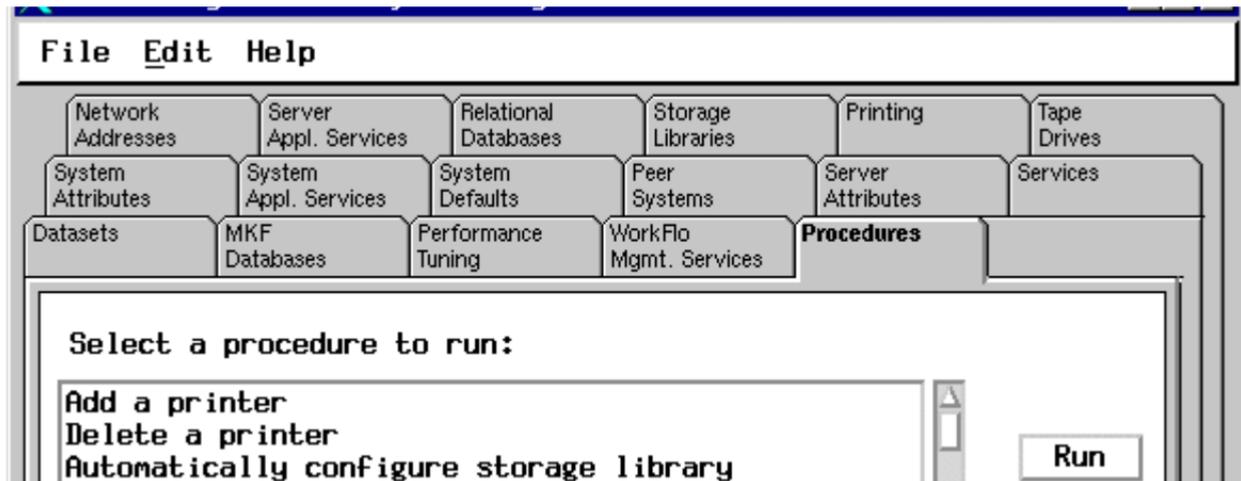


- 3 In the Initialize Combined Server Template window, change the drive letter to the shared drive, and click **Next**. In the example above, the shared drive is drive Z.
- 4 A series of dialog boxes and prompts for the Combined Server Template appears next. Answer each prompt as appropriate for your site to configure your system.

**Note** Do not configure a storage library server at this time.

- 5 When your configuration is complete, the “Configuration is Complete...” message appears. Click **Next** to continue.

The *FileNet Image Services System - Configuration Editor* window displays.



**Tip** When you are finished configuring the database, you can select tabs in the Configuration Editor to verify that you entered the information correctly.

---

## Define RDB Object Locations for Oracle

Use the procedure in this section to define RDB Object locations for your Oracle RDBMS.

---

**CAUTION** This procedure assumes that the Oracle table spaces and devices that you specify in the System Configuration Editor either already exist, or that you will create them before you initialize the FileNet databases. These names **must** exist before you initialize the FileNet Image Services databases.

---

In this section you are defining the ownership and the names of the Oracle tables that will be used with the FileNet software.

- 1 Click the Relational Databases tab, then click the RDB Objects subtab.

The screenshot shows the FileNet Image Services - System Configuration Editor. The main window title is "FileNet Image Services - System Configuration Editor". The menu bar includes "File", "Edit", and "Help". The configuration tree on the left shows the following structure:

- System Attributes
- System Appl. Services
- System Defaults
- Peer Systems
- Server Attributes
- Datasets
- MKF Databases
- Performance Tuning
- WorkFlo Mgmt. Services
- Procedures
- Network Addresses
- Server Appl. Services
- Relational Databases** (selected)
- Storage Libraries
- Printing
- Oracle
- DB2
- RDB Objects** (selected)

The main content area displays a table with the following data:

Server Name	Object Name	Location
ibm51	tmp_data	fntmp_ts
ibm51	fn_index	fnidx_ts
ibm51	fn_data	fnsys_ts

- 2 In the Location column of the RDB Objects subtab, click on a cell and replace the default FileNet tablespace names with the site-specific tablespace names. While replacing the table names, use the following criteria:
- Change all occurrences of **fnsys\_ts** to the name of your dedicated FileNet default tablespace for IS tables.
  - Change all occurrences of **fntmp\_ts** to the name of your dedicated FileNet temporary tablespace.
  - If an optional **fnidx\_ts** tablespace was created for indexes, change all occurrences of **fnidx\_ts** to your dedicated FileNet index tablespace.
  - If an optional **fnusr\_ts** was created for WorkFlo Queue Services, change all occurrences of the name to your dedicated FileNet user tablespace.

The Image Services software will use the Oracle table space names you entered in the RDB Objects subtab above.

**Note** The Oracle table space names specified in the RDB Objects list must exist before you initialize the FileNet Image Services databases.

---

- 3 Exit from the *FileNet Image Services - System Configuration Editor* and save the configuration changes you just made.

## Initialize the Database

As the FileNet software user such as **fns**, initialize the index database and all the MKF databases (includes permanent, transient, and security databases)

- 1 Do this by entering the following commands on the Image Services server (the Node 1 server):

```
fn_setup_rdb -f
```

```
fn_util init > \fnsw_loc\local\logs\init.log
```

This process may take a while (sometimes up to 30 minutes without any feedback to the user); the larger the datasets, the longer the wait. After the initialization process finishes, the prompt returns.

**Tip** You can monitor the progress of the initialization by viewing the `fn_util.log` and `oracle.log` (or `init.log`) files in a command prompt window. These files are located in the following directories:

```
\fnsw_loc\logs\fn_util\fn_util.log  
\fnsw_loc\logs\fn_util\oracle.log  
\fnsw_loc\logs\fn_util\init.log (does not always display)
```

The file size increases each time you view the log files, indicating the progress of the initialization.

---

- 2 After the initialization is finished, view the contents of the `\fnsw_loc\logs\fn_util\init.log` and `oracle.log` files to make sure that there were no errors in the database initialization process.

## Verify/Set FileNet Dataset Permissions

Perform the following procedure on the Node 1 server.

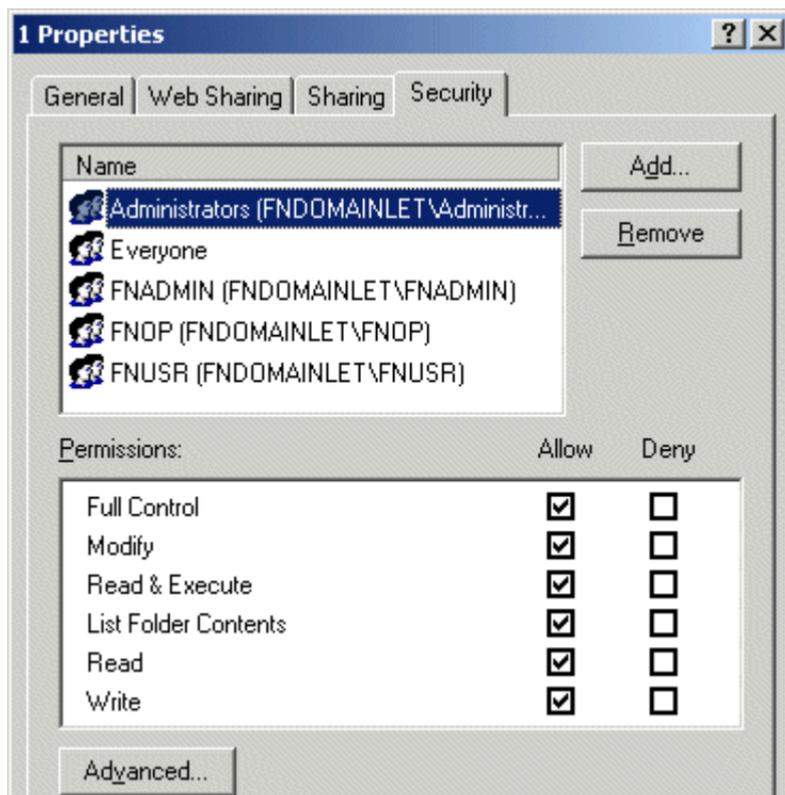
Because the FileNet datasets reside on a different drive than the FileNet Image Services software, you must set the group permissions.

- 1 If you aren't already, logon as the FileNet software user, such as **fns**.
- 2 Open Windows Explorer, and select a directory containing the desired FileNet dataset. For example, Z:\fns\dev\1
- 3 From the File menu, select the Properties menu option.

The Properties window opens.

- 4 Select the Security tab.

The Security Properties for \fns\dev\1 are displayed on this tab.



- 5 For each group in the table below, set the following permissions in the Security tab dialog box:

Group	Permissions
Administrators *	Full Control
fnadmin	Full Control
fnop	Read & Execute, List Folder Contents, Read, and Write
fnusr	Read & Execute, List Folder Contents, Read, and Write

\* The Administrators group can be listed on the Owners tab which is accessed by clicking the Advanced button on the Security Properties window.

- 6 Click **OK** to set the permissions and close the Properties dialog box.

## Add FileNet IS Resource

Perform the following procedure on the Node 1 server.

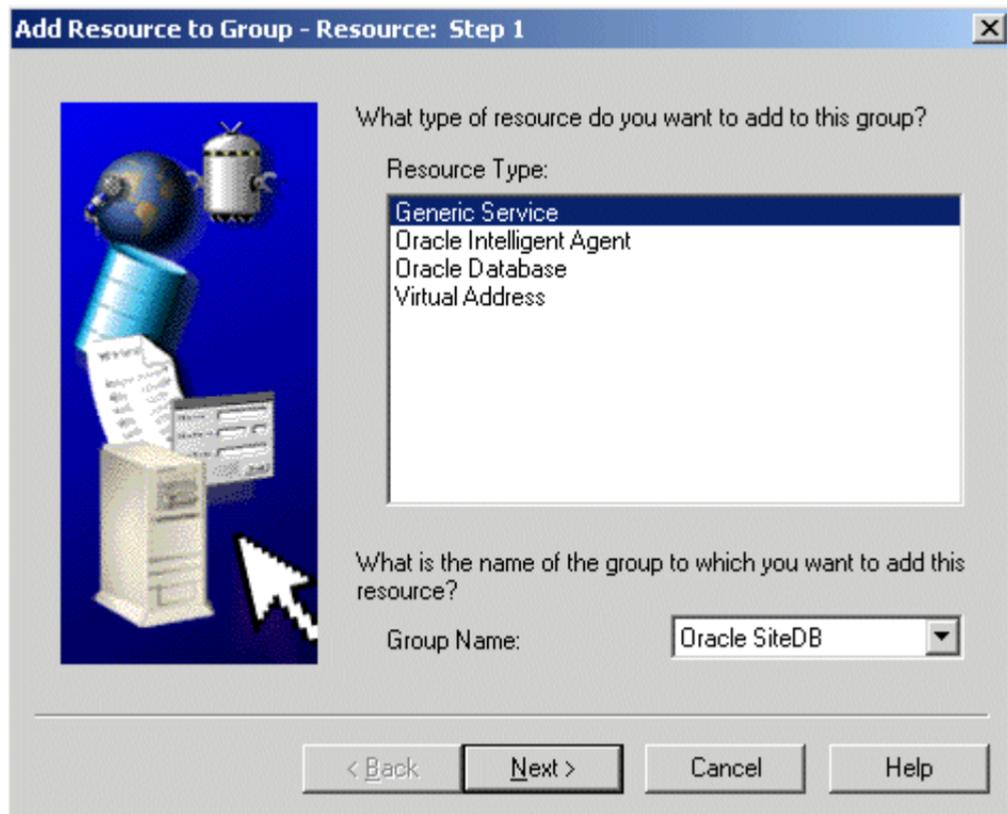
- 1 Open the Oracle Fail Safe Manager.
- 2 Locate and right-click on Oracle SiteDB (or the group where the Oracle Server is located), point to **Add resource to group**.

---

**Note** Node 2 server must be running. Oracle SiteDB (or the group where the Oracle Server is located), must be on node 1.

---

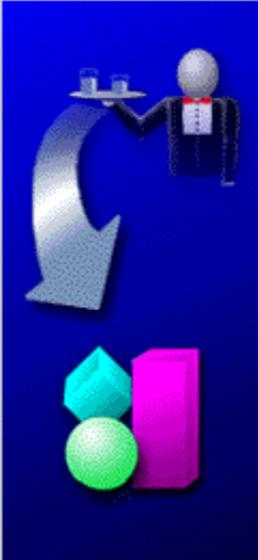
The following dialog box opens.



- 3 In the Add Resource to Group - Resources dialog box, select, or verify, the Group Name is Oracle SiteDB.
- 4 Select the Resource Type, Generic Service, and click **Next**.

The Add Resource to Group - Generic Service Identity dialog box opens.

**Add Resource to Group - Generic Service Identity: Step 2 of 6**



Which generic service do you want to add to this group?  
You can select the name of an existing service, or enter a unique name to have Oracle Fail Safe create a new service.

Node Name:

Display Name:

Service Name:

Status:

What is the full path of the image associated with this service?

Image Name:

< Back   Next >   Cancel   Help

- 5 Enter, or verify, the following information:
  - a Enter, or select, the Node 1 Name in the Node Name list box, such as FN\_NODE1.
  - b Enter, or select, FileNet IS in the Display Name list box.
  - c Enter IMSService in the Service Name text box.
  - d Enter the full path to tm\_daemon.exe.
  - e After entering the information above, click **Next**.

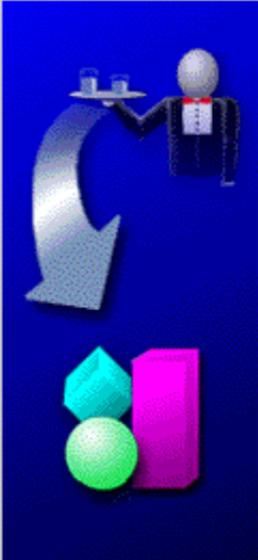
---

**Note** If you select IS ControlService in the Display Name drop-down box, the Service Name and full path will be automatically filled into the appropriate boxes.

---

The following dialog box opens.

**Add Resource to Group - Generic Service Account: Step 3 of 6**



With what startup parameters do you want the service to run?

Startup Parameters:

Log on as:

System Account

This Account:

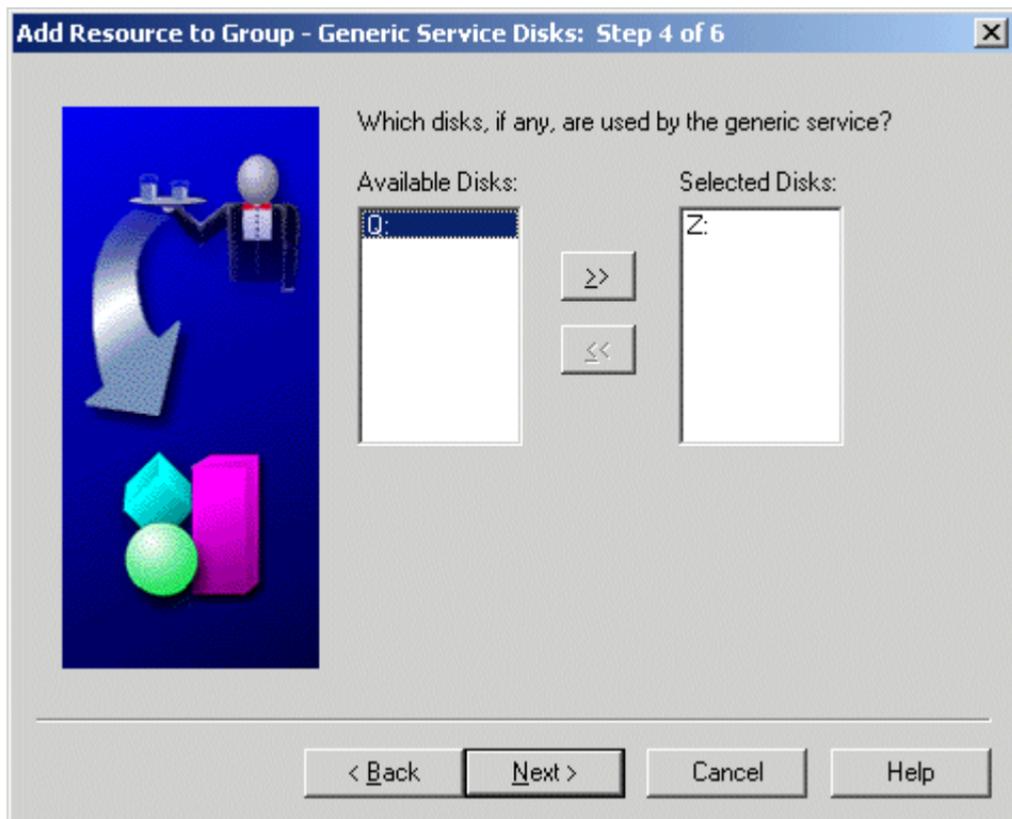
Password:

Confirm Password:

Domain:

< Back   Next >   Cancel   Help

- 6 Enter, or verify, the following information:
  - a Select the This Account radio button and enter **fns**w as the account name.
  - b For the Account **fns**w, fill-in the boxes for Password, and Confirm Password.
  - c Verify or select, the domain from the Domain drop-down list box.
  - d After entering the information above, click **Next**.

