

Novell NetWare® Migration Wizard 6

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ADMINISTRATION GUIDE



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U.S. Patent Nos. 5,594,863, 5,633,931, 5,832,274, and 5,946,002. U.S. and Foreign Patents Pending.

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NetWare Migration Wizard Administration Guide
August 2001

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NetWare Migration Wizard 6 Administration Guide

Novell® NetWare® Migration Wizard 6 lets you copy data from a NetWare or a Windows* NT* server to another NetWare server in your network.

Migrating Data from NetWare 3—Migration Wizard copies the NetWare 3 file system and bindery objects to a destination NDS® tree. When the bindery objects are copied to the destination NDS tree, they are automatically converted to NDS objects.

Migrating Data from NetWare 4, 5, or 6—Migration Wizard migrates the file system and NDS database from a NetWare 4, NetWare 5, or NetWare 6 source server to a faster, more reliable NetWare destination server. After NDS is migrated, the destination server replaces and assumes the identity of the source server on the network. Valid destination servers must be running NetWare 5.0, 5.1, or 6.

Migrating Data from Windows NT—Migration Wizard migrates NT domain users and local and global groups from a Windows NT 3.51 or 4 server to a destination NDS tree. During the migration, the NT users and groups are converted to NDS objects and placed in the destination NDS tree. NetWare Migration Wizard 6 also migrates NT shared folders to a NetWare file system while migrating and converting Windows NT permissions to NetWare trustee rights.

Documentation Conventions

In this documentation, a greater-than symbol (>) is used to separate actions within a step and items in a cross-reference path.

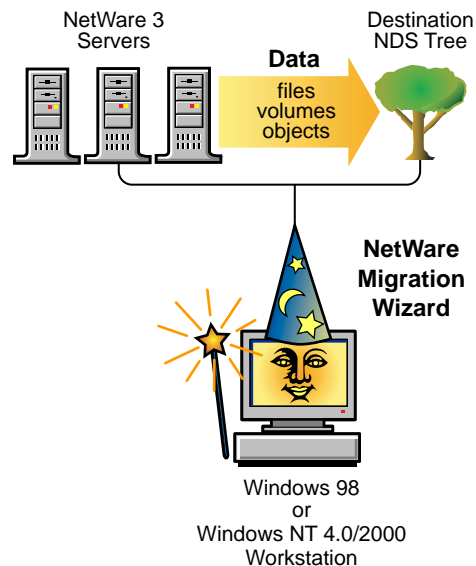
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Migrating Data from NetWare 3

Novell® NetWare® Migration Wizard 6 copies and consolidates your NetWare 3 bindery and file system from one or more existing NetWare 3 servers to a destination NDS® tree.

The following figure shows how the Migration Wizard manages the migration of data from multiple NetWare 3 servers to a destination NDS tree.



To migrate data from NetWare 3, complete the following tasks in the order they are listed.

1. "Meet System and Software Requirements" on page 10
2. "Run Novell NetWare Migration Wizard" on page 12

3. “Verify Your Migration Project” on page 17
4. “Migrate Users and Data to the Destination NDS Tree” on page 17
5. “Perform Post-Migration Tasks” on page 20

Meet System and Software Requirements

- Log in to your destination NDS tree with a user that is listed in the bindery context of the destination NDS tree. Make sure the user has the Supervisor right to the destination servers that you are migrating file data to and three available user licenses.

For more on how to enable the Supervisor right, see the ConsoleOne™ Documentation (<http://www.novell.com/documentation>).

- Make sure you have the Write right to all NDS containers and directories that are receiving data from NetWare 3.

Preparing the Workstation

- A Windows 98, Windows NT (4.0 or later), or Windows 2000 workstation with 50 MB of available disk space.

IMPORTANT: NetWare Migration Wizard 6 does not run on a Windows 95 workstation.

- ◆ The Windows 98 workstation must be running Novell Client™ for Windows 98 version 3.3 or later.
- ◆ The Windows NT/2000 workstation must be running Novell Client for Windows NT/2000 version 4.8 or later.

To check your current Novell Client version, right-click the N icon on the workstation toolbar, and then click Novell Client Properties > Client. If you need to download the latest client, see the Novell Software Downloads Web site (<http://www.novell.com/download>).

- The IPX™ protocol running on your Novell Client workstation. Make sure that your client workstation has an IPX connection to your source server and destination tree.

Preparing the Source Server

The source server is the existing server that contains the data that will be copied to the destination NDS tree.

- The source server must be running NetWare 3.11 or later.

Load the following NLM™ program at the server console of each NetWare 3 source server that you are planning to migrate:

- ◆ For NetWare 3.11, load TSA311.NLM
- ◆ For NetWare 3.12 and 3.2, load TSA312.NLM

- Use SYSCON to verify that you have the console operator right to the source server.
- Back up all data on the source server.

Preparing the Servers in the Destination NDS Tree

The destination NDS tree is the NDS tree that contains the servers that will receive the data migrated from the NetWare 3 source server. After data is copied from the source server, it appears in the destination NDS tree.

Make sure that all the servers that you are *migrating data to* in the destination NDS tree have the following:

- NetWare 4, NetWare 5, or NetWare 6 installed.

NOTE: NetWare Migration Wizard 6 does not migrate to NetWare 4.10 servers.

- The IPX protocol running and bound to the network card of each NetWare server in the destination NDS tree that you are migrating files to.

WARNING: If IPX is not bound and running on the destination server, the file migration will fail. To check whether IPX is bound, enter `CONFIG` at the server console of the destination server.

Continue with the next section, "Creating a Template Object."

Creating a Template Object

This is an optional prerequisite task. A Template object is used to define additional NDS user attributes to NetWare 3 users during the migration. We recommend that you use a Template object because it is an organized way to migrate your NetWare 3 users to the NDS tree and manage them once they are there.

If there is a conflict between the properties of a Template object and properties of a NetWare 3 user, the properties of the Template object will, in most cases, take priority. For example, if a minimum password length of seven characters is specified for the NetWare 3 user, Jeff, and a minimum password length of nine characters is specified in the Template object, then when Jeff's object is migrated, the object will be created in NDS with a password length of nine characters.

If you want to know what additional NDS attributes can be defined in a Template object, run ConsoleOne and double-click a Template object to view all of the existing properties.

The last name, full name, and description of every NetWare 3 object is always migrated and these corresponding properties from the Template object are overwritten.

If you decide to use a Template object, you can create one in ConsoleOne by clicking File > New > Object > Template.

Continue with the next section, "Run Novell NetWare Migration Wizard."

Run Novell NetWare Migration Wizard

- 1** Download and install NetWare Migration Wizard 6 from the NetWare section of the Novell Software Downloads Web site (<http://www.novell.com/download/>).
- 2** Run Migration Wizard from the location where you installed it.
The installation program, by default, installs Migration Wizard at this location: Start Menu > Programs > Novell > Netware Migration Wizard > NetWare Migration Wizard.
- 3** Read the Welcome screen and click OK.
- 4** Click Create a New Project > OK.
- 5** Click NetWare 3 > OK.
- 6** Click the View Setup Tasks button.
This launches your default Web browser and takes you to the NetWare Migration Wizard 6 online documentation.
- 7** Browse to Chapter 1, "Migrating Data from NetWare 3," on page 9 and make sure you have completed the system and software requirements in "Meet System and Software Requirements." Then close your browser.

8 Click Next.

9 Name your migration project, choose a place to save it, and then click Next.

By default, Migration Wizard saves your project in C:\Program Files\Novell\NetWare Migration Wizard.

10 Select the source servers that you want to migrate.

Only servers that you are already logged in to appear in the Selected Servers text box. To log in to a server, click the Server icon. When you are finished selecting your servers, click Next.

11 Select your destination NDS tree and click Next.

12 Decide whether you want Migration Wizard to find any NetWare 3 and NDS User objects that have the same name, click Yes or No, and then click Next.

If you choose to do this, Migration Wizard will look for duplicate usernames in the destination NDS tree and on the NetWare 3 source servers. Migration Wizard will then display its findings and you can choose to merge the matching User objects.

13 To create and save your project, click Create.

When a project is created and saved, Migration Wizard also creates success and error logs which contain the details of what took place during the migration.

14 If you clicked No in Step 12, skip the rest of these steps and continue with “Model Your Migration Project” on page 15. If you clicked Yes in Step 12, continue with the next step.

15 Complete the following tasks:

15a Click the Browse button to select an NDS container on the destination NDS tree.

Migration Wizard will search this container and all subcontainers for matching NDS usernames.

15b Browse the tree and select an NDS container, and then click OK.

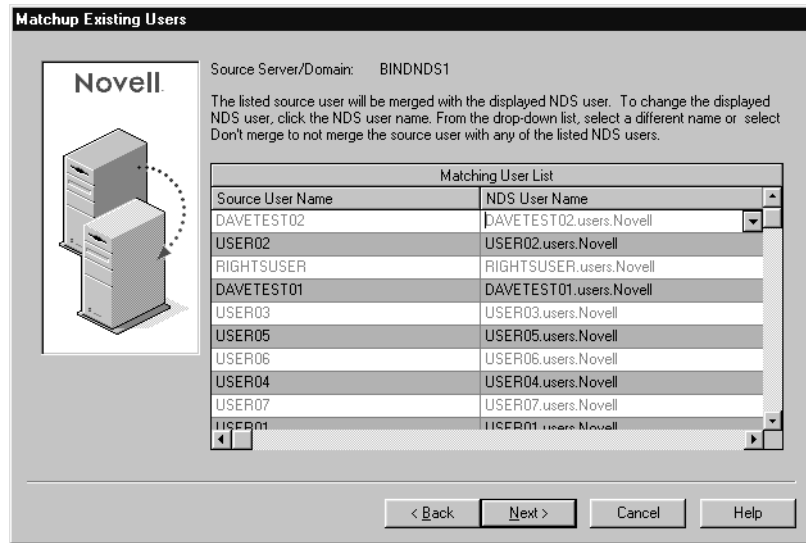
15c Click Next to begin searching for duplicate usernames.

15d Decide how to handle duplicate usernames.

