

(Figure Description) Title page illustration

Novell Native File Access Pack for NetWare® 5.1

1.0

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INSTALLATION AND ADMINISTRATION GUIDE



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Preface

This book is divided into the following sections.

- ♦ **Chapter 1, “Overview,” on page 9**—An explanation of the benefits of Novell® Native File Access Pack software and the concepts required to understand its implementation.
- ♦ **Chapter 2, “Installing Novell Native File Access Pack for NetWare 5.1,” on page 13**—Instructions for meeting the prerequisites and installing the software.
- ♦ **Chapter 2, “Installing Novell Native File Access Pack for NetWare 5.1,” on page 13**—Instructions for creating passwords and managing users for Macintosh* and Windows* computers.
- ♦ **Chapter 4, “Working with Macintosh Computers,” on page 31**—Instructions for simplifying the task of setting up and managing Macintosh workstations. Also includes instructions that describe how Macintosh end users access files on the network with Novell Native File Access Pack.
- ♦ **Chapter 5, “Working with Windows Computers,” on page 39**—Instructions for simplifying the task of setting up and managing Windows workstations. Also includes instructions that describe how Windows end users access files on the network with Novell Native File Access Pack.
- ♦ **Chapter 6, “Setting Up Novell Native File Access Pack with Novell Cluster Services,” on page 49**—An explanation of the concepts relating to Novell Cluster Services™ and instructions for configuring the Novell Native File Access Pack software for Macintosh and Windows computers in a clustered environment.

Instructions for setting up Novell Native File Access Pack for UNIX* computers are located in *Novell Native File Access for UNIX Installation and Administration Guide*.

Documentation Conventions

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

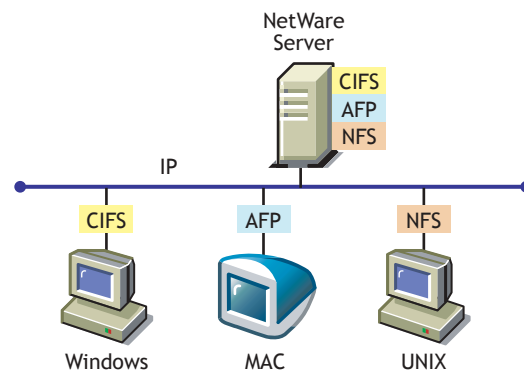
Also, a trademark symbol (® , ™, etc.) denotes a Novell trademark. An asterisk (*) denotes a third-party trademark.

1

Overview

Novell® Native File Access Pack lets Macintosh, Windows, and UNIX workstations access and store files on NetWare® servers without having to install any additional software—such as Novell Client™ software. The software is installed only on the NetWare server and provides "out of the box" network access. Just plug in the network cable, start the computer, and you have access to servers on your network. No client configuration, no client software, no problem.

(Figure Description) Native protocols on a network



Native Protocols

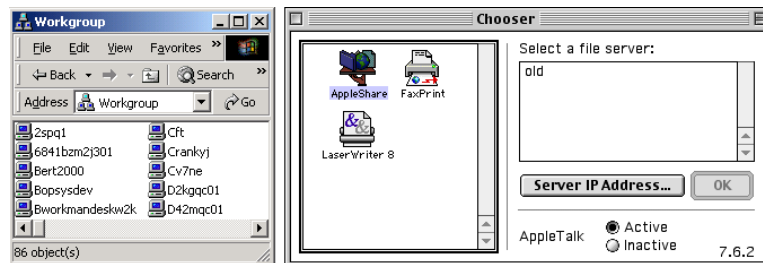
Novell Native File Access Pack software enables the NetWare server to use the same protocol (referred to as *native*) as the client workstation to copy, delete, move, save, and open files. Windows workstations perform these tasks using the native Common Internet File System (CIFS) protocol, and

Macintosh workstations use the native Apple* Filing Protocol (AFP). UNIX computers use the Network File System (NFS*) protocol.

Network Neighborhood and Macintosh Chooser

Enabling native protocols on NetWare means that users can access files, map network drives, and create shortcuts to NetWare servers using the native methods available in their specific operating system. Windows users can use their familiar Network Neighborhood. Macintosh users can use Chooser or the Go menu to access network files and even create aliases. Because the NetWare server is running native protocols, users can copy, delete, move, save, and open network files—just like they would if they were working locally.

(Figure Description) Native access methods



Network Neighborhood

Chooser

Understanding Passwords

To understand how Novell Native File Access Pack incorporates the security of NetWare, you must understand the different types of passwords used in networking—local, domain controller, NetWare, and simple.

Local Password

The Windows operating system requires a username and password to log in to the computer. This password, called the *local password*, is stored locally on the computer's disk drive.

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Domain Controller Password

Windows networking uses a domain controller to restrict access to the network. When Windows users log in to the network using a Domain Controller, they are required to enter a username and password for authentication. This password, called the *domain controller password*, is stored on the domain controller computer on the network.

NetWare Password

To access the network, each user must have a network account created specifically for them. This account is called a *User object*. It consists of a NetWare username and a corresponding *NetWare password*. When the workstation is running Novell Client software, the user logs in by entering the NetWare username (including context) and password. NetWare usernames and passwords are stored securely on NetWare servers.

Simple Password

Another password, called the *simple password*, is required to provide access to workstations not running Novell Client software. Just like the NetWare password, the simple password is stored on the network. Each user must have a simple password to access network resources using native protocols.

When users access a network resource using their native methods (such as My Network Places or Chooser), they enter their NetWare username and the simple password. The username and password are verified by NetWare, and if they are correct, access is granted to the network resource.