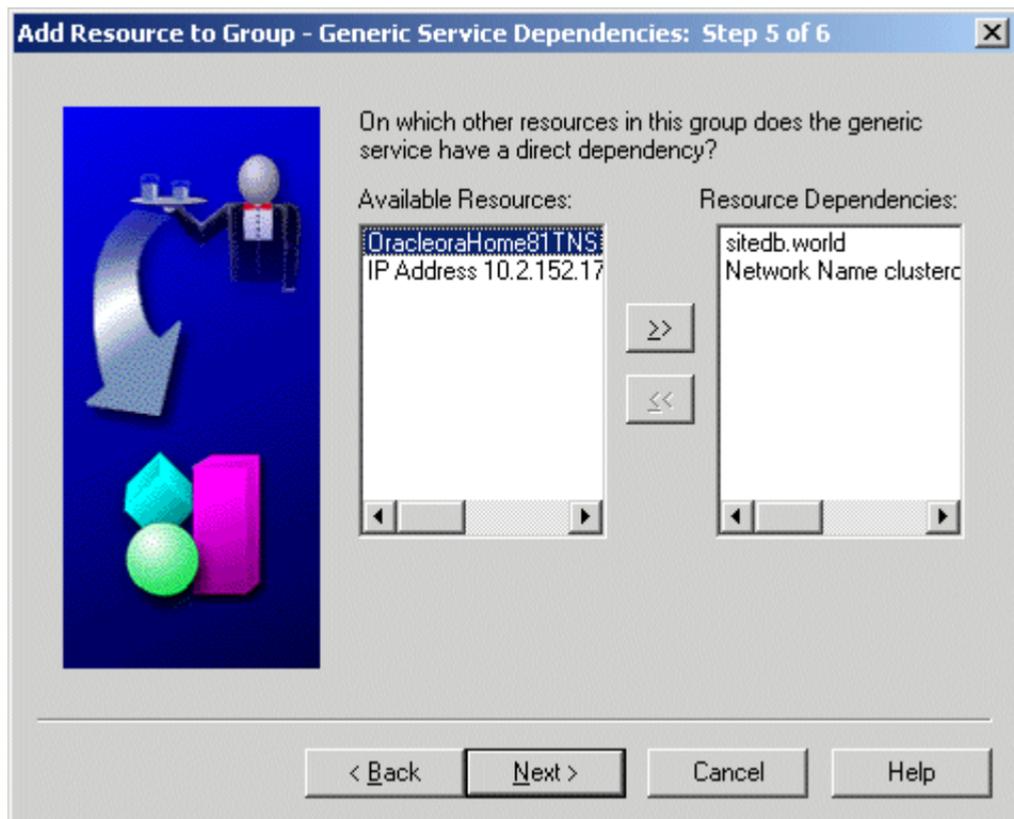


- 7 Verify, or move, the disk used by the generic service to the Selected Disk list box, and click **Next**.

---

**Note** The disk used by the generic service is the disk where the IS shared files are installed.

---

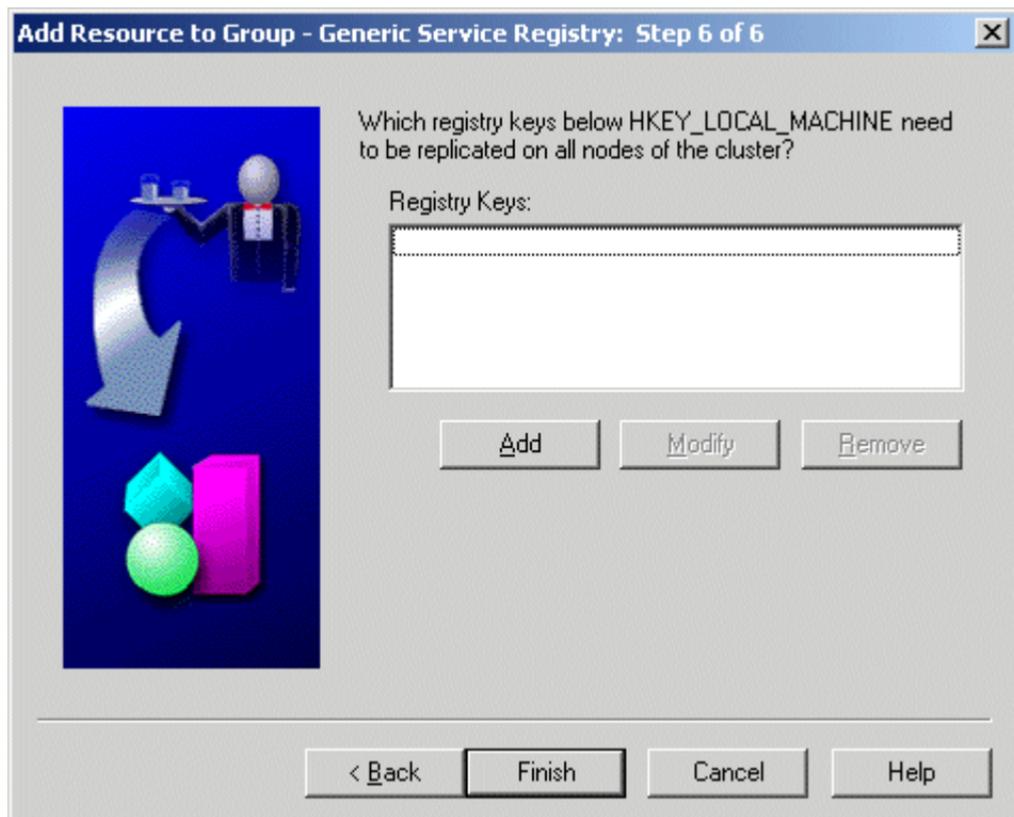


- 8 Move, or verify, the resources the generic service is dependent on to the Resource Dependencies list box, and click **Next**.

---

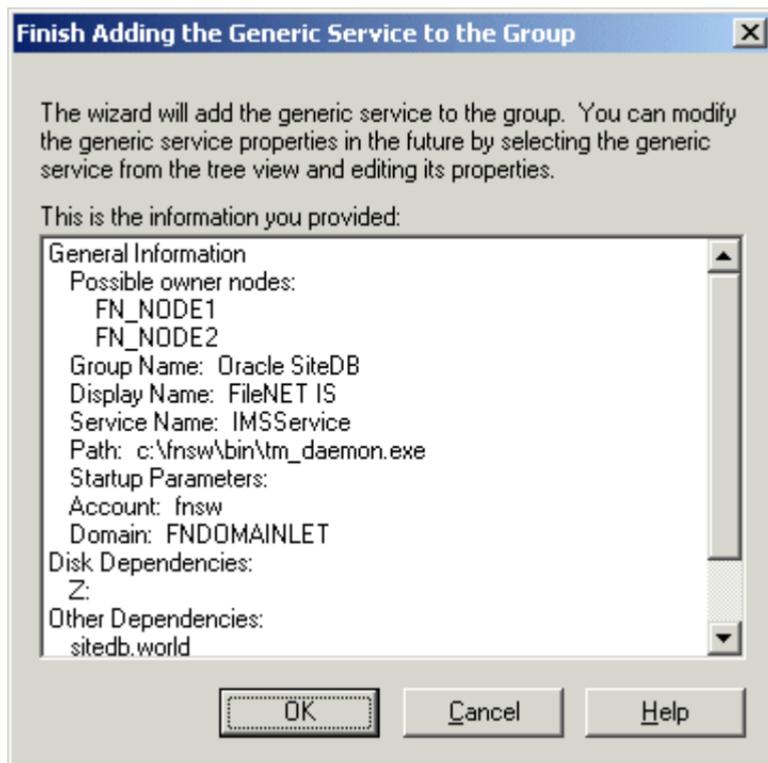
**Note** The generic service is dependent on the Oracle database and the network name.

---

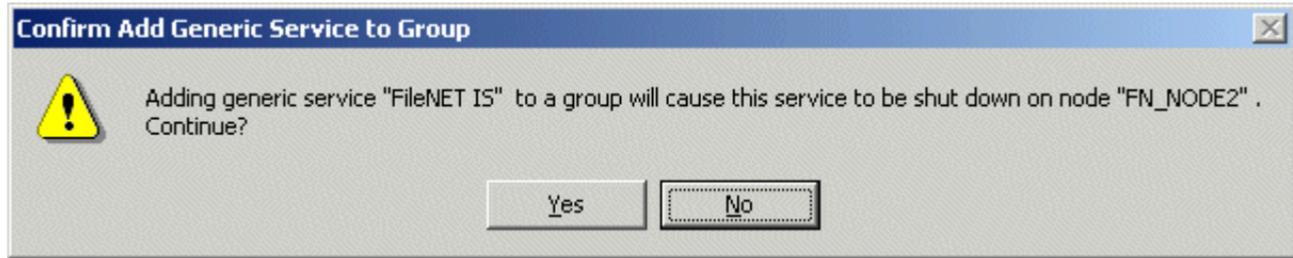


- 9 Click **Finish** at the above dialog box.

The following dialog box appears.



- 10 Read and verify the information you entered in the Finish Adding the Generic Service to the Group dialog box, and click **OK**.



- 11 Read the information in the message window above, and click **Yes**.
- 12 A window appears showing the status of the new FileNet IS as it is being added to the Oracle SiteDB group. Read the output of this screen and then close the window.
- 13 At the Oracle Fail Safe Manager, click on the **Oracle SiteDB group** (or the group where Oracle is located).
- 14 The Oracle SiteDB Properties window opens.

- a If the Oracle SiteDB properties window shows that the group is on Node 1, skip to the next section, **[“Create the “LocalAdminInstall” File” on page 186.](#)**
  - b If the Oracle SiteDB properties window shows that the group is on Node 2, right-click on the Oracle SiteDB group and click **Move to a Different Node**.
  - c Click **Yes** to confirm the move.
- 15** A window appears showing the status of the move. Read the output of this screen and then close the window.

The Oracle SiteDB Properties window should now show the group is on Node 1.

## Create the "LocalAdminInstall" File

Perform this procedure on the Node 1 and Node 2 servers. Use this procedure to create the "LocalAdminInstall" file in the C:\TEMP directory.

---

**Note** If you have used Appendix C to configure your system in Native Mode, the "LocalAdminInstall" file has already been created in the C:\TEMP directory. In this case, skip this procedure and continue to the section, **"Enable Autostart IS Processes Option" on page 187.**

---

- 1 Verify that the Cluster Server software is up and running on each node.
- 2 Open a Command Prompt window.
- 3 Change to the c:\temp directory by entering:

```
cd c:\temp
```

- 4 Enter the command:

```
copy con LocalAdminInstall
```

- 5 Press and hold Ctrl key, and press the Z key.
- 6 Press **Enter**.
- 7 Verify the LocalAdminInstall file was successfully created in the c:\temp directory.

## Enable Autostart IS Processes Option

Perform this procedure on the Node 1 server. Use the **fn\_setup** tool to enable the Autostart IS processes.

- 1 Logon as the FileNet software user with **root** privileges and run the **fn\_setup** utility as follows:

```
\fnsw\bin\fn_setup
```

- 2 Answer all the prompts with information related to your system. Reply to the prompts with the requested information. Answer **y** at the following prompt:

```
Autostart IS Processes (y=yes, n=no) [y]:
```

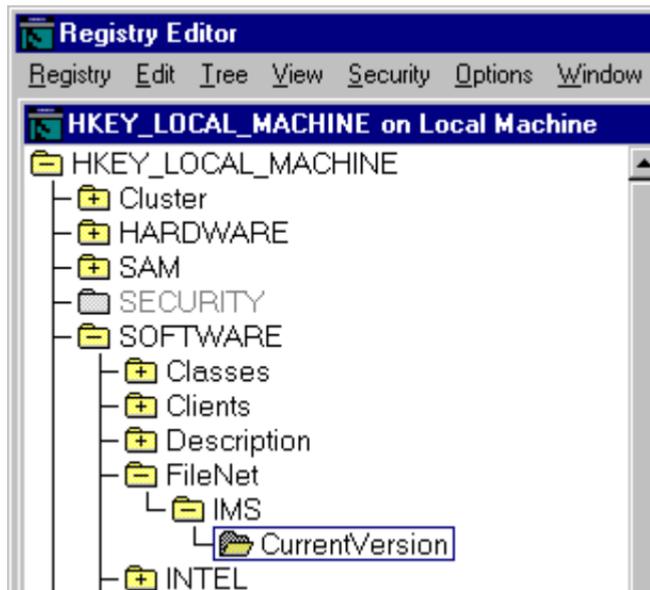
## Add NCHBroadcast Value to Registry Editor

Perform the following procedure on the Node 1 server.

- 1 Open a Command Prompt, and enter the following command:

**regedt32**

The Registry Editor window opens.

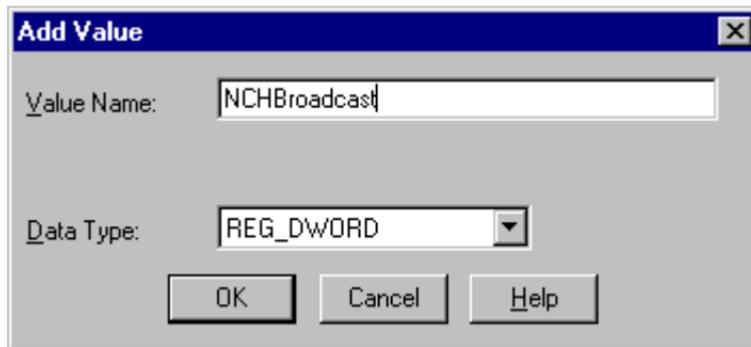


- 2 In HKEY\_LOCAL\_MACHINE on Local Machine, navigate to the CurrentVersion folder using the path:

SOFTWARE>FileNet>IMS>CurrentVersion

- 3 From the Registry Editor Edit menu, select **Add Value**.

The Add Value dialog box opens.



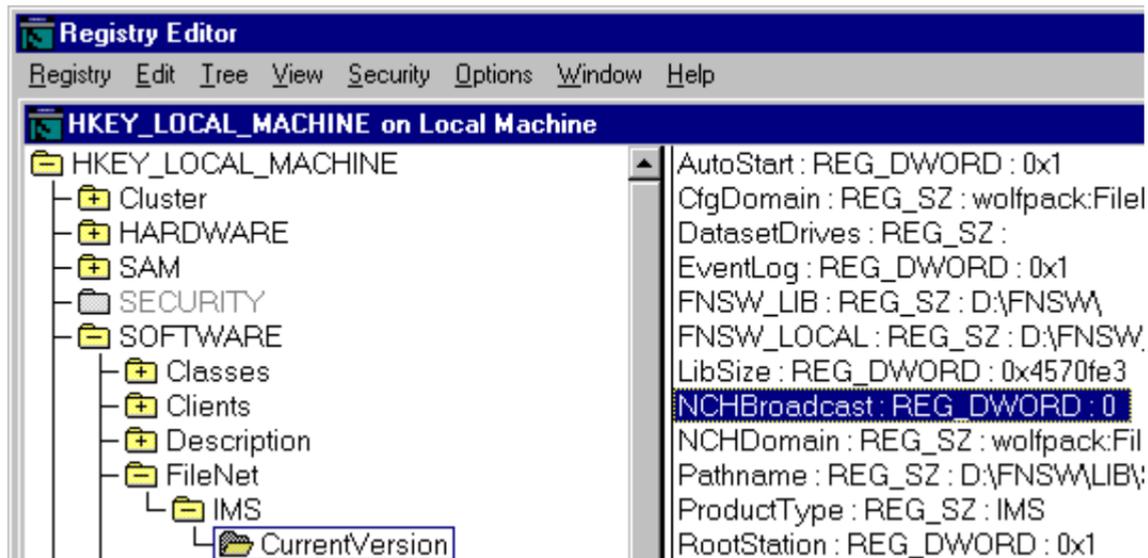
- 4 As shown above, enter NCHBroadcast in the Value Name box, and select REG\_DWORD from the Data Type box drop-down list; then click **OK**.