The following screen is an example of the username table in Migration Wizard. Carefully review this screen. If you do not make

any changes, Migration Wizard will automatically merge the NetWare 3 user with the displayed NDS user.

Figure 1 Merging Your NetWare 3 Users with Duplicate NDS Users



You have the following options for *each* NetWare 3 user:

- ◆ Merge the NetWare 3 user with the displayed NDS user
Simply leave the NetWare 3 user displayed as it is in the table and continue with the next user.
- ◆ Merge an NDS user other than the currently displayed NDS user
Click the arrow by the NDS username to view a drop-down list containing all the NDS users that have the same username (including contexts) as the adjacent NetWare 3 user. Select one of the NDS names and continue with the next NetWare 3 user.
- ◆ Do not merge any of the NDS users with the NetWare 3 user
If you know that none of the listed NDS users represents the same person as the adjacent NetWare 3 user, click the arrow by the NDS username and then click Don't Merge.

15e Once you have made a decision for each listed NetWare 3 user, click Finish.

The NetWare 3 users that you chose to merge with NDS User objects appear automatically as dropped objects in the destination NDS tree.

Continue with the next section, "Model Your Migration Project."

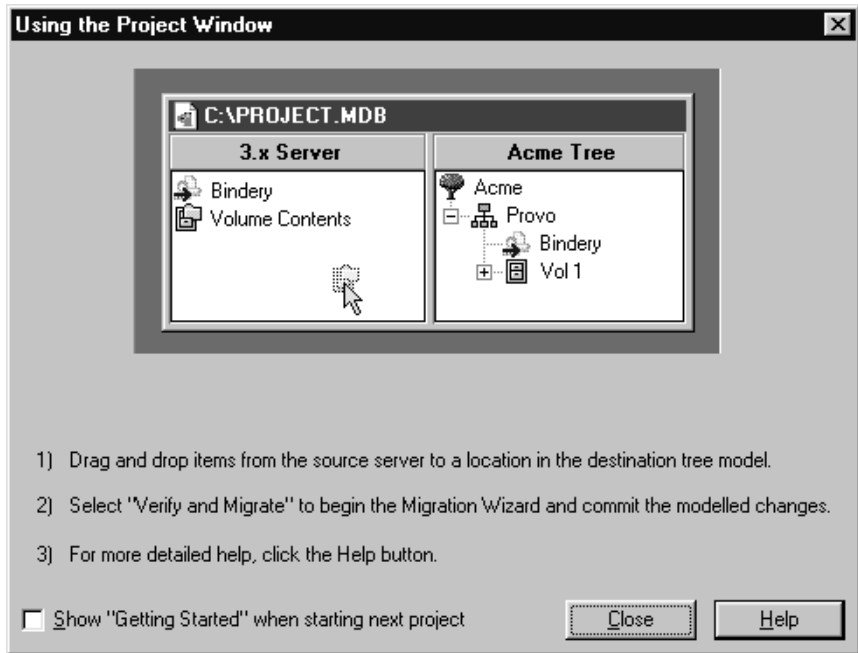
Model Your Migration Project

Most of your work will be done in the Project Window, where you can drag and drop NetWare 3 bindery objects and volume data into NDS containers in the destination NDS tree.

The Project Window is a place to model different migration scenarios before you begin the actual migration. The source server's bindery objects and volume data are shown in the left side of the Project Window, and the destination NDS tree is displayed in the right side of the Project Window. All of the planning in the Project Window is done offline, meaning that items moved and created in the Project Window are not actually moved or created until you begin the migration.

The Project Window and the Using the Project Window dialog box appear once you have created the migration project. The following figure is an example of the Using the Project Window dialog box that appears on top of the Project Window.

Figure 2 Using the Project Window Dialog Box



The three basic steps outlined in this dialog box should be performed for each migration project. Once you are familiar with the tasks that you will be performing, click Close to access the Project Window and begin modeling your migration.

Complete the following tasks:

- 1** Determine which NetWare 3 bindery objects and volume data will be copied to which containers in the destination server's NDS tree.
- 2** If needed, create new objects in the destination NDS tree.
 - ♦ To create a new NDS Organizational Unit (also called a container), right-click the parent of the Organizational Unit.
 - ♦ To create a new folder, right-click an existing folder or volume.
- 3** Drag and drop NetWare 3 bindery objects, folders, and volumes into NDS containers.

Continue with the next section, "Verify Your Migration Project."

Verify Your Migration Project

Once you have modeled your migration in the Project Window, you should verify that the proposed locations for these new objects do not conflict with existing names in the destination NDS tree.

Remember, dragged-and-dropped items appearing in the NDS tree are merely *assigned* to be copied to that area in the NDS tree. Objects will not actually be migrated until you begin the migration.

Once you have modeled your migration project, you can run a standalone verification wizard or you can verify and migrate at the same time. Running the standalone verification wizard prior to migration is not mandatory; however, catching any critical errors or warnings before you begin your migration will speed up the verification process during the migration.

- 1 To run the standalone verification wizard, click Project > Verify Project.
- 2 Follow the procedure in the next section “Migrate Users and Data to the Destination NDS Tree” on page 17, starting with "Step 2."

Migrate Users and Data to the Destination NDS Tree

Although you have selected the volumes and containers where the NetWare 3 data will be copied, no data has been migrated. When migrated, NetWare 3 User objects are converted to NDS objects and placed in the destination NDS tree. To begin the migration, do the following:

- 1 From the Migration Wizard toolbar, click Project > Verify and Migrate Project.

IMPORTANT: If you are notified during the verification that certain NLM files are outdated on your NetWare 3 source server, you must update those files. To update the files, copy them from the Products\NW3X directory. It is important that you copy *only* the NLM files that Migration Wizard prompts you to. After copying the NLM files, reboot the NetWare 3 source server and launch Migration Wizard again.

The Products\NW3X directory is located in the same directory where Migration Wizard was installed (C:\Program Files\Novell\Novell NetWare Migration Wizard\Products\NW3X).

- 2 Read the Welcome Screen and then click Next.
- 3 (Conditional) If you are migrating more than one server, choose the order that you want your servers migrated in and then click Next.

This matters only if you have duplicate User objects among your source servers.

- 4 If prompted, select what volume you want to migrate your NetWare 3 print queue volume to, and then click Next.
- 5 If you want to apply a Template object to newly created users, browse the tree, select the Template object from the tree view and then click Next.

If you do not want to use a Template object, uncheck the check box and click Next.

IMPORTANT: Home directories are not automatically migrated. To migrate them, you must drag and drop the NetWare 3 directory that lists the home directories into the destination NDS tree. Then use a Template object when migrating your NetWare 3 users to the destination NDS tree and make sure that the specified home directory path in the Template object points to the location where you dropped the NetWare 3 directory in the destination NDS tree.

HINT: If you have not created a Template object but you want to use one now, save the project, go to ConsoleOne, and create the Template object. Next, run Migration Wizard again and click Open Last Project. Then restart the migration procedure beginning with "Step 1 on page 17."

- 6 Decide how you want to handle any duplicate filenames between the NetWare 3 source servers and the destination NDS tree. Select one of the following and then click Next:
 - ♦ Don't Copy Over Existing Files
 - ♦ Copy the Source File If It Is Newer
 - ♦ Always Copy the Source File
- 7 If you are migrating this NetWare 3 server for the first time, click Yes > Next. If you are continuing with a previous migration, click No > Next.

When you migrate users and groups from NetWare 3, Migration Wizard stores a table in the bindery of each source server of the NDS names that it associates with the migrated NetWare 3 users as they are migrated to the destination NDS tree. This way, you can migrate a few users at different times and Migration Wizard will remember where you migrated them to. Also, by storing this information, Migration Wizard can assign the correct file permissions to the appropriate users.

- 8 Enter the password for the destination NDS tree and click Next.
- 9 Enter the password for the source server that you are migrating and then click Next.

If you are migrating multiple servers at one time, you will see this screen for every source server that you are migrating.

- 10** Click Next to verify that you have enough disk space on the destination volume to accommodate your NetWare 3 file system.

Migration Wizard will also scan the contents of all dropped folders and verify that you have sufficient rights to migrate them.
- 11** If prompted, resolve any naming conflicts between different-type objects, and then click Next.

You can choose to rename different-type objects or to not migrate them. If you are migrating multiple servers at one time, you will see this screen for every source server that you are migrating.
- 12** If prompted, resolve any naming conflicts between same-type objects, and then click Next.

You can choose to merge same-type objects or to not migrate them. If you are migrating multiple servers at one time, you will see this screen for every source server that you are migrating.
- 13** Verify that you do not want to migrate the listed NetWare 3 users, and then click Next.

You will see this screen for every source server that you are migrating. If you have made a mistake, click Cancel to return to the Project Window and drag and drop the users that you want to migrate.
- 14** Verify that you do not want to migrate the listed NetWare 3 groups, and then click Next.

You will see this screen for every source server that you are migrating. If you have made a mistake, click Cancel to return to the Project Window and drag and drop the users that you want to migrate.
- 15** Resolve any critical errors and click Next.

Warnings, or noncritical errors, can be resolved after the migration. To resolve a critical error or warning, read the description in the text field located beneath it. This description should give you a good idea of what could be the possible cause of the error and a suggestion for fixing it.
- 16** Do one of the following:
 - ◆ If you are only verifying your project at this point, read the Verification Summary, click Finish, and follow the instructions in “Migrate Users and Data to the Destination NDS Tree” on page 17 to begin the actual migration.
 - ◆ If you are actually migrating at this point, read the Verification Summary and click Proceed to start the actual migration.

17 (Migration only) View the Error Log and the Success Log.

Continue with the next section, "Perform Post-Migration Tasks."

Perform Post-Migration Tasks

After you've migrated the bindery objects and file system to the destination server, complete the following tasks:

- Modify the print configuration if you want to convert your queue-based printing to NDPS®.

For more information, see the Novell Documentation Web site (<http://www.novell.com/documentation/lg/nw51/docui/index.html>) > Additional Documentation > Print Services > Novell Distributed Print Services.

- Make sure that applications have migrated correctly.