The DWORD Editor dialog box opens.



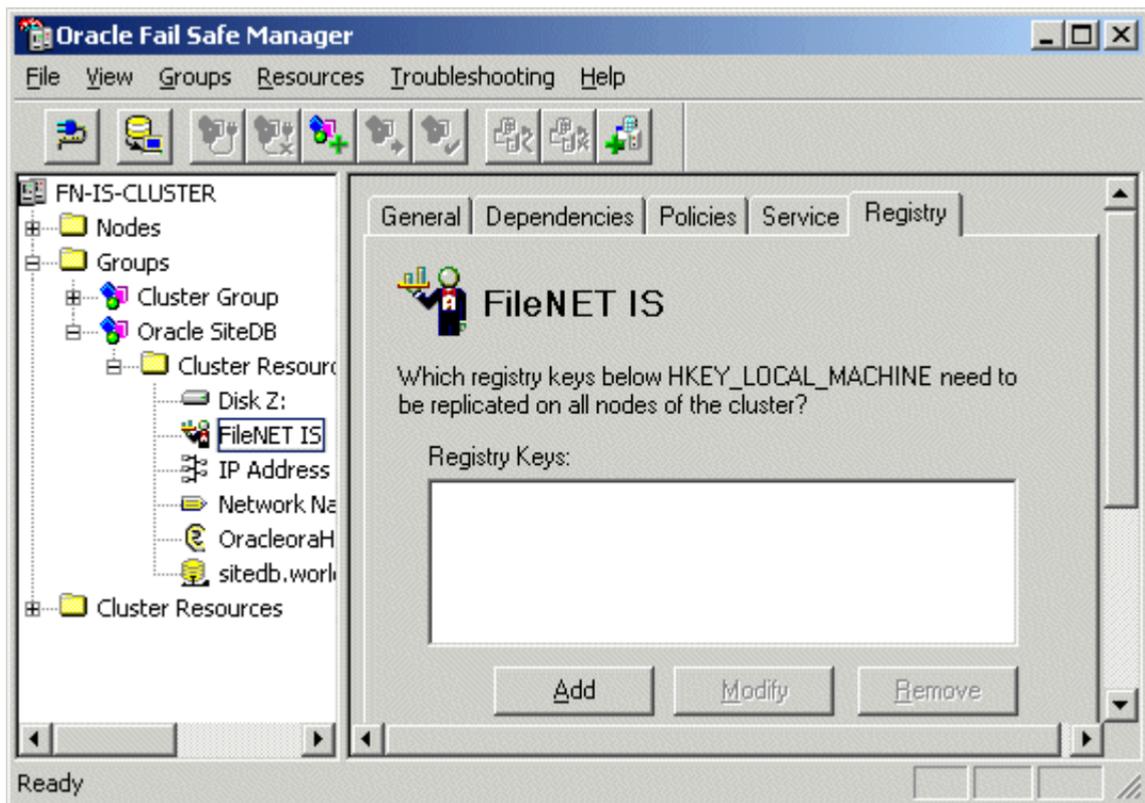
- 5 Enter 0 in the Data box, and click **OK**.

The Registry Editor now shows the new NCHBroadcast entry as shown below.

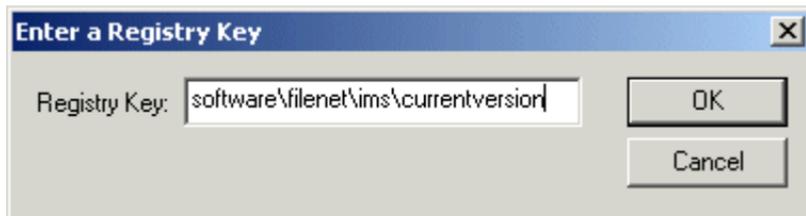


6 Close the Registry Editor.

- 7 From the Oracle Fail Safe Manager, double-click the FileNet IS resource to display the FileNet IS Properties window.
- 8 Click the Registry tab. The following dialog box appears.



- 9 Click the **Add** button. The Enter a Registry Key window opens.



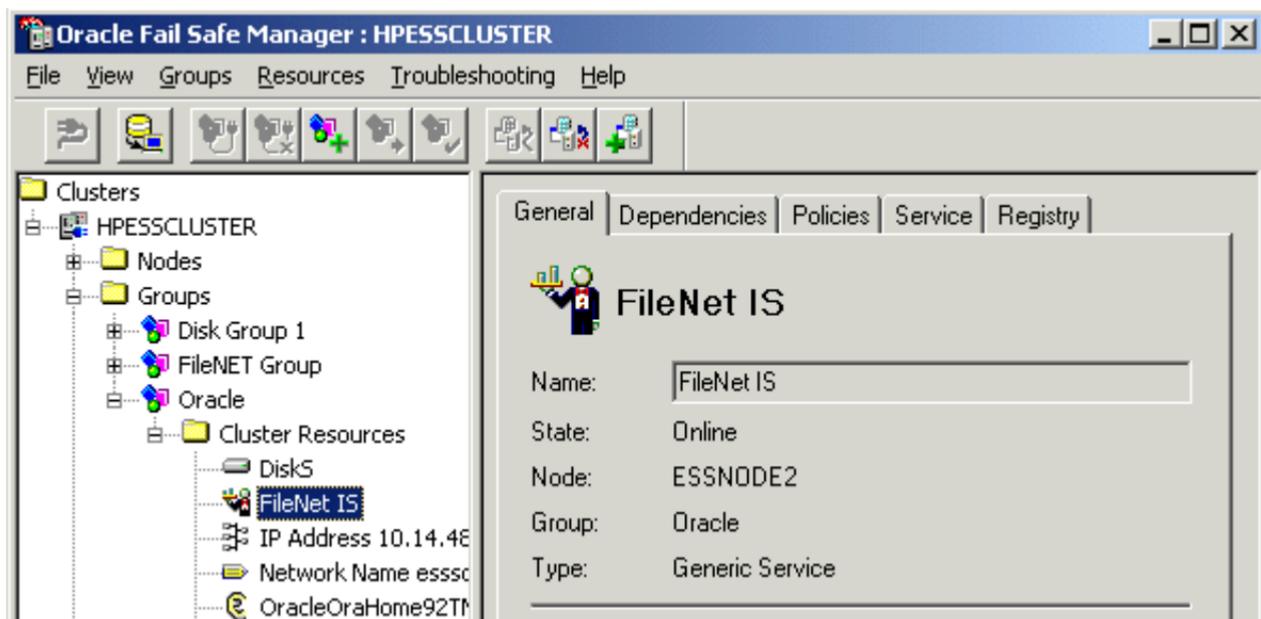
- 10 In the Registry Key box enter the following text,  
**software\filenet\ims\currentversion**
- 11 Click **OK** to add the Registry Key.
- 12 Click the **Add** button again and enter the following text,  
**system\CurrentControlSet\Services\IMSService**
- 13 Click **OK** to add the Registry Key.
- 14 Click **Apply** to have the changes you made take effect.

## Set Restart Policy

In order to insure proper failover, the restart policy needs to be set to “do not restart...” for the FileNet IS, shared drive, and sitedb resources.

- 1 From the Oracle Fail Manager, double-click the *FileNet IS* resource from the list of Cluster resources.

The Oracle Fail Manager displays the General tab for the FileNet IS resource.



- 2 Select the Policies tab. The following screen displays.

The screenshot shows the Oracle Fail Safe Manager interface for a cluster named HPESSCLUSTER. The left pane displays a tree view of the cluster resources, including Disk Group 1, FileNET Group, Oracle, and Cluster Resources. The FileNet IS resource is selected under Cluster Resources. The right pane shows the configuration for FileNet IS, with tabs for General, Dependencies, Policies, Service, and Registry. The Pending Timeout is set to 180 seconds. The "Looks Alive" interval is set to 5000 milliseconds, and the "Is Alive" interval is set to 60000 milliseconds. The Restart Policy is set to "Do not restart the resource on the current node".

Oracle Fail Safe Manager : HPESSCLUSTER

File View Groups Resources Troubleshooting Help

Clusters

- HPESSCLUSTER
  - Nodes
  - Groups
    - Disk Group 1
    - FileNET Group
    - Oracle
      - Cluster Resources
        - DiskS
        - FileNet IS
        - IP Address 10.14.48
        - Network Name essc
        - OracleOraHome92TM
        - sitedb.world

General Dependencies Policies Service Registry

FileNet IS

Pending Timeout: 180 Seconds

"Looks Alive" Interval

- Use value from resource type
- Specify value: 5000 Millisecs

"Is Alive" Interval

- Use value from resource type
- Specify value: 60000 Millisecs

Restart Policy

- Do not restart the resource on the current node
- Attempt to restart the resource on the current node: 3 times within 900 seconds.

- 3 In the Restart Policy field on the Policies tab, check the “Do not restart the resource on the current node” radio button and click **Apply**.
- 4 Repeat steps 1 thru 3 for the shared drive and the sitedb.

When the restart policy has been set for all resources, continue to the next section.

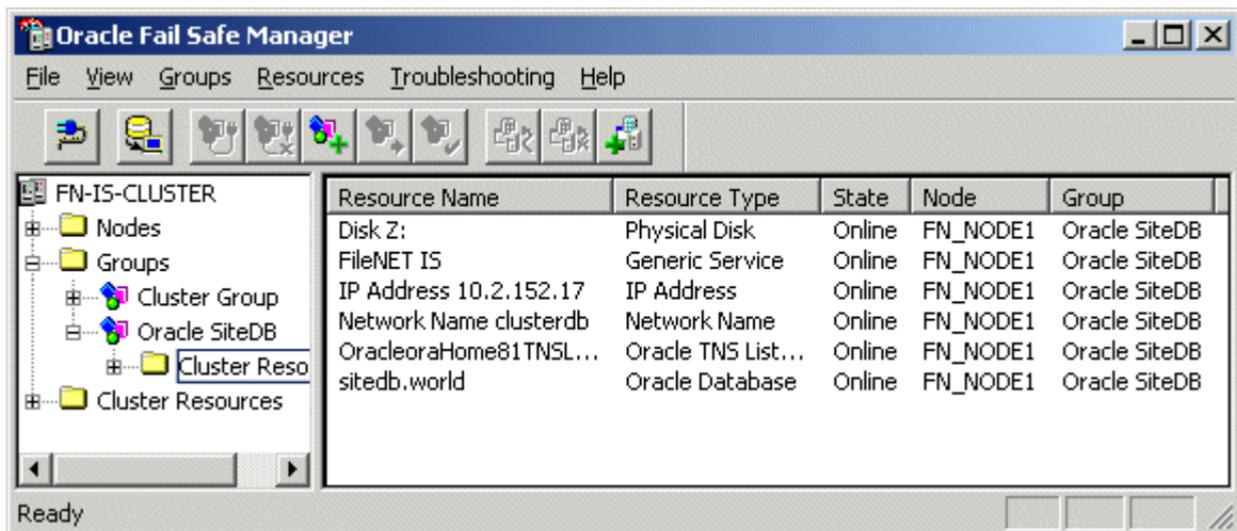
## Test Cluster Server Operation

Perform the procedures in this section to test the failover of Image Services.

### Move Control of Cluster Service to Node 2

- 1 From the Oracle Fail Safe Manager, right-click on Oracle SiteDB group (or the group where Oracle is located) and click **Move to a Different Node**.

In a few minutes the Owner of the Cluster Server switches from Node 1 to Node 2. This verifies that the Cluster is set up properly and is able to failover Image Services to Node 2.



Resource Name	Resource Type	State	Node	Group
Disk Z:	Physical Disk	Online	FN_NODE1	Oracle SiteDB
FileNET IS	Generic Service	Online	FN_NODE1	Oracle SiteDB
IP Address 10.2.152.17	IP Address	Online	FN_NODE1	Oracle SiteDB
Network Name clusterdb	Network Name	Online	FN_NODE1	Oracle SiteDB
OracleoraHome81TNSL...	Oracle TNS List...	Online	FN_NODE1	Oracle SiteDB
sitedb.world	Oracle Database	Online	FN_NODE1	Oracle SiteDB

- 2 Verify that Image Services comes up under Cluster control on Node 2.
- 3 Check the Image Services logs on Node 2 to verify that it started without error.

## Move Control of Cluster Service to Node 1

- 1 After all the resources in the group are online at Node 2, **Reboot** the Node 1 server.
- 2 After Node 1 has rebooted, right-click the group and select **Move to a Different Node** to move Cluster control back to Node 1.
- 3 Verify that the owner of the Cluster Server is now Node 1.
- 4 Check the Image Services logs on Node 1 to verify that it started without error.

## Connect/Configure Optical Storage Library Devices

This procedure is used to connect and configure your SCSI Optical Storage Devices.

### Connect Storage Library Device

- 1 Logoff both Windows server nodes and turn them off.
- 2 Connect the storage library device to each node, and power the device on.

Wait until the storage library device is ready before you continue to the next procedure.

---

**Note** The storage library device must have it's own separate SCSI controller.

---

## Configure SCSI Host Adapter Utility Settings

Use this procedure to configure the SCSI Host Adapter Utility Settings.

**Note** The settings in this procedure are for configuring an Adaptec AHA-2944UW SCSI Adapter. Other SCSI adapters can have different settings. Refer to the Microsoft Web site for a list of other supported SCSI adapters.

---

- 1 Turn-on power to the Node 1 server and watch the screen as the storage device initializes.

A message will display that tells you what keystroke to enter to access the SCSI Adapter Utility.

For example, if you see the following message, you would press CTRL+A:

**<<<Press <CTRL><A> for SCSISelect(TM) Utility!>>>**

**Note** The manufacturer of the SCSI adapter determines what keystroke you need to enter to access the SCSI Adapter Utility. For example, the Adaptec 2944 uses the keystroke, **CTRL+A**.

---

- 2 While the SCSI adapter for the optical library is initializing, type **CTRL+A** (or other keystroke) to access the SCSI Adapter Utility.

The SCSI Adapter Utility opens.

- 3 Select the option to configure the Host Adapter Settings.
- 4 Verify the Host Adapter SCSI ID is 7.

**Note** The setting for each node must be different and Node 1 should already be set to 7.

---

- 5 Change the Host Adapter SCSI Termination to, “Low OFF/High OFF”
- 6 Select Advanced Configuration Options and make the following changes:

- a Verify that the Host Adapter BIOS is set to, “Enabled”
  - b Change the Support removable disks under BIOS as fixed disks to “Disabled”
- 7 Save the changes and exit the SCSI Adapter Utility. The Node 1 server will automatically reboot.
  - 8 After the server automatically reboots, logon as the FileNet user, such as **fns**.
  - 9 Open a Command Prompt window, and enter the following command:  
  
**fnddcfg**  
  
When the command is finished, you will receive a message instructing you to reboot the server to make the changes effective.
  - 10 Reboot the Node 1 server, and logon again as the FileNet user, such as **fns**.
  - 11 Open a Command Prompt window, and enter the following command:

### fndev

- 12 The physical addresses of all attached storage library devices should appear.
- 13 Turn-off power to the Node 1 server.

---

**Note** Since the Host Adapter Settings have been changed, Node 1 must be off to prevent Node 2 from hanging as it starts up.

---

- 14 Turn-on power to the Node 2 server and watch the screen as the storage device initializes.

A message will display that tells you what keystroke to enter to access the SCSI Adapter Utility.

For example, if you see the following message, you would press CTRL+A:

**<<<Press <CTRL><A> for SCSISelect(TM) Utility!>>>**

**Note** The manufacturer of the SCSI adapter determines what keystroke you need to enter to access the SCSI Adapter Utility. For example, the *Adaptec 2944* uses the keystroke, **CTRL+A**.

---

- 15** While the SCSI adapter for the optical library is initializing, type **CTRL+A** (or other keystroke) to access the SCSI Adapter Utility.

The SCSI Adapter Utility opens.

- 16** Select the option to configure the Host Adapter Settings.

- 17** Change the Host Adapter SCSI ID to 6.

**Note** The setting for each node must be different and Node 1 should already be set to 7.

---

- 18** Change the Host Adapter SCSI Termination to, “Low OFF/High OFF”

- 19** Select Advanced Configuration Options and make the following changes:

- a Verify that the Host Adapter BIOS is set to, “Enabled”
  - b Change the Support removable disks under BIOS as fixed disks to “Disabled”
- 20** Save the changes and exit the SCSI Adapter Utility.
- 21** After the Node 1 server automatically reboots, logon as the FileNet software user, such as **fns**.
- 22** Open a Command Prompt window, and enter the following command:
- fnddcfg**
- Once the command is finished, you will receive a message instructing you to reboot the server to make the changes effective.
- 23** Reboot the Node 2 server, and logon again as the FileNet software user, such as **fns**.
- 24** Open a Command Prompt window, and enter the following command:

#### **fndev**

- 25 The physical addresses of all attached storage library devices should appear.
- 26 Turn-off power to the Node 2 server.

---

**Note** Node 2 is turned off to prevent it from starting-up before Node 1 in the next procedure.

---

### **Automatically Configure Storage Library**

- 1 Turn-on power to the Node 1 server.
- 2 When Node 1 is ready, logon as the FileNet software user, such as **fns**w, or Windows **Administrator** for the domain.
- 3 From a Command Prompt, enter the command:

#### **fnddcfg**

- 4 Open the *Oracle Fail Safe Manager*, right-click on *FileNet IS* resource, and select **Take offline**.
- 5 Open the *FileNet Image Services System Configuration Editor*.
- 6 Verify that the two-part domain information is correct, and click **OK**.

The FileNet Image Services System Configuration Editor window opens with the Procedures tab displayed.

- 7 From the Procedures tab, select Automatically Configure a Storage Library from the list of available procedures.
- 8 Click **Run**.
- 9 After you have completed configuring the storage library, exit the System Configuration Editor and save your changes.
- 10 At a Command Prompt, run the following command to initialize the configuration database:

**fn\_build -a**

- 11 Open the *Oracle Fail Safe Manager*, right-click on *FileNet IS* resource, and select **Place Online**.
- 12 Check the following logs for any errors that would indicate that the IS did not start correctly.
  - a Open the Windows Event Viewer and check the Application and System Logs.
  - b Open the FileNet Task Manager and check the Event Logs.
  - c Resolve any errors before continuing.

## Move Control of Cluster Server to Node 2

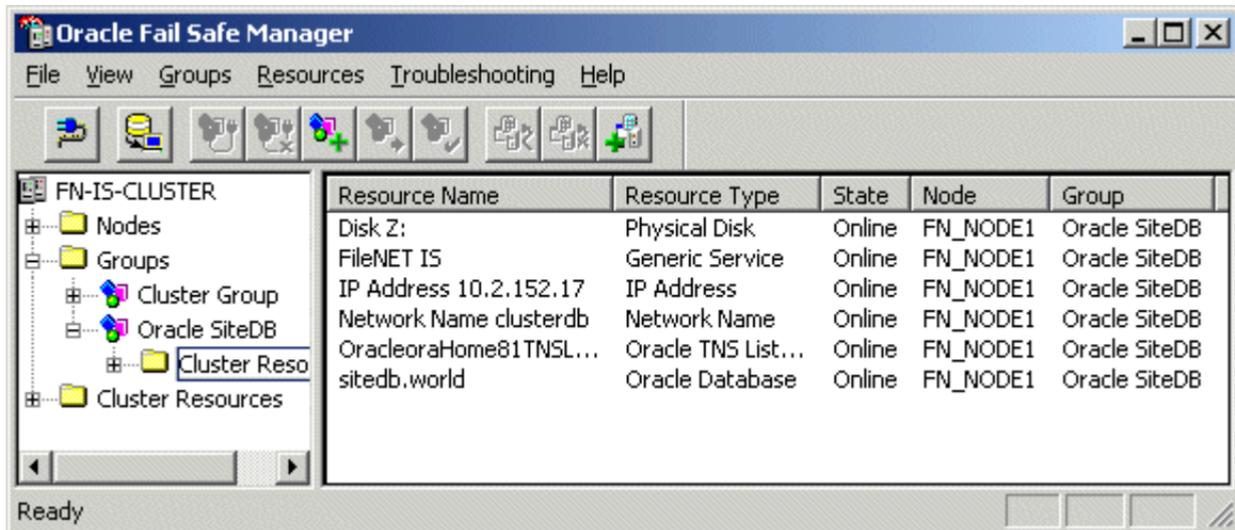
This procedure will test that control of the cluster server and Storage Library Device can be moved from one node to another.

- 1 Turn-on power to the Node 2 server and logon as **fnsw** or Windows **Administrator** for the domain.

- 2 From a Command Prompt, enter the command:

**fnddcfg**

- 3 Open the Oracle Fail Safe Manager.



- 4 Right-click on Oracle SiteDB group Group (or the group where Oracle is located) and click **Move to a Different Node**.  
In a few minutes the Owner of the Cluster Server will switch from Node 1 to Node 2. This will test that the Cluster is setup properly and is able to failover Image Services to Node 2.
- 5 Verify that the owner of the Cluster Server is now Node 2.
- 6 Check the following logs for any errors that would indicate that the IS did not start correctly.
  - a Open the Windows Event Viewer and check the Application and System Logs.
  - b Open the FileNet Task Manager and check the Event Logs.
  - c Resolve any errors before continuing.
- 7 This procedure is completed. If you want to move control of the cluster back to Node 1, you can do so now.

## Cluster Server Installation Completed

Congratulations. You have successfully installed and configured Cluster Service on your system.

### **CAUTION**

---

If you decide to test the cluster server and force a fail-over with the Image Services software setup and functioning, you must reboot the failed node before it can be considered ready for an actual use. Until this server node is rebooted it will not be ready to take over if the other node fails.

---

# 4

## Updating Microsoft Cluster Server with Microsoft SQL Server

This chapter contains information for updating Microsoft Cluster Server software using a Microsoft SQL Server relational database.

---

**Note** If you want to configure Image Services with SQL Server 2005 SP2, you must install IS 4.1 SP1 **BEFORE** completing any of the configuration steps.

If you are upgrading to SQL Server 2005 SP2, please do so **BEFORE** installing IS 4.1 SP1.

---

## Update FileNet Image Services Software to IS 4.1

Update the FileNet software on the primary server local drive (Node 1) first.

Install the FileNet Image Services software on the Shared Drive and the local drives of each server as follows:

- FNSW (Image Services executables) will be installed on the local drive for each node.
- FNSW\_LOC (Image Services Local Files) will be installed on the shared drive.

---

### Important!

**Do Not** use the same drive letter for the quorum drive and the shared drive. The quorum drive, which is used to store cluster configuration database checkpoints and log files, should be a separate drive from the Shared drive where IS shared files will reside. **The examples shown in this document, use Z or S for the shared drive.**

---

### Note

The shared drive can only be accessed by one node at a time.

---

Shut down Node 2.

---

**Note** Because Cluster Service is installed on both nodes, it is important to **keep Node 2 off** so that the rebooting of Node 1 during setup does not cause the cluster supported components, including the shared drive, to failover to Node 2.

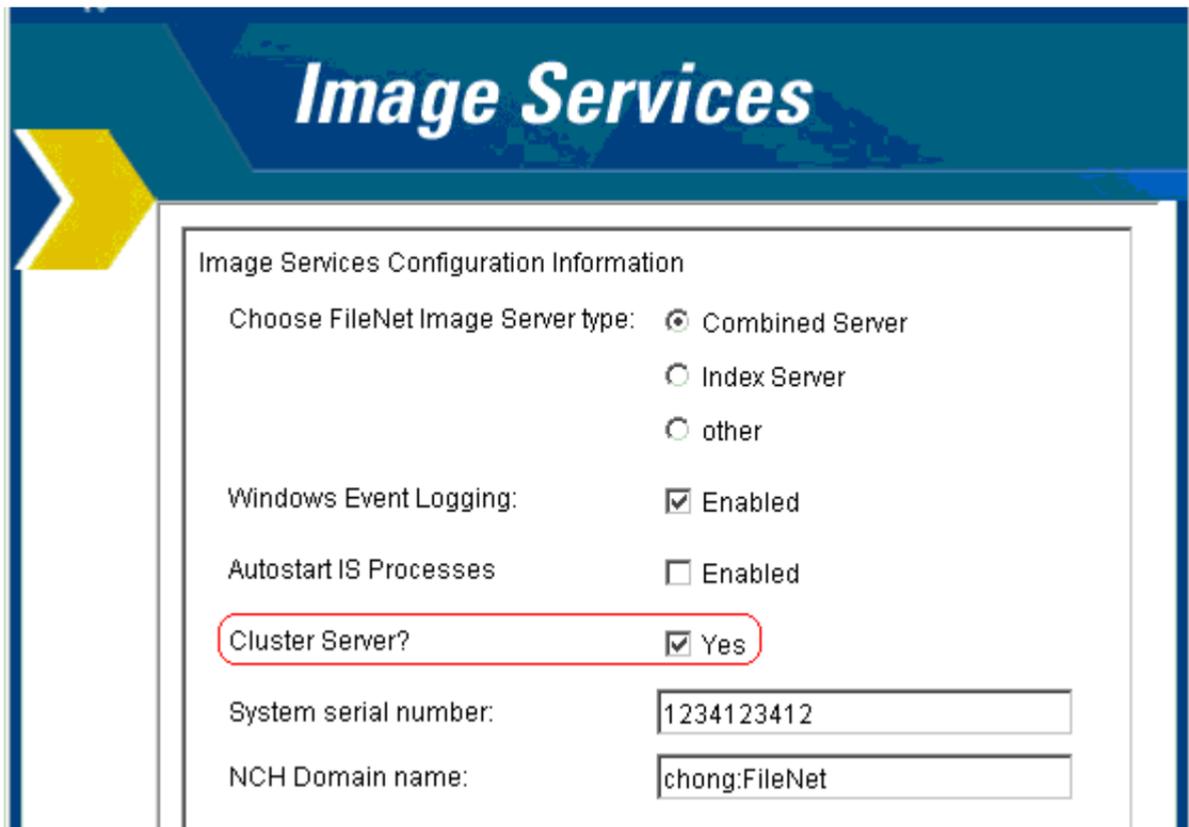
---

### Updating FileNet Image Services Software on Node 1

- 1 Turn on power to the Node 1 server **only**. If you aren't already, logon as Windows **Administrator** for the domain.
- 2 Make sure that SQL Server is shutdown on Node 1 before taking the resource offline.
- 3 Access the **Image Services 4.1 for Windows Server** software on Node 1.
- 4 Follow the instructions in the Image Services 4.1 *Installation and Configuration Procedures for Windows Server* to launch the Image Ser-

vices installer. To download this document from the IBM support page, see [“Accessing IBM FileNet Documentation” on page 30](#).

- 5 When the End User License Agreement screen displays, click **Yes** to accept the agreement.
- 6 When the Image Services Configuration Information screen displays, locate the check box for “Cluster Server?”.



## Image Services

Image Services Configuration Information

Choose FileNet Image Server type:  Combined Server  
 Index Server  
 other

Windows Event Logging:  Enabled

Autostart IS Processes  Enabled

**Cluster Server?  Yes**

System serial number:

NCH Domain name:

Make sure it's checked **Yes**, and continue the installation.

- 7 When the Enter Network Name screen displays, enter the network name from your **"Installation Worksheet" on page 27.**



The screenshot shows a window titled "Image Services" with a blue header and a yellow arrow on the left. The main content area contains the text "Enter the network name for Image Services:" followed by a text input field labeled "Network Name" containing the text "clusterDB".

This network name must match the SQL Server virtual name used during the SQL Server 2000 setup. Click **Next** to continue.

- 8 Continue the Image Services software installation as usual.

- 9 To configure Image Services with SQL Server 2005, install IS 4.1 SP1 by referring to the IS 4.1.1 Readme document.
- 10 Logon as the FileNet software user, such as **fns** create the relational databases by entering the following command:  
  
**fn\_setup\_rdb -f**
- 11 Reboot the Node 1 server and logon as **fns**.
- 12 Close the “Windows 2003 Configure Your Server” window.
- 13 Check the Windows Event Viewer for any errors. Resolve any errors before continuing.
- 14 Make sure that the SQL and Image Services software is running successfully before you continue.
- 15 After you’ve verified that Node 1 has been successfully updated, use the Cluster Administrator to take the Image Services offline.

Right-click on FileNet Group (or the group where SQL Server is located) and click **Take Offline**.

- 16 Shutdown Node 1.

### Updating FileNet Image Services Software on Node 2

- 1 Turn-on power to the Node 2 server.
- 2 After the Node 2 server comes up, logon as **Administrator**.
- 3 Access the **Image Services 4.1 for Windows Server** software on Node 2.
- 4 Follow the instructions in the Image Services 4.1 *Installation and Configuration Procedures for Windows Server* to launch the Image Services installer. To download this document from the IBM support page, see [\*\*“Accessing IBM FileNet Documentation” on page 30\*\*](#).
- 5 When the End User License Agreement screen displays, click **Yes** to accept the agreement.

- 6 When the Image Services Configuration Information screen displays, locate the check box for “Cluster Server?”.

# Image Services

## Image Services Configuration Information

Choose FileNet Image Server type:  Combined Server

Index Server

other

Windows Event Logging:  Enabled

Autostart IS Processes  Enabled

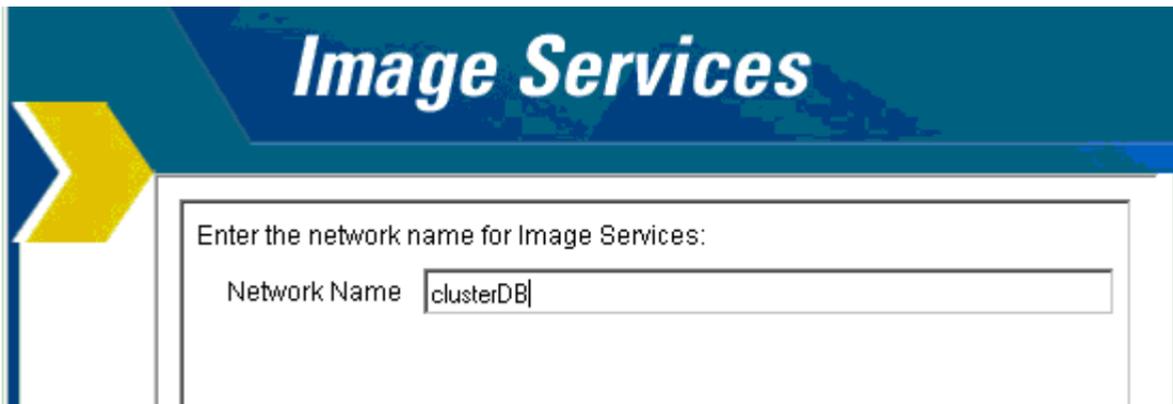
Cluster Server?  Yes

System serial number:

NCH Domain name:

Make sure it's checked **Yes**, and continue the installation.

- 7 When the Enter Network Name screen displays, enter the network name from your **"Installation Worksheet" on page 27.**



Enter the network name for Image Services:

Network Name

The Network Name must match the SQL Server virtual name used during the SQL Server 2000 setup. Click **Next** to continue.

- 8 Continue the Image Services software installation as usual.

- 9 To configure Image Services with SQL Server 2005, install IS 4.1 SP1 by referring to the IS 4.1.1 Readme document.
- 10 Reboot Node 2 and logon as the FileNet software user, such as **fns.w**.
- 11 Close the “Windows 2003 Configure Your Server” window.
- 12 Check the Windows Event Viewer for any errors. Resolve any errors before continuing.
- 13 Make sure that the SQL and Image Services software is running successfully on Node 2 before you continue.

## Create the LocalAdminInstall File

Use this procedure to create the “LocalAdminInstall” file in the C:\TEMP directory.