After migration, if you want to install additional network products and services, you can do so from the server top by clicking the Novell icon > Install.

- Make sure that each migrated user has the correct Novell Client properties to log in to the destination NDS tree.

- Modify user login scripts to accommodate the new location of data in the NDS tree.

For more information, see the Novell Documentation Web site (<http://www.novell.com/documentation/lg/nw51/docui/index.html>) > Additional Documentation > Novell Clients > Novell Client for Windows > Setting Up Client Login > Setting Up Login Scripts.

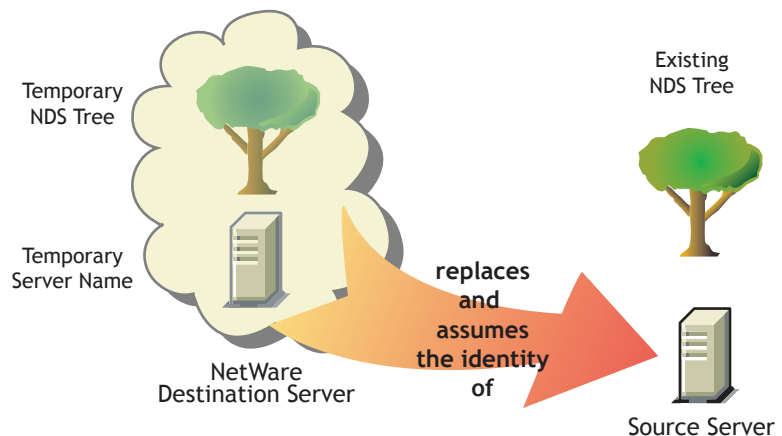
- Reassign home directories if they were not migrated.

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Migrating Data from NetWare 4, 5, or 6

When you migrate data from a NetWare® 4, NetWare 5, or NetWare 6 source server to a NetWare destination server, Novell® NetWare Migration Wizard 6 copies the file system and NDS® database from the source server to the newly installed NetWare destination server.

After the source server's file system and NDS database is migrated to the destination server, the source server is automatically brought down and the destination server reboots and assumes the name and identity of the source server on your existing network.



Before you can migrate your data, you must first install a destination NetWare server in a temporary NDS tree. A temporary tree is simply a tree that contains one server with a basic installation of NetWare and no additional products installed (other than SMS™ or any other default products).

To migrate data from NetWare 4, NetWare 5, or NetWare 6, complete the following tasks in the order they are listed.

1. “Meet System and Software Requirements” on page 22
2. “Run Migration Wizard” on page 25
3. “Perform Post-Migration Tasks” on page 32

Meet System and Software Requirements

Preparing the Workstation

Make sure your workstation has the following:

- A Windows 98 or Windows NT 4/2000 workstation with 50 MB of available disk space.
 - ◆ The Windows 98 workstation must be running Novell Client™ for Windows 98 version 3.3 or later.
IMPORTANT: NetWare Migration Wizard 6 does not run on Windows 95 workstations.
 - ◆ The Windows NT 4/2000 workstation must be running Novell Client for Windows NT version 4.8 or later.
- If migrating from NetWare 4, the IPX™ protocol should be configured on your Novell Client workstation.
- For better performance, it is strongly recommended that the source server, destination server, and client workstation be running on a common LAN segment.

Preparing the Source Server

The source server is the NetWare server that contains the files, volumes, and NDS objects that will be copied to the NetWare destination server. Valid source servers can be running NetWare 4.11, 4.2, 5.0, 5.1, or 6.

- Use ConsoleOne™ to verify that you have the Supervisor right to the source server’s file system and the source server itself.
- Update the source server with the latest NetWare Support Pack.

Updates are available at the Consolidated Support Pack Home Page (<http://support.novell.com/csp/csplist.html>).

- (Conditional) If you are migrating data from NetWare 4, make sure that the source server's volumes are running long name space support on all volumes to be copied.

To add long name space support to a NetWare 4.11 or NetWare 4.2 volume, enter the following at the server console: **LOAD LONG** and then **ADD NAME SPACE LONG TO *volumename***.

- Load DSREPAIR and run the following three options:
 - ◆ Unattended Full Repair
 - ◆ Time Synchronization
 - ◆ Report Synchronization Status

Make sure that these finish with no errors.

- Back up NDS and all data.

Preparing the Destination Server

The destination server is the new computer that will receive the data from the source server. This server must be installed into a temporary tree.

After data is migrated from the source server to the destination server, the destination server reboots and Migration Wizard automatically modifies the destination server's AUTOEXEC.NCF file to include the source server's name and internal IPX™ number/server ID. You don't have to modify these manually.

Valid destination servers can be running NetWare 5.0, 5.1, and 6. Migration Wizard does not migrate to NetWare 4 destination servers.

Review the following tasks before installing the NetWare operating system on the destination server:

- Use ConsoleOne to verify that you have the Supervisor right to the destination server's file system and the destination server itself.
- Make sure you create a temporary NDS tree with a temporary NDS tree name.

IMPORTANT: The temporary name and temporary NDS tree name must not be the same as the source server's name or NDS tree name; otherwise, the destination server will not assume the identity of the source server after the migration.

- ❑ During the installation, create volumes on the destination server that are the same size as, or larger than, volumes on the source server.

Volume names on the destination server must be the same as the volume names on the source server.

Migration Wizard migrates compressed volumes. If you are migrating compressed volumes to uncompressed volumes, Migration Wizard decompresses the volumes during the migration. Make sure you have enough room on the uncompressed volume to accommodate the source volumes once they are decompressed.

- ❑ If migrating from NetWare 4, install and configure the IPX protocol.

The IPX protocol must be bound to the destination server for the migration to work. (You can remove IPX after completing the migration.)

IMPORTANT: IP addresses for the source server will not be migrated. For more information on changing your IP addresses, see "Step 3 on page 28."

- ❑ Install the destination server with the NetWare operating system that you are migrating to.

- ◆ For instructions on installing NetWare 5, see the NetWare 5 Overview and Installation Guide (<http://www.novell.com/documentation/lg/nw5/docui/index.html>).

Make sure that you select the New Server option on the Additional Products and Services screen during the NetWare 5 installation, and deselect all products except SMS.

- ◆ For instructions on installing NetWare 5.1, see the NetWare 5.1 Installation Guide (<http://www.novell.com/documentation/lg/nw51/docui/index.html>).

Make sure that you select the custom option on the Installation Options screen during the NetWare 5.1 installation, and deselect all deselectable products except SMS. Don't worry about any default products that you can't deselect.

- ◆ For instructions on installing NetWare 6, see "Installation GuideSetting Up NetWare 6 in the NetWare 6 "Installation Guide".

Make sure that you select the Pre-migration server option during the NetWare 6 installation. And then select the custom option so that you can verify that you have enough room on your destination server to accommodate your source server data.

Continue with the next section, "Run Migration Wizard."

Run Migration Wizard

- 1** Download and install NetWare Migration Wizard 6 from the NetWare section of the Novell Software Downloads Web site (<http://www.novell.com/download>).
- 2** Run Migration Wizard from the location where you installed it.
The installation program, by default, installs Migration Wizard at this location: Start Menu > Programs > Novell > Netware Migration Wizard > NetWare Migration Wizard.
- 3** Read the Welcome screen and click OK.
- 4** Click Create a New Project > OK.
- 5** Click NetWare 4, 5, or 6 > OK.
- 6** Click the View Setup Tasks button.
This launches your default Web browser and takes you to the NetWare Migration Wizard 6 online documentation.
- 7** Browse to Migrating Data from NetWare 4, 5, or 6 and make sure you have completed the system and software requirements in "Meet System and Software Requirements." Then close your browser.
- 8** Click Next.
- 9** Name the project, choose a place to save it, and then click Next.
By default, Migration Wizard saves all projects to C:\Program Files\Novell\NetWare Migration Wizard.
- 10** Select the NDS tree that contains your source server and click Next.
- 11** Select your source server from the NDS tree and click Next.
- 12** Select the NDS tree that contains your destination server and click Next.
- 13** Select your destination server from the destination NDS tree and click Next.
- 14** To save your project and access the Project Window, click Create.
The Project Window now appears.

Continue with the next section, "Copy Volumes."

Copy Volumes

- 1 In the Project Window, click Copy Volumes.

Before Migration Wizard starts copying files, it backs up your directory and file trustees and saves them in files located on the source and the destination server. Once the NDS migration is complete, Migration Wizard restores the trustees from the files it stored on the destination server.

You do not need to copy all volumes at once. You can select volumes to copy now and then copy other volumes later by reopening the project file. Remember that open files are not migrated.

IMPORTANT: If you choose to copy your volumes in phases, at the final volume copy, make sure you select all volumes that you previously copied and then click Cancel. Otherwise, Migration Wizard will restore trustee assignments only to the last volumes that were copied.

- 2 Select each volume name from the text field and then click Yes or No.

If you decide not to copy any of the volumes, select No for all volumes, click Next, and then continue with “Edit Configuration Files” on page 28. If you selected Yes for one or more of the volumes, continue with “Step 3.”

If you have big volumes or slow LAN connections, or if you want to reconfigure your data by putting existing directories into different folders on the destination server, you should consider using a backup tape to copy your volumes.

IMPORTANT: If you using tape backup, do *not* restore the source server’s standard SYS: directories to the destination server if you are upgrading your NetWare operating system to a higher version. The standard SYS: directories, like SYS:SYSTEM and SYS:PUBLIC, were created for you during the NetWare installation.

If you are only migrating your existing data to new hardware and keeping the same version of NetWare, restore the source server’s standard SYS: directories to the destination server.

If you decide to use tape backup, select No for all volumes on the Select Volumes to Copy screen, click Next, and continue with “Edit Configuration Files” on page 28.

- 3 Decide if you want to copy the source server’s SYS: directories to the destination server’s SYS:MIG directory, and then click Next.

Migration Wizard never overwrites the SYS: directories on the destination server. If you choose to migrate the source server's SYS: directories, Migration Wizard migrates them to the SYS:SYS.MIG directory on the destination server.