- 1 Open a Command Prompt window.
- 2 From the c: drive, change to the \temp directory by entering:

```
cd \temp
```

---

**Note** If the temp directory does not exist on the c: drive, use the **mkdir** command to create one.

---

- 3 At the \temp directory, enter the command:

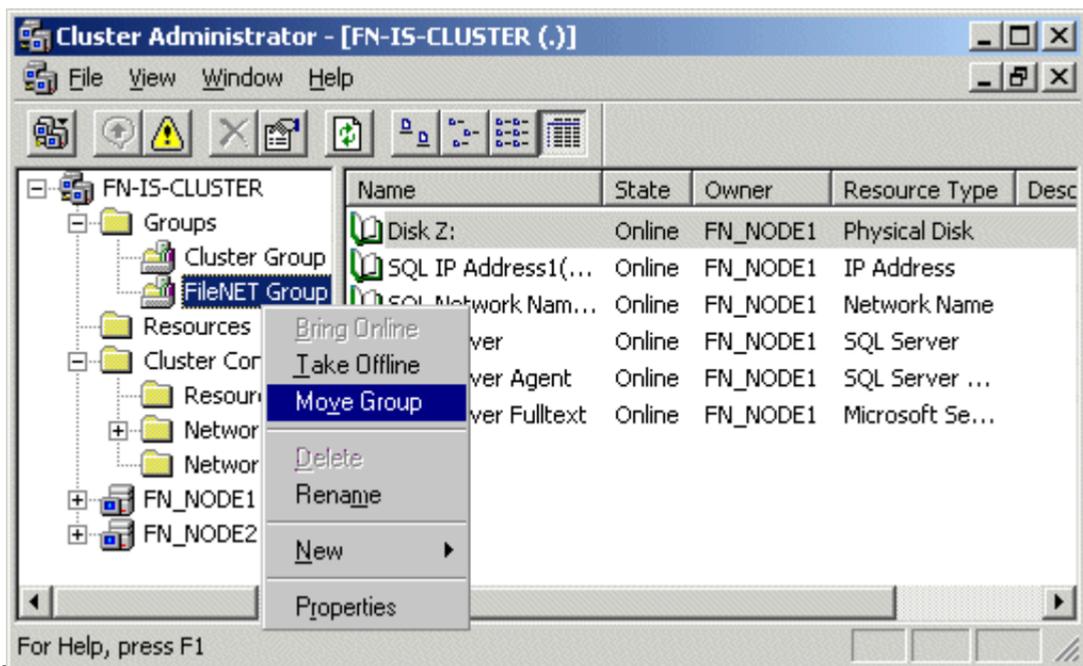
```
copy con LocalAdminInstall
```

- 4 Press and hold Ctrl key, and press the Z key.
- 5 Press Enter.

- 6 Verify the LocalAdminInstall file was successfully created in the c:\temp directory.

### Restart Node 1

- 1 Turn-on power to the Node 1 server.
- 2 After the Node 1 server comes up, logon as **Administrator**.
- 3 Depending on which Node is the primary and which is the standby server, you might want to move system resources at this time. If so, use the Cluster Administrator.



- 4 Right-click on FileNet Group (or the group where SQL Server is located) and click **Move Group**. In a few minutes the Owner of the Cluster Server will switch from Node 2 to Node 1.
- 5 In the Cluster Administrator, verify that the owner of the Cluster Server is now Node 1.

### Create the LocalAdminInstall File

Use this procedure to create the “LocalAdminInstall” file in the C:\TEMP directory.

- 1 Open a Command Prompt window.
- 2 From the c: drive, change to the \temp directory by entering:

```
cd \temp
```

---

**Note** If the temp directory does not exist on the c: drive, use the **mkdir** command to create one.

---

- 3 At the \temp directory, enter the command:  
  
**copy con LocalAdminInstall**
- 4 Press and hold Ctrl key, and press the Z key.
- 5 Press Enter.
- 6 Verify the LocalAdminInstall file was successfully created in the c:\temp directory.

## Cluster Server Update Completed

Congratulations! You have successfully updated the Cluster Service on your system.

---

**CAUTION**

If you decide to test the cluster server and force a fail-over with the Image Services software setup and functioning, you must reboot the failed node before it can be considered ready for an actual use. Until this server node is rebooted it will not be ready to take over if the other node fails.

---

# Updating Microsoft Cluster Server with Oracle

This chapter contains information for updating Microsoft Cluster Server software using an Oracle relational database.

## Before you Begin

Before you can update the cluster server software, each server in the cluster (Node 1 and Node 2) must have the following software installed.

## Update Oracle RDBMS Software to Oracle9i R2 or Oracle 10g R2

Perform this procedure on the Node 1 server first and then on Node 2.

Refer to the Oracle installation documentation (found on the Oracle CD-ROM), and chapter 3 of the *Guidelines for Installing/Updating Site-Controlled RDBMS Software for Windows* document. To download IBM

FileNet documentation from the IBM support page, see [“\*\*Accessing IBM FileNet Documentation\*\*” on page 30](#).

---

**Note** The *Guidelines for Installing/Updating Site-Controlled RDBMS Software for Windows* provides important information which includes the required Oracle products, fix packs, and configuration information.

---

### **Verify Resources Added to Same Group**

After the Oracle software update is completed, all resources must reside in only one group. Use the Cluster Administrator to check that all resources have been added to the same group.

### **Update Oracle Fail Safe Software to Release 3.3.3 or Higher**

Perform this procedure on the Node 1 server first and then on Node 2.

Refer to the Oracle installation documentation found on the Oracle CD-ROM to install the Fail Safe software. You can download Oracle Fail Safe from Oracle's Web site.

## Update FileNet Image Services Software to IS 4.1

Update the FileNet software on the primary server local drive (Node 1) first.

---

**Note** If you want to configure Image Services with SQL Server 2005, you must install IS 4.1 SP1.

---

- 1 Install the FileNet Image Services software on the Shared Drive and the local drives of each server as follows:
  - FNSW (Image Services executables) will be installed on the local drive for each node.
  - FNSW\_LOC (Image Services Local Files) will be installed on the shared drive.

---

**Important!** **Do Not** use the same drive letter for the quorum drive and the shared drive. The quorum drive, which is used to store cluster configuration database checkpoints and log files, should be a separate drive from

the Shared drive where IS shared files will reside. **The examples shown in this document use Z or S as the shared drive.**

---

**Note** The shared drive can only be accessed by one node at a time.

---

2 Shut down Node 2.

---

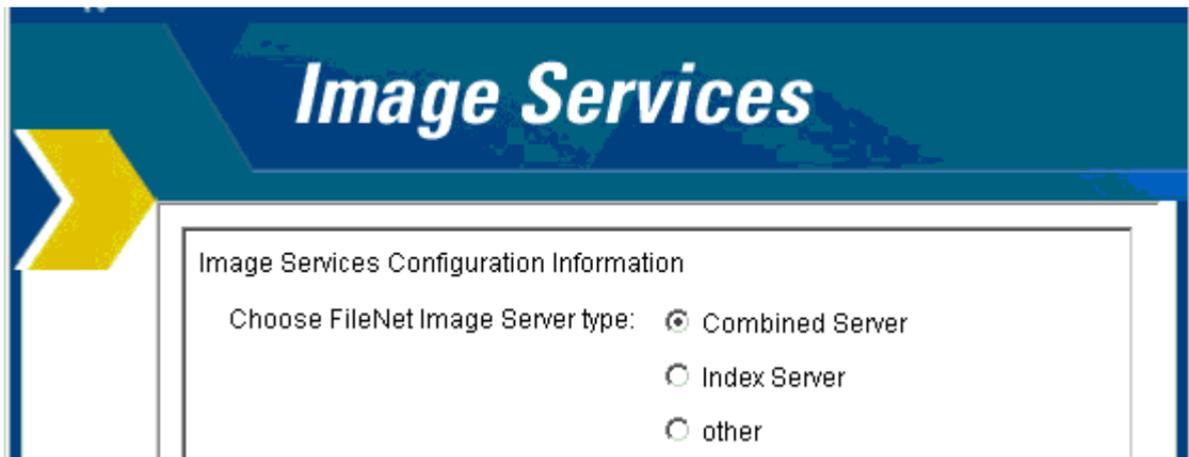
**Note** Because Cluster Service is installed on both nodes, it is important to **keep Node 2 off** so that the rebooting of Node 1 during setup does not cause the cluster supported components, including the shared drive, to failover to Node 2.

---

## Updating FileNet Image Services Software on Node 1

- 1 Turn on power to the Node 1 server **only**. If you aren't already, logon as Windows **Administrator** for the domain.
- 2 Ask the Database Administrator to make sure that Oracle is shutdown on Node 1 by using Oracle Fail Safe to take the resource off-line.

- 3 Access the **Image Services 4.1 for Windows Server** software on Node 1.
- 4 Follow the instructions in the Image Services 4.1 *Installation and Configuration Procedures for Windows Server* to launch the Image Services installer. To download this document from the IBM support page, see **[“Accessing IBM FileNet Documentation” on page 30.](#)**
- 5 When the End User License Agreement screen displays, click **Yes** to accept the agreement.
- 6 When the Image Services Configuration Information screen displays, locate the check box for “Cluster Server?”.



Windows Event Logging:	<input checked="" type="checkbox"/> Enabled
Autostart IS Processes	<input type="checkbox"/> Enabled
Cluster Server?	<input checked="" type="checkbox"/> Yes
System serial number:	<input type="text" value="1234123412"/>
NCH Domain name:	<input type="text" value="chong:FileNet"/>

Make sure it's checked **Yes**, and continue the installation.

- 7 When the Enter Network Name screen displays, enter the network name from your **["Installation Worksheet" on page 27.](#)**



The Network Name must match the Oracle virtual name used during the Oracle installation. Click **Next** to continue.

- 8 Continue the Image Services software installation as usual.
- 9 When the installation is complete, logon as the FileNet software user, such as **fns** create the relational databases by entering the following command:

```
fn_setup_rdb -f
```

- 10 Reboot the Node 1 server and logon as the FileNet software user, such as **fns**.
- 11 Close the “Windows 2003 Configure Your Server” window.
- 12 Check the Windows Event Viewer for any errors. Resolve any errors before continuing.
- 13 Start FileNet Image Services by using Oracle Fail Safe to bring the IS ControlService online.
- 14 Make sure that the Oracle and Image Services software is running successfully before you continue.
- 15 After you’ve verified that Node 1 has been successfully updated, use Oracle Fail Safe to take the IS ControlService offline.
- 16 Shutdown Node 1.

## Updating FileNet Image Services Software on Node 2

- 1 Turn-on power to the Node 2 server.
- 2 After the Node 2 server comes up, logon as **Administrator**.
- 3 Access the **Image Services 4.1 for Windows Server** software on Node 2.
- 4 Follow the instructions in the Image Services 4.1 *Installation and Configuration Procedures for Windows Server* to launch the Image Services installer. To download this document from the IBM support page, see **[“Accessing IBM FileNet Documentation” on page 30.](#)**
- 5 When the End User License Agreement screen displays, click **Yes** to accept the agreement.
- 6 When the Image Services Configuration Information screen displays, locate the check box for “Cluster Server?”.

# Image Services

## Image Services Configuration Information

Choose FileNet Image Server type:  Combined Server  
 Index Server  
 other

Windows Event Logging:  Enabled

Autostart IS Processes  Enabled

Cluster Server?  Yes

System serial number:

NCH Domain name:

Make sure it's checked **Yes**, and continue the installation.

- 7 When the Enter Network Name screen displays, enter the network name from your **"Installation Worksheet" on page 27.**



Image Services

Enter the network name for Image Services:

Network Name

The Network Name must match the Oracle virtual name used during the Oracle installation. Click **Next** to continue.

- 8 Continue the Image Services software installation as usual.

- 9 When the installation is complete, reboot Node 2 and logon as the FileNet software user, such as **fns**.
- 10 Check the Windows Event Viewer for any errors. Resolve any errors before continuing.
- 11 Ask the Database Administrator to start Oracle manually using Oracle Fail Safe.
- 12 Start FileNet Image Services by using Oracle Fail Safe to bring the IS ControlService online.
- 13 Make sure that the Oracle and Image Services software is running successfully on Node 2 before you continue.

### Create the LocalAdminInstall File

Use this procedure to create the “LocalAdminInstall” file in the C:\TEMP directory.

- 1 Open a Command Prompt window.

- 2 From the c: drive, change to the \temp directory by entering:

```
cd \temp
```

---

**Note** If the temp directory does not exist on the c: drive, use the **mkdir** command to create one.

---

- 3 At the \temp directory, enter the command:

```
copy con LocalAdminInstall
```

- 4 Press and hold Ctrl key, and press the Z key.
- 5 Press Enter.
- 6 Verify the LocalAdminInstall file was successfully created in the c:\temp directory.

## Restart Node 1

- 1 Turn-on power to the Node 1 server.

- 2 After the Node 1 server comes up, logon as **Administrator**.
- 3 Depending on which Node is the primary and which is the standby server, you might want to move system resources at this time. If so, launch the Oracle Fail Safe Manager from the Programs folder in the Start menu.

Resource Name	Resource T...	State	Node	Group
Disk Z:	Physical Disk	Online	FN_NODE1	Oracle SiteDB
IP Address 10.2.152.17	IP Address	Online	FN_NODE1	Oracle SiteDB
Network Name clusterdb	Network N...	Online	FN_NODE1	Oracle SiteDB
OracleoraHome81TNS...	Oracle TNS...	Online	FN_NODE1	Oracle SiteDB
sitedb.world	Oracle Dat...	Online	FN_NODE1	Oracle SiteDB

Ready

- 4 Right-click on Oracle SiteDB group (or the group where Oracle is located) and click **Move to a Different Node**. In a few minutes the Owner of the Cluster Server switches from Node 2 to Node 1.
- 5 In the Oracle Fail Safe Manager, verify that the owner of the Cluster Server is now Node 1.

### Create the LocalAdminInstall File

Use this procedure to create the “LocalAdminInstall” file in the C:\TEMP directory.

- 1 Open a Command Prompt window.
- 2 From the c: drive, change to the \temp directory by entering:

```
cd \temp
```

---

**Note** If the temp directory does not exist on the c: drive, use the **mkdir** command to create one.

---

- 3 At the \temp directory, enter the command:  
  
**copy con LocalAdminInstall**
- 4 Press and hold Ctrl key, and press the Z key.
- 5 Press Enter.
- 6 Verify the LocalAdminInstall file was successfully created in the c:\temp directory.

## Cluster Server Update Completed

Congratulations! You have successfully updated the Cluster Service on your system.

---

**CAUTION**

If you decide to test the cluster server and force a fail-over with the Image Services software setup and functioning, you must reboot the failed node before it can be considered ready for an actual use. Until this server node is rebooted it will not be ready to take over if the other node fails.

---

# Appendix A – User and Group Security Configuration for Cluster

The Users and Groups should be set up on the Domain Controller and on the Image Services server according to this schema:

## On the Domain Controller:

**fnsw** (User)

Member of Domain Users, FNADMIN, FNOP, FNUSR.

**oracle** (User)

Member of Domain Users, FNUSR.

**FNADMIN** (Security Group - Domain Local)

Members should be Domain/Administrator, Domain/fnsw.

**FNOP** (Security Group - Domain Local)

Members should be Domain/fnsw.

**FNUSR** (Security Group - Domain Local)

Members should be Domain/fnsw, Domain/oracle.

**On the Image Services server:**

**ORA\_DBA** (Local Group)

Members should be Domain/fnsw, Domain/oracle,  
Domain/Administrator, Administrators.

# Appendix B – Setting up a Secure Native Mode Domain Installation

Currently, Image Services requires that the person who installs cluster server must have Full Domain Administrator Rights in order to perform a normal installation. However, if you **do not** want the user who installs the Cluster Server system to have Full Domain Administrator Rights, you can use this appendix to create the **Installer** user (with limited rights), setup other required FileNet users and groups, and configure the node 1 and node 2 cluster servers.

## Configure the Domain Controller

Perform the procedures in this section on the Domain Controller.

### Create FileNet Groups

- 1 Logon to the Domain Controller as Windows **Administrator**.

- From the *Taskbar*, click the **Start** button, point to **Programs**, then point to **Administrative Tools**.
- Point to and click on the **Active Directory Users and Computers** icon. The Active Directory Users and Computers window displays.



- 4 Right-click on **Users**, point to New, and point to and click **Group**. The New Object - Group window dialog box appears.

Using the New Object - Group dialog box, follow the steps below to create the following groups and user descriptions:

Group Name	Group Description
FNADMIN	Members have all privileges on FileNet files and databases
FNOP	Members can start/stop and execute FileNet software
FNUSR	Members have normal privileges on FileNet files and databases

- 5 In the New Object - Group window, enter FNADMIN in the Group Name box.
- 6 In the Group Scope field, check the Domain local radio button.
- 7 Verify that the Security radio button in the Group type field is checked, and click **OK**.