If there are files in the source server's SYS: directories that you want to utilize on the destination server, after the NDS migration is completed, copy the files from the SYS:SYS.MIG directory into the appropriate SYS: directory on the destination server.

Remember, any applications that have NLM programs in this directory will need to be reinstalled after the migration.

- 4** Decide how you want to handle any duplicate filenames between the source server and the destination NDS tree. Select one of the following and then click Next:
 - ◆ Don't Copy Over Existing Files
 - ◆ Copy the Source File If It Is Newer
 - ◆ Always Copy the Source File
 - 5** Determine how you would like to copy your volumes and then click Next. You have the following two choices:
 - ◆ Copy volumes with users logged in
 - ◆ Disable login
- Migration Wizard does not copy open files. If you disable user login, you can be sure that no other users will log in to the network and open files during the file copy.
- 6** Enter the passwords for the source and destination trees, and then click Next.
 - 7** If prompted, resolve any critical errors or warnings, and then click Next.
 - 8** To copy the file system to the destination NDS tree, click Migrate.
 - 9** Review the error and success logs, and then click Done.

Continue with the next section, "Edit Configuration Files."

Edit Configuration Files

- 1 In the Project Window, click Edit Configuration Files.

Migration Wizard lets you modify any .NCF or .CFG files on the destination server. These files contain default LOAD statements and parameters.

IMPORTANT: If you are editing your AUTOEXEC.NCF, make sure the file is closed before you migrate your NDS database.

- 2 In the text box, select the configuration file that you want to edit and then click Edit File.

- 3 Copy and paste the commands from the configuration file on the source server to the corresponding configuration file on the destination server. When you are finished, click Save & Close.

If you intend to change the IP address on your destination server to be the same as the IP address of your source server, you must edit your configuration files and change the IP address in two places: AUTOEXEC.NCF and SYS:ETC/HOSTS.

Copy the source server's IP address and paste it into the destination server's AUTOEXEC.NCF file. (This works only if your IP LOAD and BIND statements are located in the AUTOEXEC.NCF.) You also need to go to the server console of the destination server and change the IP address in the SYS:ETC\HOSTS file. Look for the original name of the destination server.

If you use INETCONFIG to assign IP addresses, change the IP addresses after the migration is complete.

- 4 (Conditional) If you are using configured time sources (TIMESYNC.CFG), then copy and paste your timesync information from the source server's TIMESYNC.CFG file to the destination server's TIMESYNC.CFG file.
- 5 Close the Compare Configurations dialog box.

Continue with the next section, "Begin NDS Migration."

Begin NDS Migration

- 1** In the Project Window, click Begin NDS Migration.
- 2** Back up all volumes that you are *not* planning to migrate and complete the following tasks before continuing:
 - ◆ Make sure all volume data migrated successfully.
 - ◆ Make sure all critical errors from the file copy are resolved.
 - ◆ Make sure the servers in your source NDS tree are in time sync and that NDS is synchronized. For more information, see [Step 2 on page 31](#).
- 3** Click Next.
- 4** Insert the licensing diskette, browse to or enter the path to the licensing file, and then click Next.

If you have an MLA, you also have the option of selecting the MLA instead of inserting the licensing diskette.

- 5** Select Yes or No to update the source server's schema.

Migration Wizard will update the source server's schema to include the NDS classes of the default applications that are installed on the destination server.

If you select No, by default the Yes radio button is enabled, which causes Migration Wizard to compare the source and destination schemas. This comparison will help you determine how to extend your schema in preparation for the migration.

- 6** Before continuing, verify that you have run the DSREPAIR procedures in "[Step 2 on page 31](#)" to verify that the NDS tree containing the source server is functioning correctly, click Yes or No to acknowledge that your tree is healthy, and then click Next.

Migration Wizard does not prevent you from continuing if you have not run DSREPAIR to verify the health of your tree. However, if your tree is unhealthy before you begin the migration, the migration might not complete successfully.

- 7** If you are migrating from NetWare 4 running Border Manager, NetWare 5, or NetWare 6, you will be prompted to copy and transfer the NIFI configuration files from the source server to the destination server. Just follow the on-screen instructions and when the NIFI configuration is complete, continue with the next step.

IMPORTANT: If you are getting NCI errors when NDS is trying to load or when you are copying the NCI files, you should first check and see if PKI.NLM will load on the destination server. If PKI.NLM won't load, see "NICI Errors" on page 55.

- 8** Delete all user connections (except your own) to the source and destination servers, and then click Next.
- 9** Enter the passwords for the source and destination trees, and then click Next.
- 10** Resolve any critical errors or warnings on the Migrate NDS Verification Results screen, and then click Next.
- 11** Click Migrate to begin the NDS migration.

At the end of this the migration process, the source server is brought down and the destination server reboots and takes over the name and identity of the source server.

Migration Wizard automatically modifies the following items in the destination server's AUTOEXEC.NCF file:

- ◆ The file server name is changed to the name of the source server
- ◆ The time zone is changed to the time zone stored in the source server's AUTOEXEC.NCF file
- ◆ The server ID is changed to the IPX internal net value or server ID stored in the source server's AUTOEXEC.NCF file
- ◆ The default time server type is changed to the value stored in the source server's AUTOEXEC.NCF file
- ◆ The bindery context is changed to the bindery context stored in source server's AUTOEXEC.NCF file

IMPORTANT: During the migration, the source server's timesync information is not automatically migrated.

- 12** View the Error and Success logs, and then click Done.

Use the Error Log to see a listing of all errors that occurred during the migration. If there were errors, use the Success Log to determine how far the migration got before the error occurred.

If the NDS migration failed, see "NDS Migration" on page 56 for instructions on how to restore your servers to their original configuration.

- 13** Check the former destination server and verify that it has restarted and taken on the name of the source server.

14 Reboot your workstation and log in to the former destination server.

If you can't log in, refer to "Workstation-to-Server Connections" on page 52.

Continue with the next section, "Finish NDS Migration."

Finish NDS Migration

1 In the Project Window, click Finish NDS Migration.

2 Read the Continue NDS Migration screen and make sure that

- ◆ The former destination server has restarted and taken on the name and identity of the source server
- ◆ Licensing is installed
- ◆ NDS is synchronized on all servers in the tree

To check NDS synchronization status, enter **DSREPAIR** at the server console and run the Report Synchronization Status and Time Synchronization options.

If the destination server does not contain a Read/Write or Master replica, you must check NDS synchronization by running **DSREPAIR** on another server in the NDS tree that has one of these replicas.

3 Click Yes or No to verify that you have completed the tasks in "Step 2," and then click Next.

4 Enter the password for the source tree and click Next.

5 Resolve any warnings or errors and click Next.

6 To finish the NDS migration, click Continue.

During this stage, Migration Wizard is restoring the file trustees and updating the Volume objects in the tree.

7 View the error and success logs, and then click Done to close the current project.

Continue with the next section, "Perform Post-Migration Tasks."

Perform Post-Migration Tasks

- 1** Run DSREPAIR on the destination server and select Unattended Full Repair.
- 2** Make sure that user information migrated successfully.
- 3** Reinstall any applications that have files or NLM programs associated with the following volume SYS: directories: SYSTEM, PUBLIC, MAIL, ETC, and NETBASIC.

IMPORTANT: Because the source server's identity will replace the destination server, all NDS objects on the destination server, including those representing applications, are removed and replaced by the NDS objects that exist on the source server. However, the NLM programs associated with the destination server's applications will still exist. Because you cannot manage applications without their corresponding NDS objects, you must reinstall the applications to restore their NDS objects to the NDS tree.

If your destination server was running NetWare 5.1, you might see warnings on your server referring to SMS, LDAP, Novell Certificate Server, or NetWare Management Portal. Just ignore the warnings and reinstall the products after NDS has been migrated.

To reinstall these network products and services, go to the NetWare Deployment Manager utility (NWDEPLOY.EXE) located on the NetWare Operating System CD, or go to the GUI interface and click the Novell icon on the servertop.

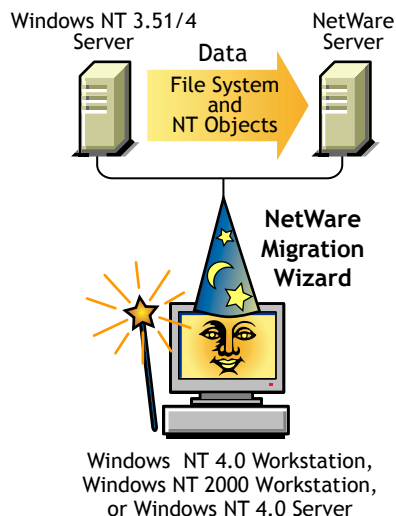
- 4** Install the latest NetWare Support Pack.

This will ensure that you get the latest code for the applications that you are reinstalling. The latest Support Packs are available at the Novell Support Web site (<http://www.support.novell.com/misc/patlst.htm>).
- 5** Run DSREPAIR > Time Synchronization to verify that your source server is synchronized with the rest of your servers.

3

Migrating Data from Windows NT

Novell® NetWare® Migration Wizard 6 automates key tasks, such as migrating users and their file permissions, assigning passwords, and migrating the NT file system to a designated NDS® tree. This automation eliminates the need to choose from various utilities that would help you perform these tasks individually.



Although many tasks are automated in Migration Wizard, you should consider the following issues before you get started.

First, you should plan your migration by answering the following questions:

- ♦ Which NT users are accessing which NT files and directories, and where are those files and directories located?

This information will help you decide which NT servers to migrate first and how many servers you will need to migrate at one time. When you migrate your users and groups, you will want to migrate all files and directories that they have access to at the same time that you migrate their User objects.

- ◆ Which NetWare servers and volumes are you going to migrate your NT folders to?

You should plan which servers and volumes in your destination NDS tree will receive each of your NT folders. You can select a separate location for each NT folder, if desired. In order to plan effectively, you will need to become familiar with the file structure on the NetWare servers in your destination NDS tree.

- ◆ Which NT users and groups are you going to migrate? Which NDS containers on the destination NDS tree are you going to migrate them into?