- Repeat steps [step 4](#) to [step 7](#) to create the FNOP and FNUSR groups. After the FNOP and FNUSR groups have been created, leave the Active Directory Users and Computers window open and continue to the next procedure.

## Create FileNet Users

- From the Active Directory Users and Computers window, right-click on Users, point to New, and point to and click **User**.

The New Object - User dialog box appears.

- Using the New Object - User dialog box, create the following users:

User Name	User Description
Installer*	User that will install the FileNet IS 4.1 software.
fnsu	Primary FileNet software user
oracle	Primary Oracle software user

\* **Installer** is the name we chose to use. You can use any name you choose.

**Important**

---

The oracle user name is required even if you have a Microsoft SQL Server relational database. The Image Services installer checks for this name and will fail if it is not present.

---

**Note**

---

If you are planning to install Microsoft SQL Server, you do not need to create a special user for the RDBMS software. The SQL Server installer configures the system for use with the SQL Server software.

---

**3**

In the New Object - User dialog box, enter the required details for the user that will install the IS 4.1 software and click **Next**.

**Note**

---

In our example we used **Installer** for the logon name of the user who will install the IS 4.1 software.

---

A second New Object - User dialog box, with Password fields, displays.

- 4 Fill-in the Password, and Confirm password, fields, check the appropriate checkbox, and click **Next**.
- 5 If you are satisfied with the information that appears in the New Object - User window, click **Finish**.

The Active Directory Users and Computers window displays again.

- 6 Repeat steps [step 1](#) to [step 5](#) to create the **fnsw** and **oracle** users.

After all other users have been created, leave the Active Directory Users and Computers window open and continue to the next procedure.

## Add Users to FNADMIN, FNOP, and FNUSR Groups

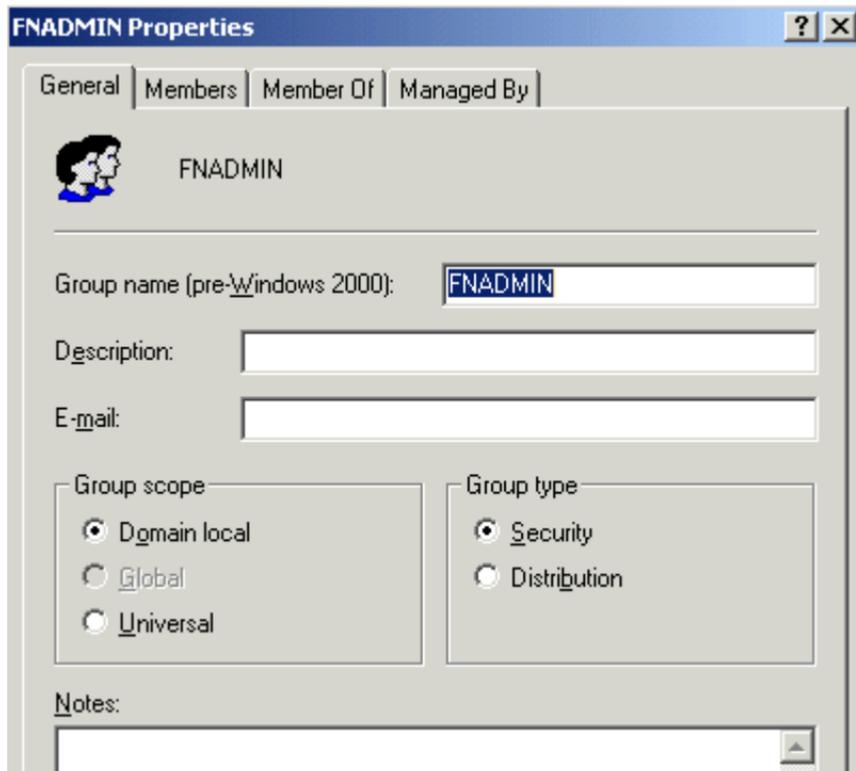
Perform this procedure on the Domain Controller. Use this procedure to add the **Installer** and **fnsw** users to the FNADMIN, FNOP, and FNUSR groups.

**Note** In our examples we used **Installer** for the user that will be installing the IS software.

---

- 1 From the Active Directory Users and Computers window, click on **Users**, and double-click on the **FNADMIN** group.

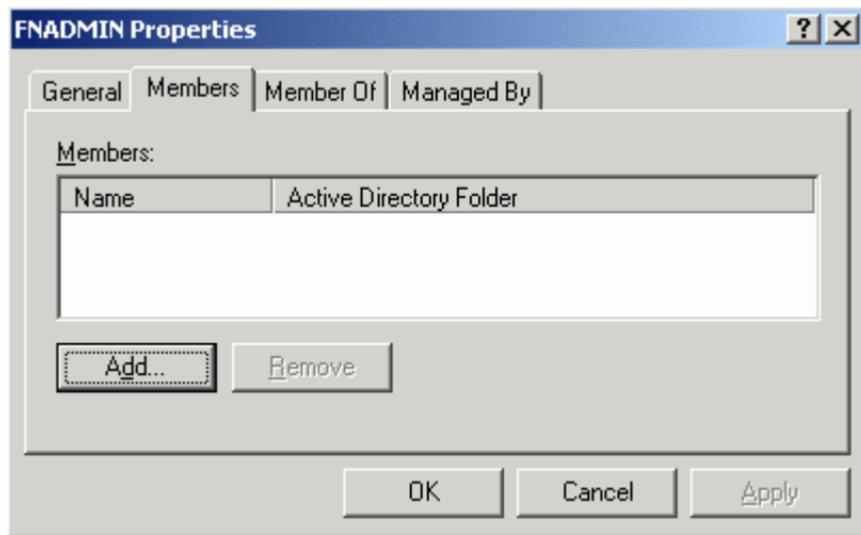
The FNADMIN Properties dialog box appears.



The screenshot shows the 'FNADMIN Properties' dialog box with the 'General' tab selected. The dialog has a title bar with a question mark and a close button. Below the title bar are four tabs: 'General', 'Members', 'Member Of', and 'Managed By'. The 'General' tab is active and contains the following elements:

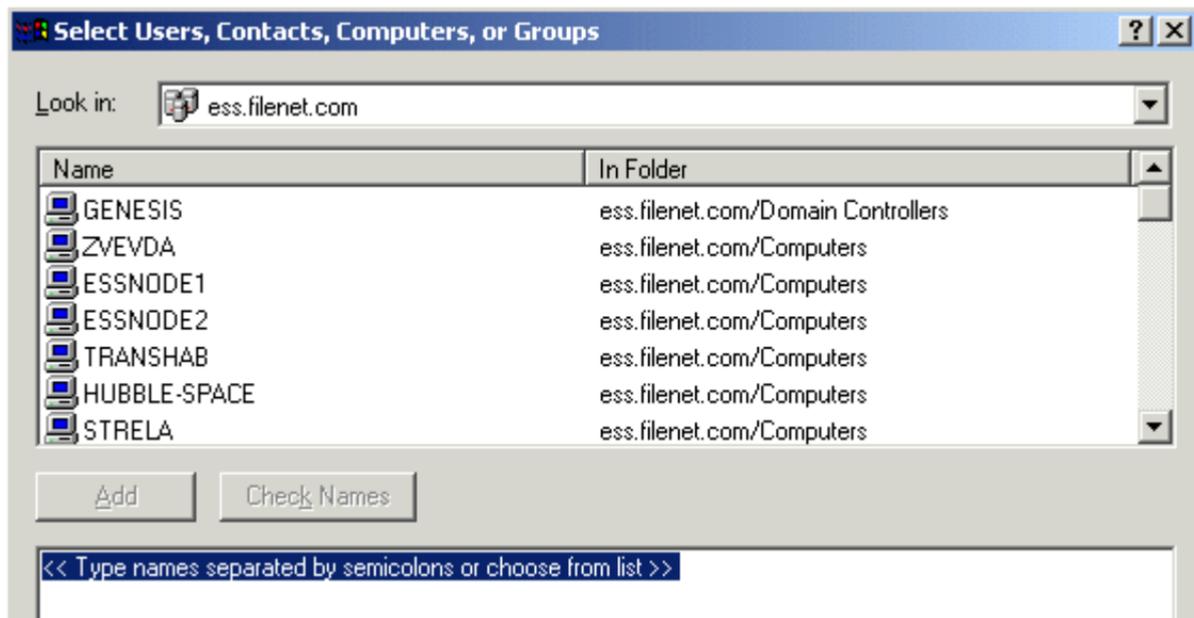
- A user icon and the text 'FNADMIN'.
- A text box for 'Group name (pre-Windows 2000):' containing the text 'FNADMIN'.
- An empty text box for 'Description:'.
- An empty text box for 'E-mail:'.
- Two sections of radio buttons:
  - 'Group scope' with options:  Domain local,  Global, and  Universal.
  - 'Group type' with options:  Security and  Distribution.
- A 'Notes:' section with an empty text area and a scroll bar.

- 2 Click the Members tab to display the Members window.



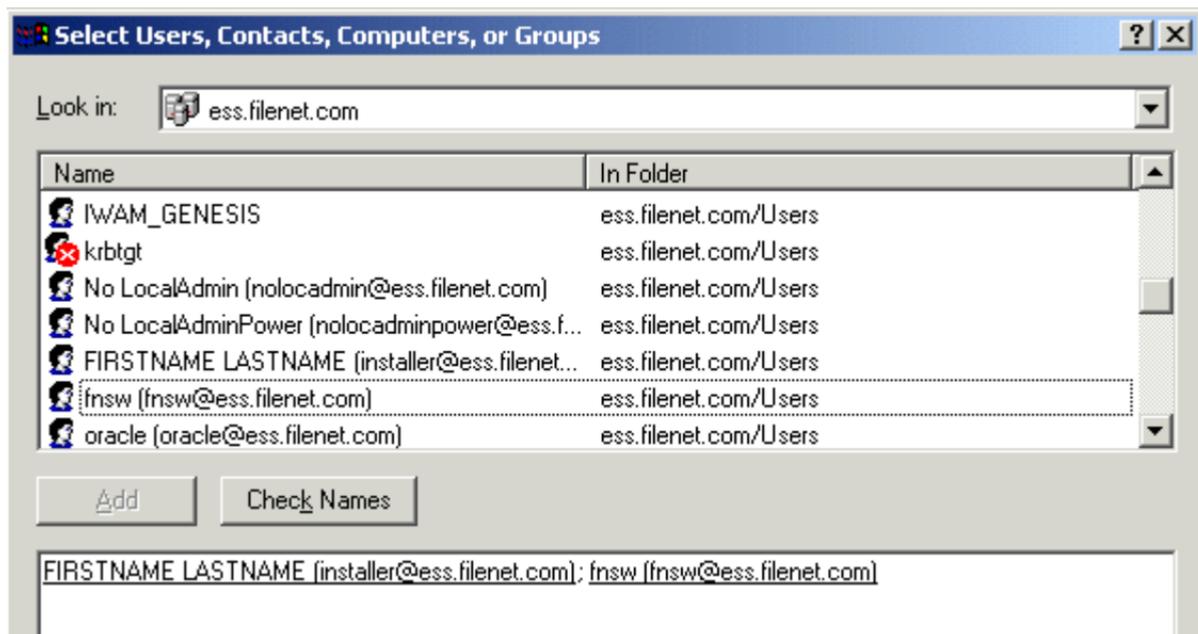
- 3 On the Members tab, click the **Add** button.

The Select Users, Contacts, Computers, or Groups window appears.



- 4 Hold down the Ctrl key and select both the **Installer** and **fnsw** users from the list of Names. Then click the **Add** button.

The screen is updated to show the user names you added.



- 5 Click **OK**. The FNADMIN Properties window appears.
- 6 Click **Apply** and then click **OK**.

The Active Directory Users and Computers window appears.

- 7 Repeat **step 1** through **step 6** to add the **Installer** user and **fnsw** user to the FNOP and FNUSR groups.

---

**Note** In step 1, double click on either FNOP or FNUSR to open the appropriate properties window.

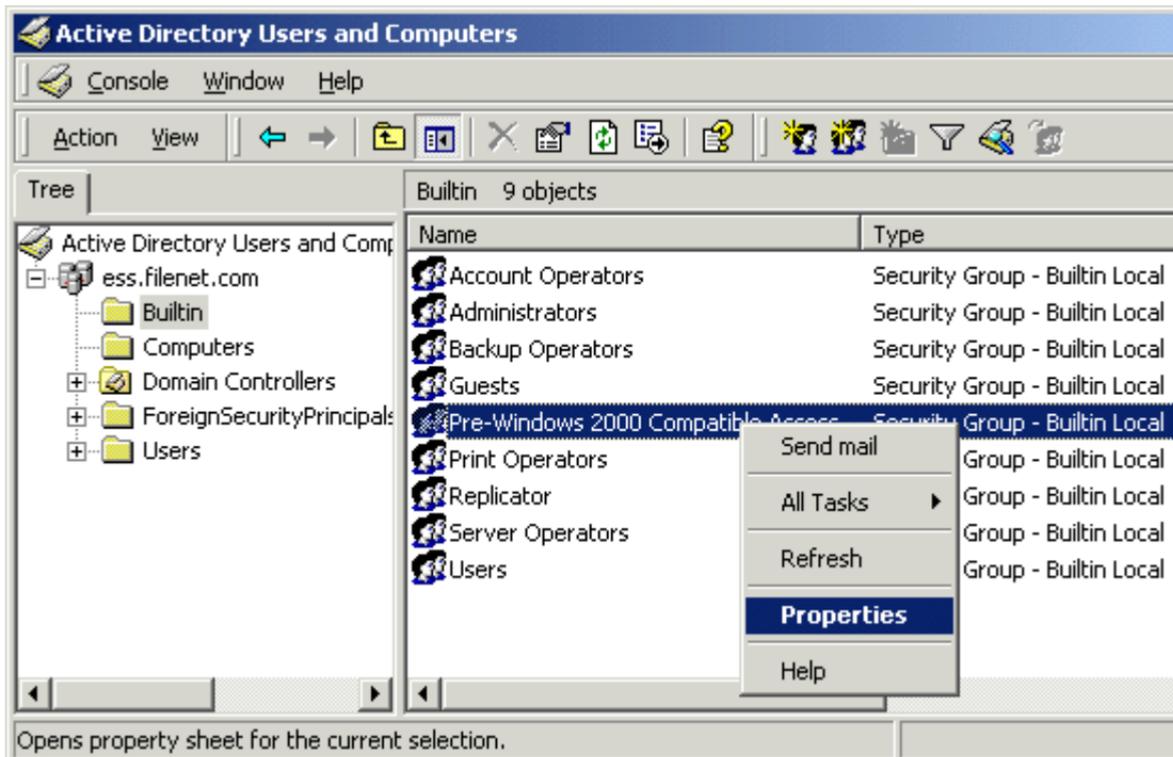
---

- 8 After the **Installer** and **fnsw** users have been added to the FNADMIN, FNOP, and FNUSR groups, continue to the next procedure.

## Add Nodes to Pre-Windows 2000 Compatible Access Properties

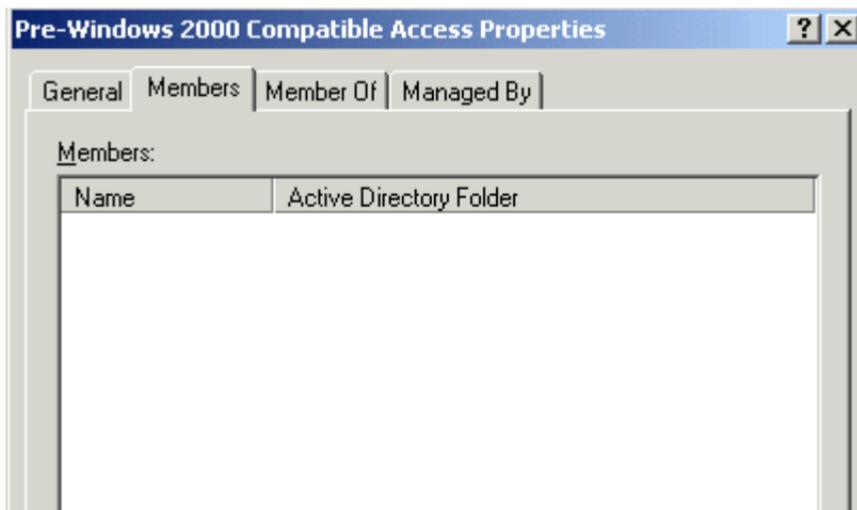
- 1 On the Active Directory Users and Computers window, click the Builtin folder.