Decide which NT user and groups you are going to migrate, and then determine whether you will need to create separate containers for your NT users and groups in the destination NDS tree. When you model your migration in the Project Window, you can create any additional NDS containers you might need by right-clicking an NDS Organizational Unit.

- ◆ Do any existing NDS User objects represent the same person in your NT domain?

Determine whether any of your NT users already have an NDS account. During the migration you will be asked if you want to search the NDS tree for duplicate usernames. When Migration Wizard finds identical usernames, it will display these in a table where you can choose to merge the listed NT user with a NDS User object.

- ◆ What will you do with any applications that do not run on NetWare?

Migration Wizard does not migrate applications. After the migration, you will have to reinstall your applications. If you have some applications that do not run on NetWare, you can keep an NT server intact and use it as an application server.

- ◆ How do you want to migrate information about your users and groups? Do you want to use a Template object, ZENworks™ User Policy Packages, or both?

For information, see “Creating a Template Object” on page 36 and “Creating ZENworks User Policy Packages” on page 37.

- ◆ Do you have any trusted domains?

If so, you must reassign any trusted domain permissions to the appropriate NT user and groups after the migration is complete. Use ConsoleOne™ to reassign all lost trusted domain permissions.

Once you have planned your migration, you're ready to begin your NT migration. Complete the following tasks in the order they are listed.

1. "Meet System and Software Requirements" on page 35
2. "Perform Prerequisite Tasks" on page 36
3. "Run Migration Wizard" on page 39
4. "Model Your Migration Project" on page 42
5. "Verify Your Migration Project" on page 45
6. "Migrate Users and Data to the Destination NDS Tree" on page 46
7. "Perform Post-Migration Tasks" on page 50

Meet System and Software Requirements

You can run Migration Wizard either from the Windows NT 4 server that you are migrating data from or from a Windows NT 4 or Windows 2000 workstation. However, the migration is faster if you run Migration Wizard from the server rather than from the workstation because the files are copied directly from server-to-server rather than via the client workstation.

Make sure you have the following NT permissions:

- ◆ Write/Modify permission to the NT Domain and the Registry of the PDC
- ◆ Read permission to all folders and files you are migrating
- ◆ Log in to the NT domain with a user that has administrative rights to the NetWare destination server

Make sure you have the Supervisor right to the NetWare destination server.

The following table lists the hardware and software requirements for the workstation or server that you are using to run Migration Wizard.

Platform	Hardware	Software
Windows NT 4 and Windows NT 2000 workstations	Minimum hardware requirements of Windows NT 4 and 2000 workstations	Novell Client™ for Windows NT 4 and 2000 version 4.8 or later Microsoft* Service Pack 6 or later
Windows NT 4 server	Minimum hardware requirements of Windows NT 4	Novell Client for Windows NT version 4.8 or later Microsoft Service Pack 6 or later

To check the Microsoft Service Pack version, click Start > Run, type **winver** in the text field, and then click OK. To download and install Microsoft Service Packs, see the ZDNet Web site (http://updates.zdnet.com/products/pr_13616.htm).

To check your current Novell Client version, right-click the N icon on your workstation and click Novell Client Properties > Client. To download the Novell Client, see the Novell Download Web site (<http://www.novell.com/download>).

Continue with the next section, "Perform Prerequisite Tasks."

Perform Prerequisite Tasks

Creating a Template Object

The first prerequisite task is to determine whether you want to use a Template object to migrate your NT users to the destination NDS tree.

A Template object is used to define additional NDS User attributes for NT users during the migration. Template objects are especially useful for defining additional attributes that are not found in the Windows NT domains. We recommend that you use a Template object because it is an organized way to migrate your NT users to the NDS tree and manage them once they are there.

IMPORTANT: In order to migrate home directories, you *must* use a Template object.

If there is a conflict between the properties of a Template object and an NT policy, the properties of the Template object will, in most cases, take priority. For example, if a minimum password length of seven characters is specified for user Jeff in an NT policy and a minimum password length of nine characters is specified in the Template object, then when Jeff's object is migrated, the object will be created in NDS with a password length of nine characters.

If you want to know what additional NDS attributes can be defined in a Template object, run ConsoleOne and double-click a Template object to view all of the existing properties.

The last name, full name, and description of every NT object is always migrated and these corresponding properties from the Template object are overwritten.

If you decide to use a Template object, you can create one in ConsoleOne™ by clicking File > New > Object > Template.

Creating ZENworks User Policy Packages

The next prerequisite task is to decide whether to use ZENworks™ User Policy Packages.

ZENworks User Policy Packages help control the appearance and functionality of a user's desktop. Migration Wizard associates ZENworks User Policy Packages only with groups.

If you decide to use ZENworks, you can determine the appearance of all workstations belonging to the users associated with a particular NDS group. When you associate a ZENworks User Policy Package with an NDS group, the properties you apply in the policy package allow you to control workstation attributes by setting a certain workstation backdrop, restricting rights to the control panel, and modifying the workstation's sound and color scheme for users within that group.

NOTE: Migration Wizard does not migrate Microsoft NT 3.51 roaming profiles.

If you want to use ZENworks, install ZENworks Full 2.0 in your destination NDS tree. ZENworks Full 2.0 can be installed from the NetWare 5.0 or 5.1 product CD. ZENworks 3.0 is not supported.

To create ZENworks User Policy Packages in ConsoleOne, do the following:

- 1 In NetWare Administrator, right-click an NDS Organizational Unit in the tree view and then click Create > Policy Package.

The type of workstation you have in your NT network (Windows NT/2000, Windows 95/98, or both) will determine whether you want to create WINNT-2000 user policy packages, WIN 95-98 policy packages, or both.

- 2 In ConsoleOne, click the user policy package icon in the toolbar. If you don't know which icon it is, mouseover the icons to see a short description.

For more information about installing and using ZENworks, see the Novell Product Documentation Web site (<http://www.novell.com/documentation>).

Registering the Workstation

If you are running Migration Wizard from a workstation, make sure that the workstation is registered within the domain that you want to migrate. If it is registered properly, continue with "Run Migration Wizard" on page 39.

If you want to change the domain that your workstation is registered in, complete the following instructions for Windows NT or Windows 2000.

IMPORTANT: Migration Wizard does not run on a Windows 95 workstation.

Windows NT Workstations

- 1 At the workstation, right-click Network Neighborhood and then click Properties.
- 2 Click the Identification tab and then click Change > Domain.
- 3 Specify the appropriate domain, enter your Administrator name and password, and then click OK.
- 4 Reboot the workstation and launch Migration Wizard again; then continue with the next section, "Run Migration Wizard."

Windows 2000 Workstations

- 1 At the workstation, right-click My Network Places, and then click Properties.
- 2 Click the Network Identification link.
- 3 Click Properties and enter the computer name and appropriate domain, and then click OK.
- 4 Reboot the workstation and launch Migration Wizard again; then continue with the next section, "Run Migration Wizard."

Run Migration Wizard

- 1** Download and install Migration Wizard from Novell Software Downloads (<http://www.novell.com/download>) > NetWare > NetWare Migration Wizard 6 or from the NetWare 6 Operating System CD. Follow the download and installation instructions.
- 2** Launch Migration Wizard from the Start menu by clicking Programs > Novell > NetWare Migration Wizard > NetWare Migration Wizard.
- 3** Click Create a New Project > OK.
- 4** Click Microsoft Windows NT 3.51/4 Server > OK.

- 5** Click the View Setup Tasks button.

This launches your default Web browser and takes you to the NetWare Migration Wizard 6 online documentation.

- 6** Make sure you have completed the system and software requirements in “Meet System and Software Requirements” on page 35 of the online documentation. Then close your browser.
- 7** Click Next.
- 8** Verify that the NT domain that appears in the grayed-out text field is the domain that you want to migrate.

Migration Wizard automatically displays the NT domain that your workstation or server is a member of.

If you are running Migration Wizard from a workstation, you can change the domain that it is registered in. To do this, exit Migration Wizard and follow the instructions in “Registering the Workstation” on page 38.

- 9** Name your migration project, choose a place to save it, and then click Next.

By default, Migration Wizard saves your project in C:\Program Files\Novell\NetWare Migration Wizard.

- 10** Select your destination NDS tree from the drop-down list and then click Next.

The destination NDS tree is the NDS tree that you want to migrate your NT data to.

If you are not logged in to your NDS tree, the NDS tree name will not appear in the drop-down list. If this is the case, click the Browse button to

log in to your NDS tree. Once you are logged in, the NDS tree name automatically appears in the drop-down list.

- 11** Decide whether you want Migration Wizard to find any User objects in your NT domain and in the destination NDS tree that have the same name, and then click Yes or No.

- 12** Click Create to create and save your migration project.

When a project is created and saved, Migration Wizard creates a file that contains the success and error logs of your project; these logs contain the details of what took place during the migration.

- 13** (Conditional) If you clicked Yes in "Step 11," continue with Step 13a. If you clicked No, skip the rest of the steps in this procedure and go to "Model Your Migration Project" on page 42.

- 13a** Click the Browse button to select an NDS container on the destination NDS tree.

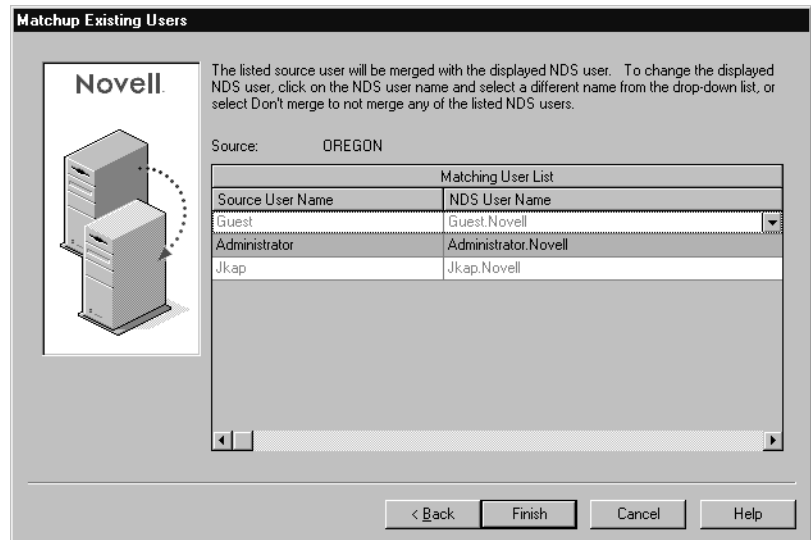
- 13b** Browse the tree and select an NDS container, and then click OK.

- 13c** Click Next to begin searching for duplicate usernames.

- 13d** Decide what you want to do with NT users that have the same name as NDS users.

The following screen is an example of the username table in Migration Wizard. Carefully review this screen. If you do not make any changes, Migration Wizard will automatically merge the displayed NDS user with the adjacent NT user.

Figure 3 Merging Your NT Users with Duplicate NDS Users



You have the following options for *each* listed NT user:

- ◆ Merge the NT user with the displayed NDS user. Simply leave that user as it is displayed in the table and continue with the next listed NT user.
- ◆ Merge an NT user with a different NDS user. Click the arrow by the NDS username to view a drop-down list containing all the NDS users that have the same username (including contexts) as the adjacent NT user. Select one of the NDS names and continue with the next listed NT user.
- ◆ Do not merge the NT user with any of the matching NDS users. Right-click the NDS user and click Don't Merge. Select this option if you know that none of the listed NDS users represents the same person as the adjacent NT user.

13e Once you have made a decision for each listed NT user, click Finish.

The Project Window will now appear and the NT users that you chose to merge with NDS User objects appear automatically as dropped objects in the destination NDS tree.

Continue with the next section, "Model Your Migration Project."

Model Your Migration Project

Most of your work will be done in the Project Window, where you can drag and drop NT User and Group objects into NDS containers, and NT folders and volumes into any volume or folder in the destination NDS tree.

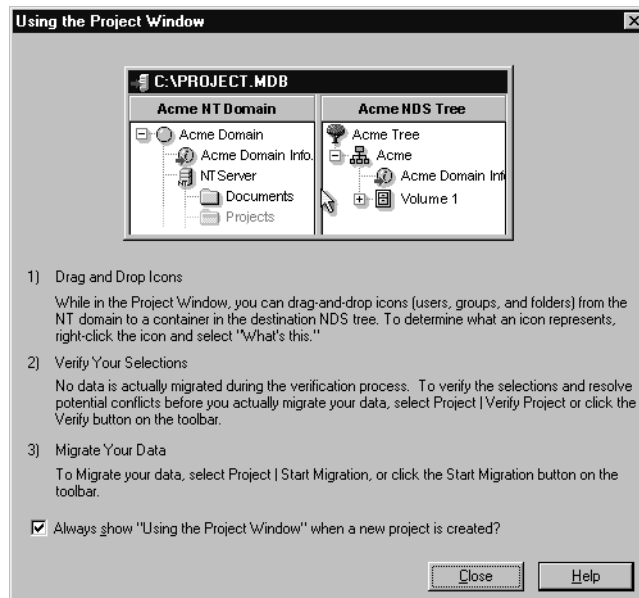
The Project Window is a place to model different migration scenarios before you begin the actual migration without affecting your NT domain or your destination NDS tree. All of the planning in the Project Window is done off-line, meaning that items moved and created in the Project Window are not actually moved or created until you begin the migration.

HINT: For information on shared NT folders that end with a dollar sign (\$), click anywhere on your Windows desktop, press F1, click the Index tab, and then enter `$shares` in the keyword text field.

The Project Window and the Using the Project Window dialog box appear once you have created the migration project.

The following figure is an example of the Using the Project Window dialog box that appears on top of the Project Window.

Figure 4 Using the Project Window Dialog Box



The three basic steps outlined in this dialog box should be performed for each migration project. Once you are familiar with the tasks that you will be

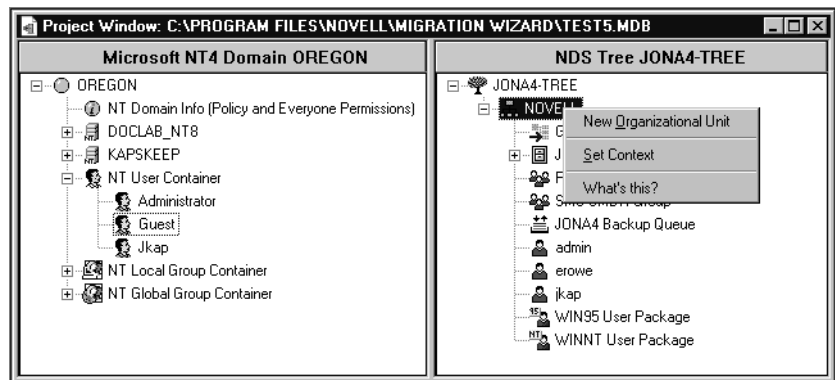
performing, click Close to access the Project Window and begin modeling your migration project.

Using the Project Window

Review the following tips to help you organize your migration project and use the Project Window more effectively.

- ◆ **Creating a New NDS Organizational Unit or Folder**—To create a new NDS Organizational Unit (OU), right-click the parent NDS Organizational Unit or folder and then click New Organizational Unit or New Folder. The following figure is an example of this task in the Project Window.

Figure 5 Right-clicking Organizational Units in the Project Window



You can create new NDS OUs in the NDS tree and then migrate your NT information to those OUs. This keeps the NT information organized and in one place in the NDS tree. You can also choose to migrate the NT data to existing OUs; just remember that you can always create a new OU in the NDS tree if you need to.

If you add new containers or names to the destination tree, the names you choose must adhere to the following NDS naming conventions:

- ◆ Names must be unique. For example, Debra Jones and Daniel Jones cannot both be named DJONES if they are in the same container.
- ◆ The following special characters are allowed *only* if they are preceded by a backslash (\): plus sign (+), equal sign (=), and period (.).

- ◆ Uppercase and lowercase letters, underscores, and spaces are not acknowledged by NDS. For example, Manager_Profile and MANAGER PROFILE are considered identical names in NDS.
- ◆ **Setting the Context**—To set the context, right-click an NDS Organizational Unit and then click Set Context.

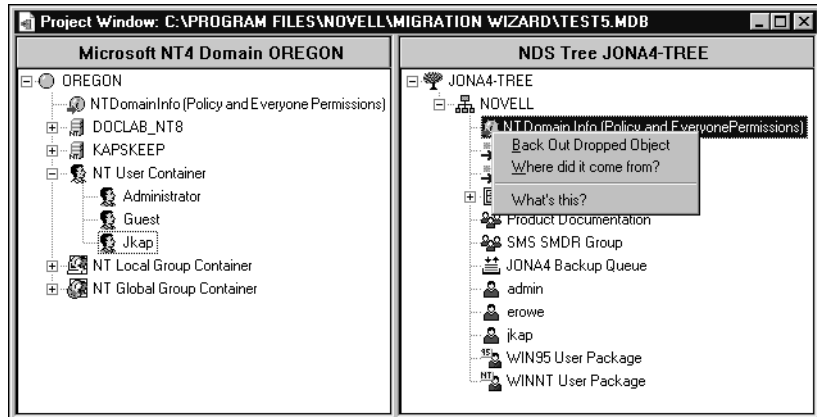
When you set the context, you can designate what part of the NDS tree will appear in the right side of the Project Window. This is useful if you have a large NDS tree with many objects.

Setting the context at a specific container will eliminate the need to scroll down or collapse objects in your NDS tree. Once the context is set, this container will appear as the top object in the right side of the Project Window.

- ◆ **Viewing a Description of the Objects in the Project Window**—To see a short description of what an icon represents in the Project Window, right-click an NDS object and then click What's This?
- ◆ **Backing Out a Dropped Object**—To return a dropped object to its original position, right-click a dropped NT object in the NT domain or the destination NDS tree and then click Back Out Dropped Object.

The following screen is an example of how a dropped object appears in the NDS tree, along with the right-click menu.

Figure 6 Right-clicking Objects in the Project Window



- ♦ **Finding Out Where a Dropped NT Object Came From**—To find out where a dropped object was located in the NT domain, right-click an NT object and then click Where Did It Come From? When dragging and dropping a large number of objects, this will help you remember where a dropped object was previously located in the NT domain.

Once you feel comfortable with where you have dropped your NT folders, users, and groups in the NDS tree, verify your migration project to resolve any potential problems before migrating your NT data.

Continue with the next section, "Verify Your Migration Project."

Verify Your Migration Project

Once you have modeled your migration in the Project Window, you should verify that the proposed locations for these new objects do not conflict with existing names, rights, name spaces, etc., in the NDS tree.

Remember, dragged-and-dropped items appearing in the NDS tree are merely *assigned* to be copied to that area in the NDS tree. Objects will not actually be copied until you begin the migration process.

Because a similar verification process is run when you begin the actual NT migration, running the standalone verification process prior to migration is not mandatory; however, catching any critical errors or warnings now will speed up the verification process during the migration.

You must resolve all critical errors before you begin to actually migrate your migration project. Warnings can be resolved after the migration.

- 1** From the Migration Wizard toolbar, click Project > Verify Project, or click the Verification button on the toolbar and then click Next.
- 2** Follow the procedure in the next section, "Migrate Users and Data to the Destination NDS Tree," starting with "Step 2."

Migrate Users and Data to the Destination NDS Tree

Although you have selected the volumes and containers where the NT data will be copied, no data has yet been migrated. When migrated, NT User objects are converted to NDS objects and placed in the destination NDS tree. To begin the migration, do the following:

- 1** From the Migration Wizard toolbar, click Project > Verify and Migrate Project.
- 2** Read the Welcome screen and then click Next.
- 3** If you want to apply a Template object to newly created NDS users, browse the tree, select the Template object from the tree view and then click Next.

If you do not want to use a Template object, uncheck the check box and click Next.

IMPORTANT: To migrate home directories, you must use a Template object when migrating your NT users to the destination NDS tree. Make sure a Home Directory property is defined for the Template object you are using.