The Builtin objects display in the Active Directory Users and Computers window.



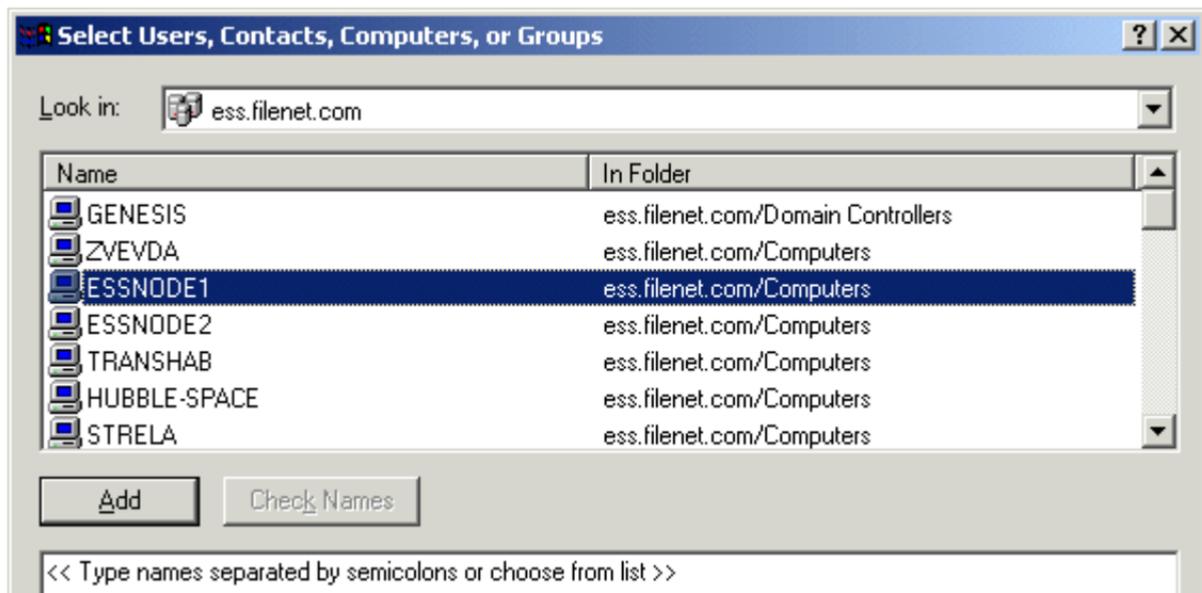
- 2 Right-click on the Pre-Windows 2000 Compatible Access object and select Properties, as shown above.

The Pre-Windows 2000 Compatible Access Properties window displays.



- 3 Click on the Members tab, and click the **Add** button.

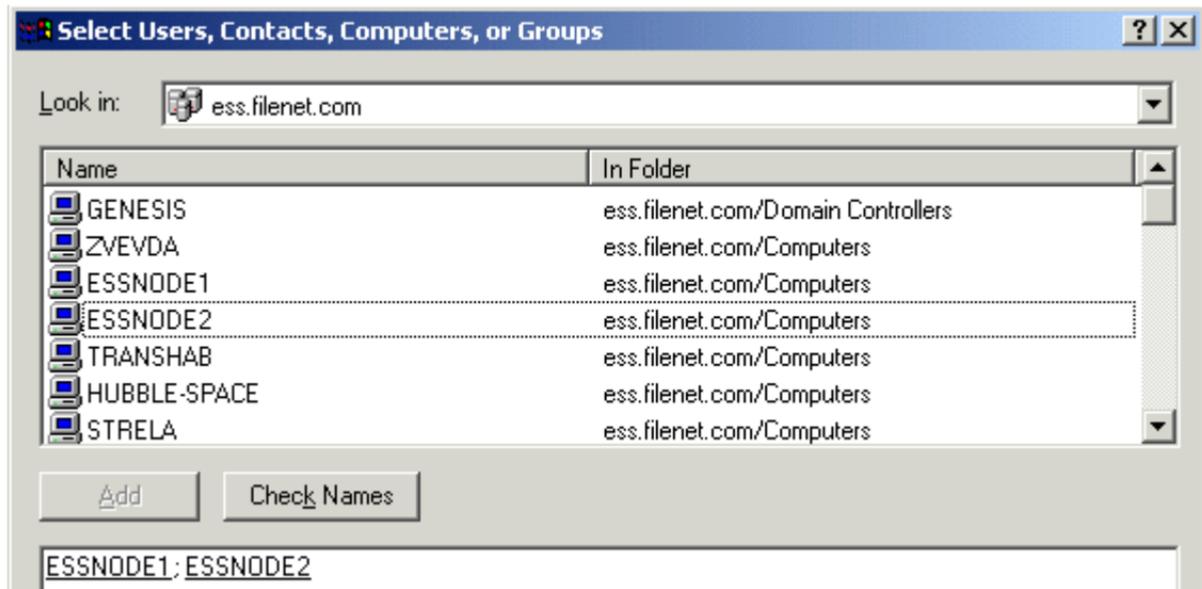
The Select Users, Contacts, Computers, or Groups dialog box appears.



- 4 Select Node 1 and click the **Add** button.

- 5 Select Node 2 and click the **Add** button.

The dialog box is updated to show that the nodes have been added.



- 6 Click **OK** on the Select Users, Contacts, Computers, or Groups dialog box.

The Pre-Windows 2000 Compatible Access Properties window displays again and show that the two nodes have been added.

- 7 Click **Apply** on the Pre-Windows 2000 Compatible Access Properties dialog box to apply the changes.

- 8 Click **OK** to close the Pre-Windows 2000 Compatible Access Properties window.

The Active Directory Users and Computers window appears.

- 9 Click **OK** to close the Active Directory Users and Computers window.

## Configure Node 1 and Node 2 Servers

Perform these procedures on the node 1 server first, and then repeat them on the node 2 server.

### Create the LocalAdminInstall File

Use this procedure to create the “LocalAdminInstall” file in the C:\TEMP directory.

- 1 Turn-on the node 1 and node 2 servers and logon as Domain Administrator on each server.
- 2 Open a Command Prompt window.
- 3 From the c: drive, change to the \temp directory by entering:

```
cd \temp
```

---

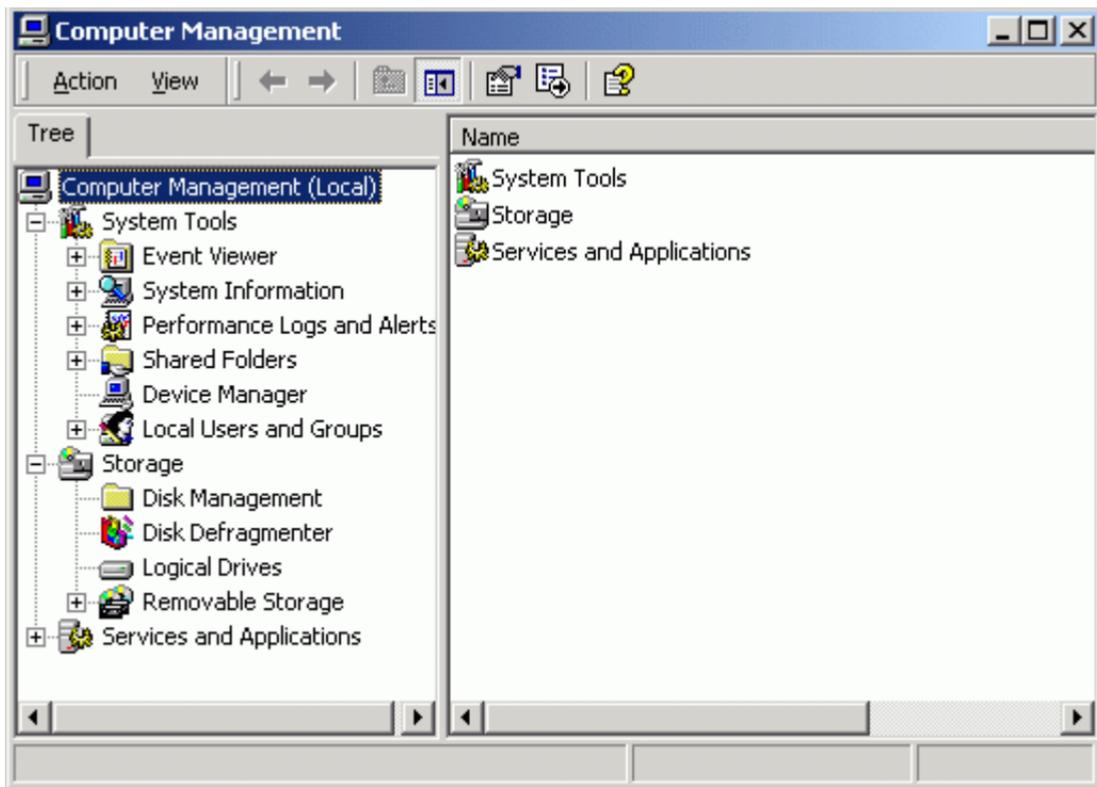
**Note** If the temp directory does not exist on the c: drive, use the **mkdir** command to create one.

---

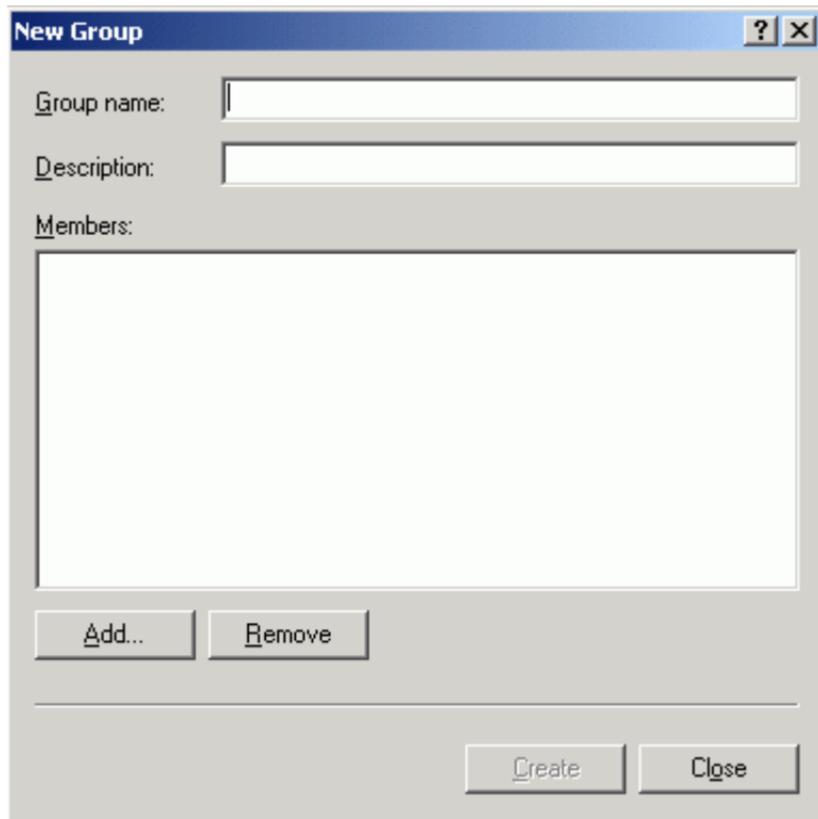
- 4 At the \temp directory, enter the command:  
  
**copy con LocalAdminInstall**
- 5 Press and hold Ctrl key, and press the Z key.
- 6 Press **Enter**.
- 7 Verify the LocalAdminInstall file was successfully created in the c:\temp directory.

## Create New Groups

- 1 From the Taskbar, click the **Start** button, point to **Programs**, then point to **Administrative Tools**.
- 2 Point to and click the **Computer Management** icon.  
The Computer Management window displays.



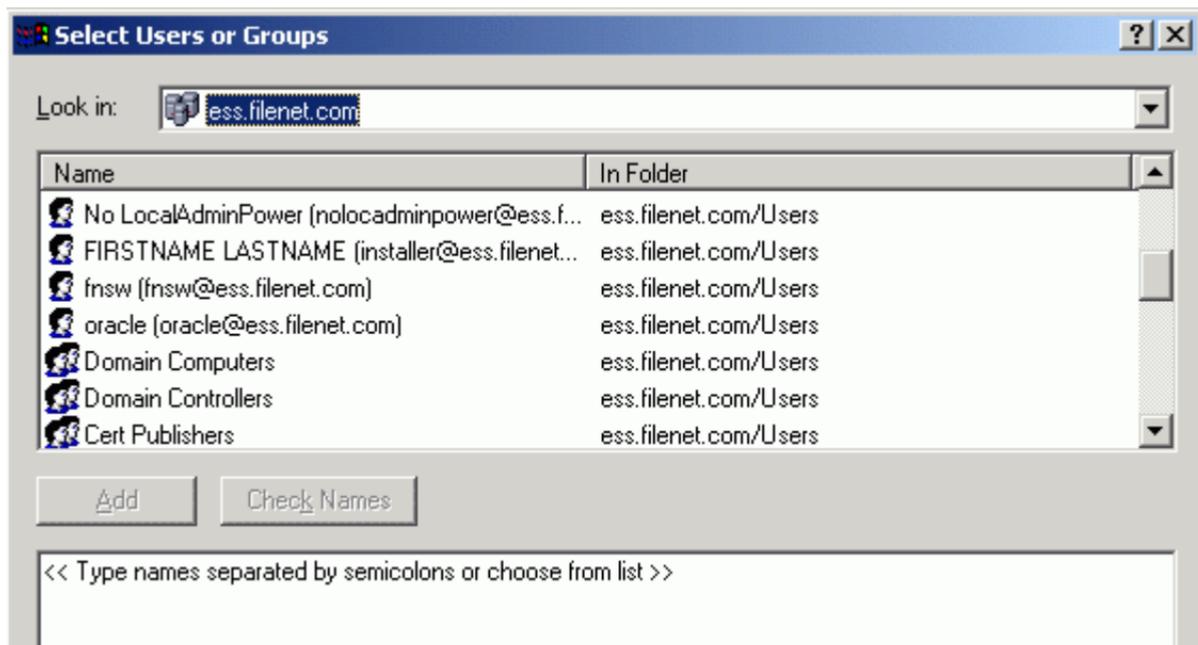
- 3 Double-click on **Local Users and Groups**.
- 4 Right-click on Groups.
- 5 Click on **New Group**. The New Group window appears.



- 6 In the Group Name box, enter **dba** and click **Add**. The Select Users or Groups window opens.
- 7 In the Look in box, select **Domain Controller** from the pulldown menu. The Enter Network Password dialog box **might** appear.
- 8
  - a If the Enter Network Password dialog box appears, continue to **step 9**.
  - b If the Enter Network Password dialog box does not appear, skip to **step 10**.



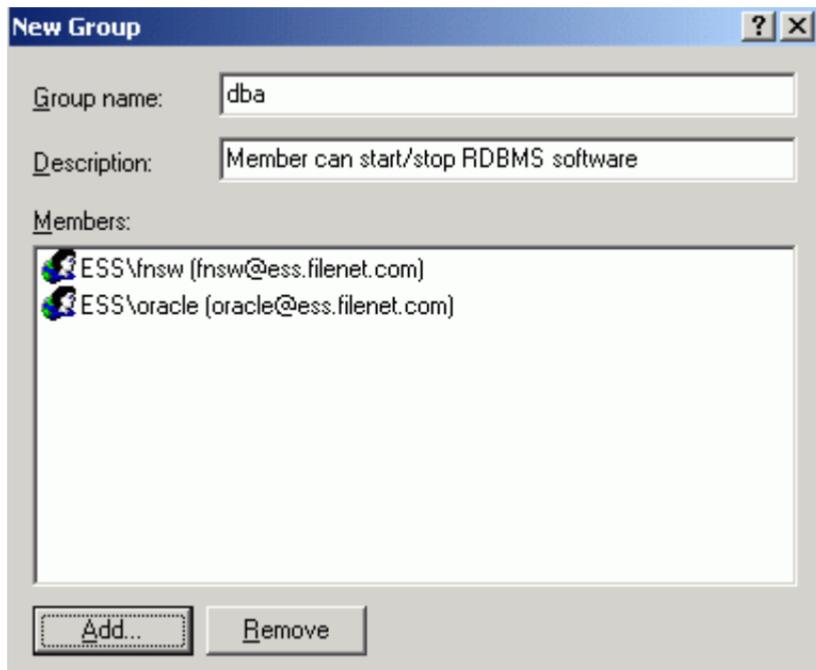
- 9 Enter the Domain Windows Administrator ID and password, and click **OK**. The Select Users or Groups window displays.