HINT: If you have not created a Template object but you want to use one now, save the project, go to ConsoleOne™, and create the Template object. Next, run Migration Wizard again and click Open Last Project. Then restart this migration procedure again starting with "Step 1."

- 4** (Conditional) If ZENworks is installed, complete the following steps:
 - 4a** Browse the destination NDS tree and select any of the ZENworks User Policy Packages that you want to associate with your NT groups, and then click Next.
 - 4b** Select a ZENworks User Policy Package from the drop-down list, and then select the NT groups that you want to associate with each ZENworks User Policy Package. Click the right-arrow to move the associated groups to the Associate NT Groups window, and then click Next.

HINT: If you selected both WINNT-2000 and WIN 95-98 policy packages in the previous dialog box, you will first see a dialog box dealing only with your WINNT-2000 policy packages, followed by another dialog box dealing only with your WIN 95-98 policy packages. If you selected only one type of policy package, you will see only one dialog box.

The drop-down list contains all the ZENworks User Policy Packages that you selected in the previous step. You can associate as many NT groups as you want with each policy package.

- 4c** Review the NT groups that you chose to associate with specific ZENworks User Policy Packages, and then click Next.

If you want to change an association, click Back and follow the instructions in "Step 4b."

HINT: This screen will not appear if you are using ZENworks 3.0.

- 5** Decide how you want to handle any duplicate filenames between the Microsoft NT domain and the destination NDS tree. Select one of the following and then click Next:
- ◆ Don't Copy Over Existing Files
 - ◆ Copy the Source File If It Is Newer
 - ◆ Always Copy the Source File
- 6** Decide how you want to handle passwords for your NT users. Select one of the following and then click Next:
- ◆ **Assign the Same Password to All Users**—Migration Wizard will assign the same password to all migrated users.
 - ◆ **Assign a Randomly Generated Password to All Users**—Migration Wizard will randomly generate passwords, assign them, and then store the passwords it assigns in a file that it creates, named *project_name_OUT.TXT*. This file is saved in the same directory where your migration project is located.
 - ◆ **Read Passwords from a File**—Migration Wizard will migrate the current NT passwords to the destination NDS tree by reading them from a text file. You must create the text file containing the NT passwords before you begin the migration.
- For more information on how to create this file, click the Help button.
- 7** Set NT migration options by checking or unchecking the check boxes next to the following options and then click Next:
- ◆ **Migrate File Permissions**—Normally, Migration Wizard migrates file and directory permissions. If, for some reason, you want to reassign file and directory permissions, you can choose to not copy the file and directory permissions here and then assign them later with ConsoleOne.
 - ◆ **Migrate Everyone Permissions**—The NDS container that you drop the NT Domain Info object into will be assigned the permissions that

were associated with group Everyone. If you are migrating the Everyone permissions, be sure to drop the NT Domain Info object high enough in the NDS tree so that all NT users will inherit those permissions.

HINT: Every new folder that is created in the NT domain automatically receives the Everyone permissions by default.

- ◆ **Restart Option**—Normally, this information is not erased; however, if you have previously run a migration and deleted the NDS objects from the destination tree, and you are planning to start over and migrate the same domain again, check this check box.

When you migrate users and groups from NT, Migration Wizard stores a table of NT names and associated NDS usernames in the registry of the Primary Domain Controller (PDC). Migration Wizard then uses this information when migrating the file system so that it can remember where each user and group has been migrated to in the destination NDS tree. By storing this information, Migration Wizard can assign the correct file permissions to the appropriate users.

- 8 (Conditional) If you are running the standalone verification process, you will now be asked if you want to check for rights and volume size on the destination server. Check Yes if you want to check these things now, and then click Next.

Since this process is quite time-consuming, you might not want to do this every time you verify your migration project. But it is very useful if you want to verify that you have enough space on the destination volume to accommodate your NT file system.

Migration Wizard will also scan the contents of all dropped folders and verify that you have sufficient rights to migrate them.

NOTE: NT can filter supervisory privileges. If you have all rights at the root of a directory structure, this does not guarantee that you have these rights throughout the directory structure.

- 9 In the Verify NT to NetWare Project window, click Next to begin the verification.
- 10 If prompted, resolve any naming conflicts between different-type objects, and then click Next.

You can choose to merge different-type objects or to keep them as they are.

- 11** If prompted, resolve any naming conflicts between same-type objects, and then click Next.

You can choose to merge same-type objects or to keep them as they are.

- 12** If prompted, verify that you do not want to migrate the listed NT users and groups, and then click Next.

This procedure must be done three times—once for all your NT local groups, NT global groups, and NT users that were not dragged and dropped into the destination NDS tree. If you migrated all of your users and groups, you will not see this dialog box.

If you have made a mistake, click Cancel. This will return you to the Project Window. Drag and drop the objects, go to the toolbar, click Project > Start Migration, and then restart this procedure with "Step 1 on page 46."

- 13** Resolve any critical errors.

Warnings or noncritical errors, can be resolved after the migration. To resolve a critical error or warning, read the description in the text field located beneath it. This description should give you a good idea of what could be the possible cause and a suggestion for fixing it.

- 14** Do one of the following:

- ◆ If you are actually migrating at this point, click Proceed to start the actual migration.
- ◆ If you are only running the standalone verification process at this point, click Finish and then follow the instructions in “Migrate Users and Data to the Destination NDS Tree” on page 46 to begin the actual migration.

- 15** (Migration only) View the Error and Success Logs.

Continue with the next section, Perform Post-Migration Tasks.

Perform Post-Migration Tasks

After you've migrated your NT data to the destination NDS tree, complete the following tasks:

- Install the latest Novell Client software on any workstations that it was not previously installed on.

You can download the client from the Novell Software Download Web site (<http://www.novell.com/download>). For instructions on installing the Novell Client on multiple workstations at the same time, see the Novell Client Documentation at (<http://www.novell.com/documentation>).

- Use ConsoleOne to make sure that your NT users and groups have been migrated to the correct place in the destination NDS tree and have the correct file and shared permissions.

HINT: If you end up with more or fewer permissions than you planned for, enter `CACLS/?` at the DOS prompt and follow the on-screen instructions. Permissions are sometimes hidden in Microsoft utilities; therefore, running this command at the DOS prompt lets you see all of the permissions associated with your NT objects, even the hidden ones.

- At the destination NetWare server, use ConsoleOne to view the volume that you migrated your data to and verify that it was done correctly.
- Set up your printer mappings in NDPS[®]. For instructions, go to the online documentation (<http://www.novell.com/documentation>) of the operating system that you are running on the destination server and click Print Services > Novell Distributed Print Services.
- Check the migrated users' home directories to make sure that they were migrated the way you expected them to be.
- Distribute the new NDS passwords to all of your users. The passwords are located in a password file that Migration Wizard created for you named *project_name_OUT.TXT*. This file is located in the same directory where you saved your migration project.

4 Troubleshooting

Refer to the appropriate section if you are having trouble with any of the following:

- ◆ “General Connection Problems” on page 51
- ◆ “Workstation-to-Server Connections” on page 52
- ◆ “Server-to-Server Connections” on page 53
- ◆ “File Copy” on page 53
- ◆ “SMDR Errors” on page 54
- ◆ “Restoring Trustees” on page 54
- ◆ “NUWAGENT.NLM” on page 55
- ◆ “NICI Errors” on page 55
- ◆ “NDS Migration” on page 56

General Connection Problems

To eliminate unnecessary connection problems, make sure that

- ◆ The source and destination servers have enough available server and workstation licenses to do the migration.
- ◆ The NDS[®] user that you are using to do the migration has no concurrent connection limitations. To check this, do the following:
 - ◆ Run ConsoleOne™ on the workstation.
 - ◆ Edit the properties of the NDS User object.
 - ◆ Click the Login Restrictions tab.
 - ◆ Uncheck the Limit Concurrent Connections check box.

- ◆ The NDS user that you are using to do the migration has the Supervisor right to the source server's NDS object. Use ConsoleOne™ to verify that the NDS object of the NDS user is listed in the source server's Operators list.

Workstation-to-Server Connections

If you have problems establishing or maintaining connections between your servers and workstations, try one or more of these troubleshooting suggestions:

- ◆ Reboot the client workstation to clear the cache in the Novell® Client™.
- ◆ Map a drive to the server instead of logging in. This is especially useful when connecting with the IPX™ protocol.
- ◆ Search for the server by its IP or IPX address instead of its name. Enter the IP or IPX address in the Server field of the Novell Login dialog box.
- ◆ Try connecting to the server and not the NDS tree by entering only the name of the server and leaving the tree name and context blank.
- ◆ Clear all unauthenticated connections. To do this, right-click the N icon and click NeWare Connections. Detach from all servers and trees that you are not authenticated to, and then try logging in again.
- ◆ Make sure your Preferred NetWork Protocol is set correctly by doing the following:
 - ◆ Right-click the N icon.
 - ◆ Click Novell Client Properties > Protocol Preferences.
 - ◆ Select the desired preferred network protocol and click OK.
 - ◆ Reboot the workstation.
- ◆ Unbind the protocol you are not using from the destination server. For example, if you are using IPX for the migration, but IP is bound on the destination server, unbind the IP protocol on the destination server during the migration.

Server-to-Server Connections

If you have problems establishing or maintaining connections between your servers, try one or more of these troubleshooting suggestions:

- ◆ Do not remove the source or destination server from the NDS tree. The servers must be able to communicate with the other servers in the tree during the migration.
- ◆ Make sure the destination and source servers can communicate with each other.

For IPX connections, enter **DISPLAY SERVERS** at the server console. For IP connections, enter **PING** at the server console.

- ◆ If you are using IPX, make sure the frame type and the IPX network number/server ID are consistent between the source and destination servers. For IP connections, verify that you have corresponding addressing, subnet mask, and gateway information.
- ◆ Reboot the destination server.

File Copy

There are a few common troubleshooting procedures you can try if you are having problems during the file copy:

- ◆ Enable login on both the destination and source servers. If you have disabled login before you started the file copy, the servers can't log in to each other in order to migrate the files.

NOTE: If you have selected to do so, Migration Wizard disables login for you during the migration.

- ◆ If files are copying very slowly, make sure that the servers and workstation are configured at the lowest common LAN speed. Verify that the NICs and anything in between are all hard coded to either communicate half-duplex or full-duplex; they need to be the same throughout. If there are problems with full-duplex, use half-duplex.
- ◆ If compressed files are migrated to uncompressed volumes, file copy might be slower.

SMDR Errors

Sometimes the SMDR.NLM program that is running on the destination server can't make a connection to the source server. To correct this problem, try one or more of the following:

- ◆ Reboot the source server.
- ◆ Unbind the protocol you are not using from the destination server. For example, if you are using IPX for the migration, but IP is bound on the destination server, unbind the IP protocol on the destination server during the migration.
- ◆ If Migration Wizard can't load the appropriate TSA.NLM on your destination server, manually load it from the destination server console and following the onscreen instructions. Or, enter **SMDR NEW** at the server console to re-create the SMDR object.
- ◆ Load SMDR.NLM at the destination server console and then enter **SMDR NEW** at the destination server console to solve SMS™ problems.
- ◆ Make sure the latest NLM™ programs are loaded.

Migration Wizard automatically copies the required NLMs to the source and destination servers. To verify that you have the latest NLMs loaded, check the files in the NetWare Migration Wizard\Products\NW3x directory. You might have to load TSA312 manually.

- ◆ Check your primary connections. Right-click the N icon in the system tray and click NetWare Connections. Make sure the destination tree and server are marked as "primary."
- ◆ If you are migrating from NetWare 3, make sure the bindery context is set on the destination server. If you are migrating to NetWare 6, enter **set bindery context = o=[context]** on the destination server console.

Restoring Trustees

- ◆ If the trustees fail to restore and you get a 0xfffffb error, this means that you did not modify your IP address in all the necessary places. For more information, see "Edit Configuration Files" on page 28.
- ◆ If you need to restore trustees, in the Migration Wizard, you can click the Finish NDS Migration button or select Restore Trustees from the toolbar.

NUWAGENT.NLM

NUWAGENT.NLM is the NLM program that the Migration Wizard uses to do much of its work. If you get errors that the NUWAGENT.NLM won't load, try the following:

- ◆ Manually load NUWAGENT.NLM from the server console.
- ◆ Enter **SMDR NEW** at the destination server console. This re-creates the SMDR configuration and allows NUWAGENT.NLM to load.

NICI Errors

If you are getting NICI errors when NDS is trying to load or when you are copying the NICI files in the Migration Wizard, this might mean that your NICI files are corrupt. To correct the problem, follow these steps on the server that is getting NICI errors:

- 1** Copy the *.NFK file from server's license diskette to the server's SYS:SYSTEM directory.
- 2** Rename the *.NFK file that you just copied to NICIFK (this has no extension).
- 3** Go to the Novell Support Web site (<http://support.novell.com/filefinder>) and download NREPAIR3.EXE.
- 4** Extract NREPAIR3.EXE and locate NREPAIR.NLM.
- 5** Run NREPAIR.NLM on the server, clicking Yes at all the prompts.
- 6** Reboot the server.
- 7** Load PKI.NLM on the server and verify that you are no longer getting NICI errors.

If you still see NICI errors, go to the Novell Support Home Page (http://www.support.novell.com/search/kb_index.jsp) and search for TID 10025666.

NDS Migration

If the migration fails during the NDS Migration step, you need to restore the source and destination servers to their original configuration before you can retry the NDS migration. The instructions for restoring the servers to their original configurations are different depending on when the migration of data failed.

If Begin NDS Migration, button 3, failed and the destination server did *not* reboot and take on the name and identity of the source server, complete the steps in “Restore Source Server to Its Original Configuration” on page 56.

If Begin NDS Migration, button 3, successfully completed and the destination server has already rebooted and taken on the name and identity of the source server, complete the steps in the following sections:

1. “Remove NDS from the Destination Server” on page 57
2. “Remove NDS from the Source Server” on page 58
3. “Restore NDS to the Source Server” on page 59
4. “Reinstall the Destination Server” on page 60

Restore Source Server to Its Original Configuration

If Begin NDS Migration, button 3, failed and the destination server did *not* reboot and take on the name and identity of the source server, you need only restore NDS to the source server. Once NDS has been restored, you have restored the source server to its original configuration and you are ready to try the NDS migration again.

- 1** Enter one of the following at the server console of the source server:
 - ♦ If your source server is running NetWare 4, enter **LOAD INSTALL.**
 - ♦ If your source server is running NetWare 5 or later, enter **NWCONFIG.**
- 2** Select Directory Options > Directory Backup and Restore > Restore Local DS Information after Hardware Upgrade.
- 3** Press F3 and enter **SYS:SYSTEM\NUW30\NDSBU** when prompted for the location of the backup files.

NDS has now been restored to the source server.

IMPORTANT: Do *not* reboot the destination server. Since the destination server did not take over the identity of the source server, no other action is required prior to performing the NDS migration again.

- 4 To perform the NDS migration again, launch Migration Wizard and open the project you were previously working on. When the project opens and you see the Project Window, click the Begin NDS Migration button and follow the instructions in “Begin NDS Migration” on page 29.

Remove NDS from the Destination Server

If Begin NDS Migration, button 3, successfully completed and the destination server has already rebooted and taken on the name and identity of the source server, you must remove NDS from the destination server before you can restore NDS to the source server.

- 1 At the destination server console, enter **NWCONFIG**.
- 2 Select Directory Options > Remove Directory Services from This Server.
- 3 Press Enter when you see a warning instructing you to not remove Directory Services.

Ignore any other errors during the removal of NDS.
- 4 Select Yes to Remove Directory Services.
- 5 Enter the Admin username and password.
- 6 Press Enter to reference a different object.

This object is used when NDS is restored back to the source server.

WARNING: Do not press Esc. If you do, the server references you entered will not be saved or restored to the server.
- 7 Enter the full Admin username as the placeholder object distinguished name.
- 8 Enter **[Root]** as the distinguished name to change from.
- 9 If the information about single reference time source appears, review the information and press Enter.
- 10 If your server holds the Master copy of a replica, you will see a warning. Press Enter.
- 11 Designate another server to hold the Master replica. You can choose to let NWCONFIG randomly select another server, or you can designate one yourself.
- 12 Return to the NWCONFIG utility and verify that NDS has been removed by selecting Remove Directory Services from This Server.

If the message appears saying that NDS has already been removed, *bring the destination server down* and continue with the next section, "Remove NDS from the Source Server."

If NDS was *not* successfully removed, exit NWCONFIG and enter **NWCONFIG -DSREMOVE** at the destination server console. Then follow this procedure again, beginning with "Step 2."

Remove NDS from the Source Server

Once NDS has been removed from the destination server, remove NDS from the source server.

1 Restart the source server by entering **Server** at the DOS command prompt.

2 Enter **LOAD INSTALL -DSREMOVE**.

This command will instruct INSTALL or NWCONFIG to ignore any warnings or errors during the removal of NDS.

If your source server is running NetWare 4, enter **LOAD INSTALL -DSREMOVE**.

If your source server is running NetWare 5 or later, enter **NWCONFIG -DSREMOVE**.

3 Select Directory Options > Remove Directory Services from This Server.

4 Press Enter to skip past any warning screens.

5 Select Yes to remove NDS.

6 Press Enter to skip the error message warning you that NDS is locked.

Ignore, but keep track of, any additional NDS error messages that appear.

7 When the INSTALL or NWCONFIG menu appears again, select Remove Directory Services again.

If a message indicates that NDS is already removed, continue with the next section, "Restore NDS to the Source Server."

If NDS was *not* properly removed, contact Novell Technical Support at 1-800-858-4000.

Restore NDS to the Source Server

By removing NDS from the source server, you removed the server from any replica rings that held a partition of the source server. Now you must complete the following procedure to restore NDS to the source server.

- 1** Enter one of the following at the server console:
 - ♦ If your source server was running NetWare 4, enter **LOAD INSTALL**.
 - ♦ If your source server was running NetWare 5 or later, enter **LOAD NWCONFIG**.
- 2** Select Directory Services > Install Directory Services onto This Server.
- 3** Select the NDS tree where the source server existed prior to migration.
- 4** Select a time zone and time configuration parameters.

Ignore any warnings or errors that appear during the restoration of NDS, but make a note of the errors before pressing ESC.
- 5** Enter the Admin name and password.
- 6** Enter the context where the source server existed prior to migration and press F10.
- 7** Save the NDS (Directory) information.
- 8** Wait while the server synchronizes with the NDS tree, which might take a while.
- 9** Return to the **INSTALL** or **NWCONFIG** utility and select Directory Options > Select Directory Back Up and Restore > Restore Local DS Information after Hardware Upgrade > Restore Reference from another Object to This Server.

This will restore all references to the Server object that you assigned when you removed NDS from the destination server.
- 10** Press Enter.
- 11** Enter the full Admin username as the placeholder object distinguished name, and then enter [**Root**] as the distinguished name to change from.
- 12** Exit the **NWCONFIG** or **INSTALL** utility.
- 13** At the server console of the source server, enter **LOAD DSREPAIR**.
- 14** Select Unattended Full Repair > Advanced Options > Check Volume Objects and Trustees.

- 15** Enter the Admin username and password.
- 16** Exit DSREPAIR.
- 17** At the workstation where you performed the migration, open your project.
- 18** From the Migration Wizard Tools menu, click Restore Trustees to restore the trustee assignments.
- 19** If the source server held the master replica of any partitions and you want to restore these partitions prior to doing the NDS migration again, use DSREPAIR to re-create them.

The source server is now restored to its original configuration.

Continue with the next section, "Reinstall the Destination Server."

Reinstall the Destination Server

To perform the migration again, you must reinstall the operating system on the destination server.

HINT: If you had your server imaged, you can just restore the image rather than reinstall.

- 1** Bring down the destination server.
- 2** Install NetWare and follow the on-screen instructions during the installation.

After NetWare is installed on the destination server, you are ready to perform the NDS migration again. Go to "Begin NDS Migration" on page 29.