- 10** Press and hold the Ctrl key to select the **fnsw**, **oracle**, and **Installer** user names from the Name list; then click **Add**.

(The **Installer** is the user you created earlier.)

- 11 Click **OK**. The New Group dialog box appears.



- 12 In the New Group dialog box, click **Create**.
- 13 Repeat [step 6](#) to [step 12](#) to create the ora\_dba group.

**Important**

---

The ora\_dba group is required even if you have a Microsoft SQL Server database. The Image Services installer checks for this name and will fail if it is not present.

---

- 14 After both the dba and ora\_dba groups have been created, click the **Close** button. The Computer Management window appears.

## Add Users to Local Admin Group

In this procedure you will add the **Installer** and **fns** users to the Local Admin Group.

- 1 At the Computer Management window, click **Groups**.
- 2 Double-click on the Administrators group icon. The Administrators Properties dialog box appears.

- 3 Click the **Add** button.  
  
The Select Users and Groups dialog box appears.
- 4 In the Look in box, select **Domain Controller** from the pulldown menu.  
The Enter Network Password dialog box **might** appear.
- 5
  - a If the Enter Network Password dialog box appears, continue to **step 6.**
  - b If the Enter Network Password dialog box does not appear, skip to **step 7.**



- 6 Enter the Domain Windows Administrator ID and password, and click **OK**. The Select Users or Groups window displays.
- 7 Select the **Installer** user name from the Name list; then click **Add**.

- 8 Click **OK**. The Administrators Properties dialog box appears.
- 9 Click **Apply** to complete the procedure.
- 10 Repeat **step 3** through **step 9** to add the **fnsw** user.

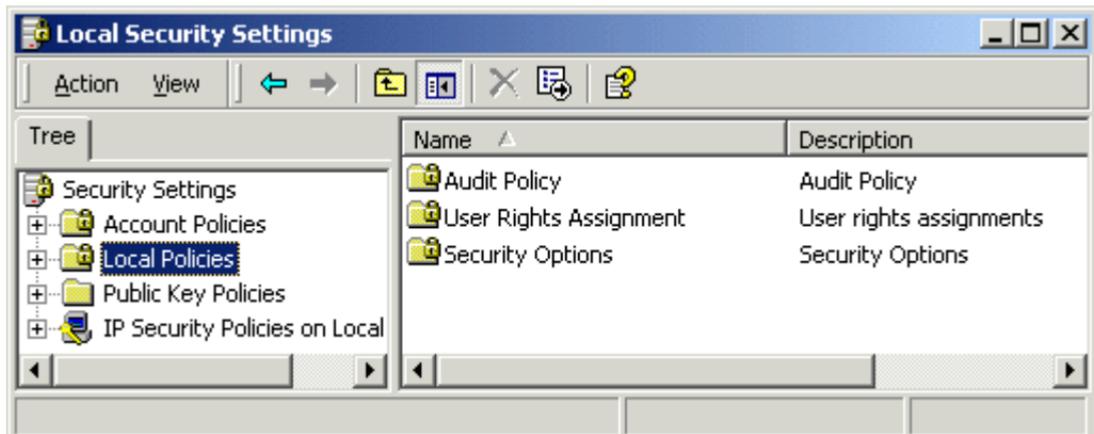
After both the installer and fnsw users have been added to the Local Admin group, close the Computer Management window and continue to the next section.

## Modify the Local Security Policy for the Domain Account (fnsw)

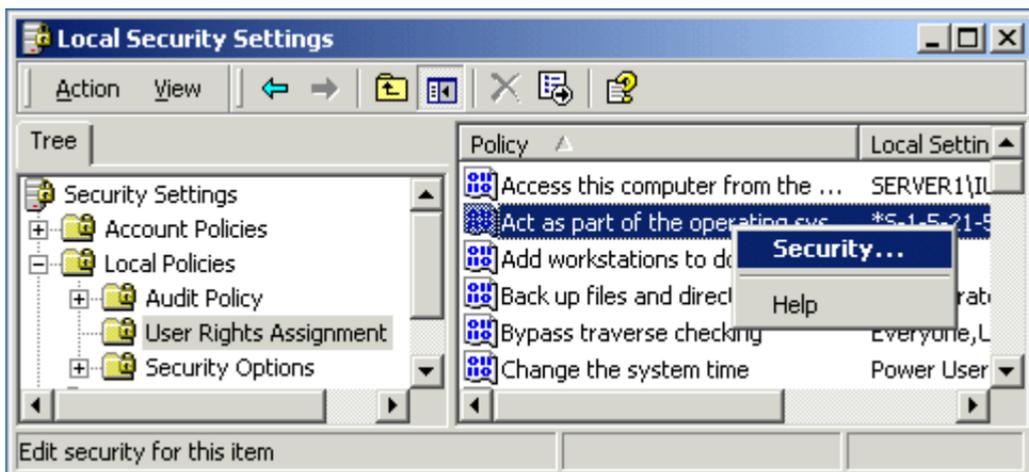
Modify the local security policy to give the domain account permissions for the following policies:

- Act as part of the operating System
  - Log on as a service
  - Increase quotas
  - Replace a process token
- 1 From the Taskbar, click Start, point to Programs, point to the **Administrative Tools**, and click **Local Security Policy**.

The Local Security Settings screen opens.



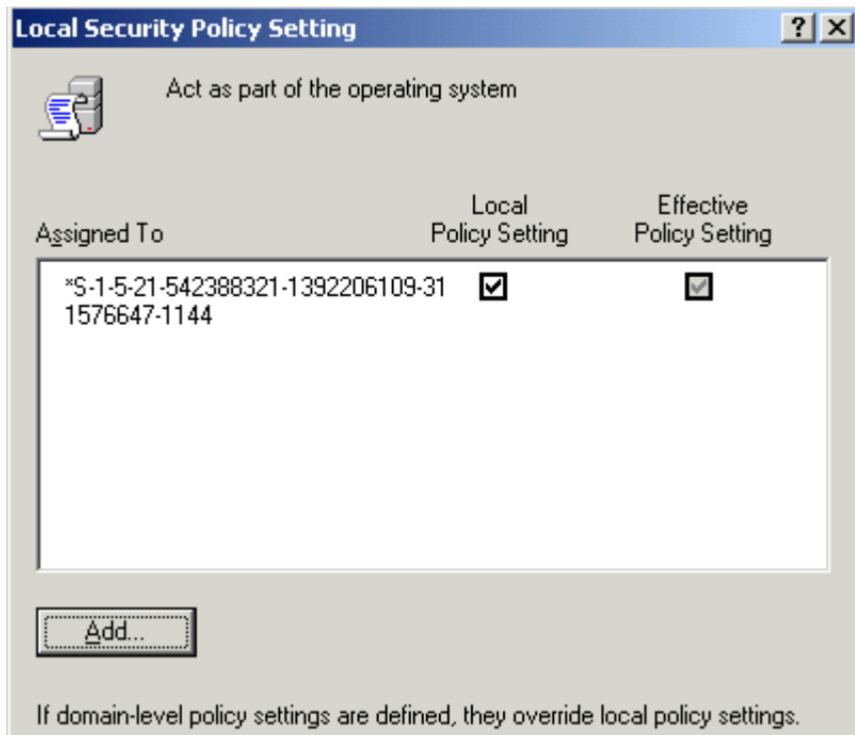
- 2 Expand the Local Policies folder and select the **User Rights Assignment** folder.



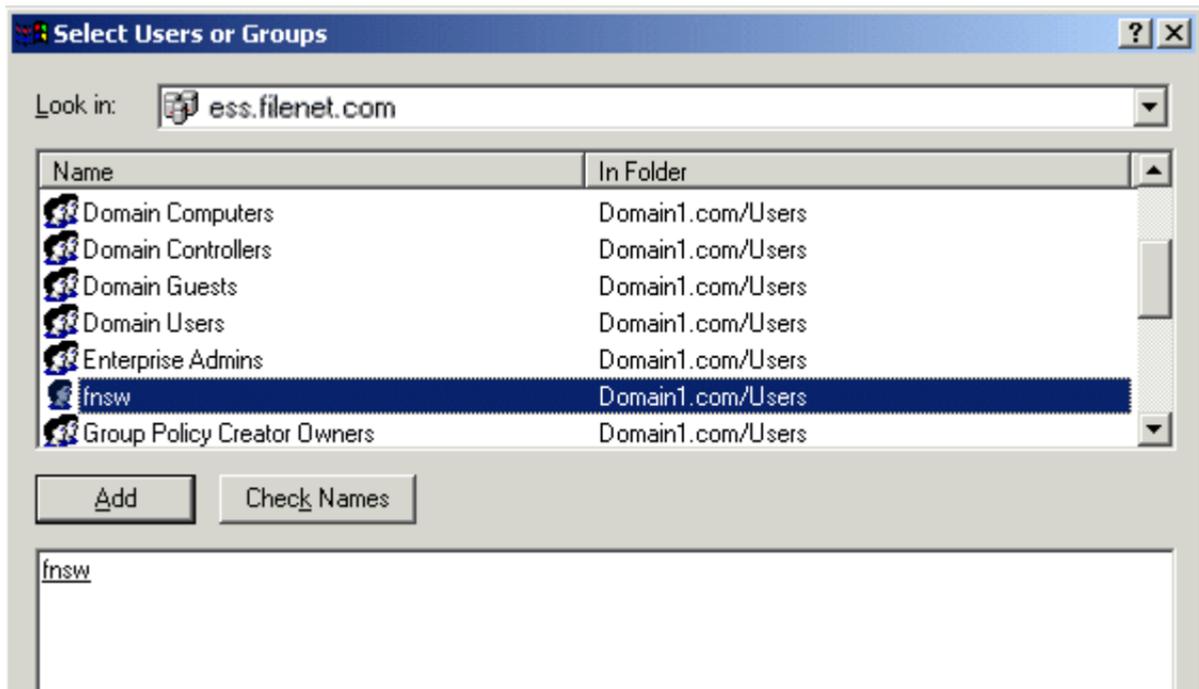
- 3 Right-click on the policy selection you want to add, and select **Security**.

**Note** There are four policy selections that you will be adding. The first one, Act as part of the operating system, is shown in the following example screens.

The Local Security Policy Setting window opens.



- Click the **Add** button to open the Select Users or Groups window.



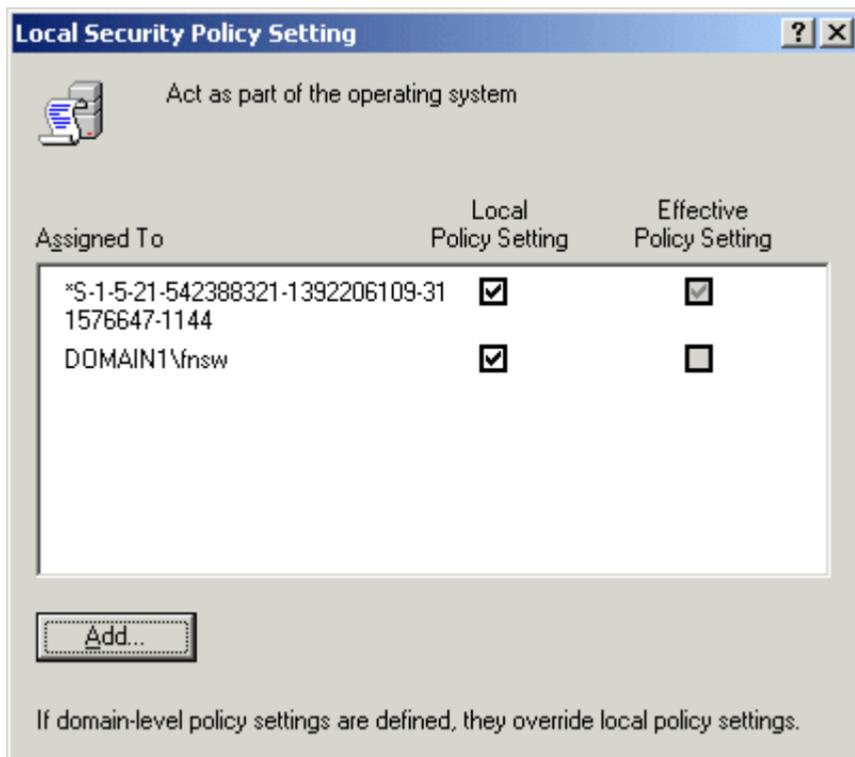
- 5 In the Look in box, select **Domain Controller** from the pulldown menu. The Enter Network Password dialog box **might** appear.
- 6
  - a If the Enter Network Password dialog box appears, continue to **step 7.**
  - b If the Enter Network Password dialog box does not appear, skip to **step 8.**



- 7 Enter the Domain Windows Administrator ID and password, and click **OK**. The Select Users or Groups window displays.

- 8 Select the **fns** user, click the **Add** button, and click **OK**.

The Local Security Policy Setting window is updated (as shown below) to show that the domain user has been added to the security settings for the policy selected.



- 9 Click **OK** to close the Local Security Policy Setting window.
- 10 Repeat [step 3](#) through [step 9](#) for the remaining Policy selections.

After all Policy selections have been modified, close the Local Security Settings window and return to [“Create the LocalAdminInstall File” on page 270](#) to repeat these procedures on the node 2 server.

## Return to Main Body of this Document

After you have performed these procedures on both nodes, return to Chapter one and the section, [“Install Cluster Server Software \(New Installs Only\)” on page 33](#) to continue with your cluster server system installation.

# Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not grant you any license to these patents. You can send license inquiries, in writing, to:

---

IBM Director of Licensing  
IBM Corporation  
North Castle Drive Armonk, NY 10504-1785  
U.S.A.

For license inquiries regarding double-byte (DBCS) information, contact the IBM Intellectual Property Department in your country or send inquiries, in writing, to:

IBM World Trade Asia Corporation  
Licensing  
2-31 Roppongi 3-chome, Minato-ku  
Tokyo 106-0032, Japan

**The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:** INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR

---

**PURPOSE.** Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

Any references in this information to non-IBM Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this IBM product and use of those Web sites is at your own risk.

IBM may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between indepen-

---

dently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

IBM Corporation  
J46A/G4  
555 Bailey Avenue  
San Jose, CA 95141-1003  
U.S.A.

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Any performance data contained herein was determined in a controlled environment. Therefore, the results obtained in other operating environments may vary significantly. Some measurements may have been

---

made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Information concerning non-IBM products was obtained from the suppliers of those products, their published announcements or other publicly available sources. IBM has not tested those products and cannot confirm the accuracy of performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products.

All statements regarding IBM's future direction or intent are subject to change or withdrawal without notice, and represent goals and objectives only.

This information contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the

names and addresses used by an actual business enterprise is entirely coincidental.

#### COPYRIGHT LICENSE:

This information contains sample application programs in source language, which illustrate programming techniques on various operating platforms. You may copy, modify, and distribute these sample programs in any form without payment to IBM, for the purposes of developing, using, marketing or distributing application programs conforming to the application programming interface for the operating platform for which the sample programs are written. These examples have not been thoroughly tested under all conditions. IBM, therefore, cannot guarantee or imply reliability, serviceability, or function of these programs.

## Trademarks

IBM, the IBM logo, and [ibm.com](http://ibm.com) are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. If these and other IBM trademarked terms are marked on their first occurrence in this information with a

trademark symbol (® or ™), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at [www.ibm.com/legal/copytrade.shtml](http://www.ibm.com/legal/copytrade.shtml).

FileNet is a registered trademark of FileNet Corporation, in the United States, other countries, or both.

Microsoft and Windows are trademarks of Microsoft Corporation in the United States, other countries, or both.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Other company, product, and service names may be trademarks or service marks of others.

## U.S. Patents Disclosure

This product incorporates technology covered by one or more of the following patents: U.S. Patent Numbers: 6,094,505; 5,768,416; 5,625,465; 5,369,508; 5,258,855.





Program Number: 5724-R95

Printed in USA

GC31-5531-01