Get Started

Novell Native File Access Pack for NetWare 5.1 is easy to install on a NetWare 5.1 server. Follow the instructions beginning in [Chapter 2, "Installing Novell Native File Access Pack for NetWare 5.1,"](#) on page 13 to get started.

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Installing Novell Native File Access Pack for NetWare 5.1

To install the Novell[®] Native File Access Pack for NetWare[®] 5.1, you must complete the following:

1. Prepare the NetWare 5.1 server according to the instructions in “[NetWare Server Prerequisites](#)” on page 13.
2. Set up a client workstation following the instructions in “[Administrator Workstation Prerequisites](#)” on page 15.
3. Make sure that the computers to access the network are running a supported version of the operating system as described in “[Computer Prerequisites](#)” on page 15.
4. Install the software following the instructions in “[Installing the Software](#)” on page 16.

After installing Novell Native File Access Pack, you must create simple passwords before users can access network resources. For instructions, see [Chapter 3, “Assigning Simple Passwords,”](#) on page 25.

NetWare Server Prerequisites

The server must have the following configuration to run Novell Native File Access Software.

HINT: Check the server configuration at the server console by entering NWCONFIG; then select Product Options > View.

- NetWare 5.1 server with NetWare 5.1 Support Pack 3
[Download Support Pack 3. \(http://support.novell.com/tools/csp\)](http://support.novell.com/tools/csp)
- NDS[®] eDirectory[™] 8.5.1 for NetWare (DS.NLM internal version 85.00)

IMPORTANT: Do not use any other version.

Download eDirectory. (<http://www.novell.com/download/>)

- The following patches installed:
 - ◆ WS_NFAP.EXE (see TID #2960069)
 - ◆ NSS5I.EXE (see TID #2960046)

Download patches from Novell Support Web site. (<http://support.novell.com>)

HINT: From the Novell Support Web site, click Patches and Files to search by filename or click Knowledgebase to search by TID number.

- Novell Modular Authentication Service (NMAST[™]) version 2 or later.

During the Novell Native File Access Pack installation, NMAST 2.0 is automatically installed or earlier versions of NMAST are upgraded to NMAST 2.0.

NMAST Starter Pack 1.0 is automatically upgraded to NMAST Starter Pack 2.0. NMAST Enterprise Edition 1.0 is upgraded to NMAST Enterprise Edition 2.0.
- (For Macintosh only) Macintosh Name Space loaded on each traditional volume before installing Novell Native File Access Pack.

To load Macintosh Name Space to a volume, enter the following commands at the server console:

```
LOAD MAC.NLM
```

```
ADD NAME SPACE MACINTOSH TO VOLUME volume_name.
```

IMPORTANT: On NetWare 5.1, volume SYS: is a traditional volume. If you want Macintosh users to access volume SYS:, you must load mac name space on it.
- (For Macintosh only) AFP.NLM and APPLETLK.NLM must be unloaded from the server (if loaded).
- If BorderManager[™] Enterprise Edition version 3.5 or later is running in the same tree as the NetWare server, the Login Policy Object (LPO) must be created by completing the following procedure.

Creating the Login Policy Object

- 1** Log in to the server running BorderManager.
- 2** Run the NetWare Administrator utility located in the public\win32\ directory.

- 3** From the Object menu, click Create > Login Policy > OK.
- 4** (Conditional) If the server running BorderManager does not have a local NDS replica, complete the following:
 - 4a** From NetWare Administrator, select the Security container and the LPO.
 - 4b** Click Trustees of This Object > Add Trustee.
 - 4c** Select the Server object of the server running BorderManager.
 - 4d** Deselect all Object rights.
 - 4e** Click Selected Properties > SAS: Policy Credentials.
 - 4f** From Property Rights, click Read/Write > OK.

Administrator Workstation Prerequisites

To install, set up, and administer Novell Native File Access Pack, make sure that at least one workstation meets the following requirements:

- Windows workstation running one of the following:
 - ◆ Windows 95/98 running Novell Client for Windows 95/98 version 3.21.0 or later. [Download the client software. \(http://www.novell.com/download/\)](http://www.novell.com/download/)
 - ◆ Windows NT/2000 running Novell Client for Windows NT/2000 version 4.80 or later. [Download the client software. \(http://www.novell.com/download/\)](http://www.novell.com/download/)
- Client NICE 1.5.7 (Strong Encryption) version 1.5.7. [Download the NICE software. \(http://support.novell.com/\)](http://support.novell.com/)

NICE is required to perform password administration using ConsoleOne™. It must be installed only on the Administrator Workstation. NICE (Weak Encryption) will work for user authentication but does not support changing passwords from a Windows workstation.

Computer Prerequisites

To access NetWare servers running Novell Native File Access Pack, computers must be connected to the network, properly configured to run TCP/IP, and must be running one of the following operating systems:

- ❑ Mac OS version 8.1 or later, Mac OS X
- ❑ Windows 95/98/ME, Windows NT* version 4, Windows 2000
Windows computers must be running Client for Microsoft Networks, which is a standard Windows component that is installed by selecting Control Panel > Network > Add > Client > Microsoft.
- ❑ Any version platform capable of NFS v2 or NFS v3 such as UNIX, Linux*, and Free BSD.

For more information on computers running NFS, see the *Novell Native File Access for UNIX Installation and Administration Guide*.

Installing the Software

Novell Native File Access Pack includes an easy-to-follow installation program that guides you through the required steps.

Installing Novell Native File Access Pack

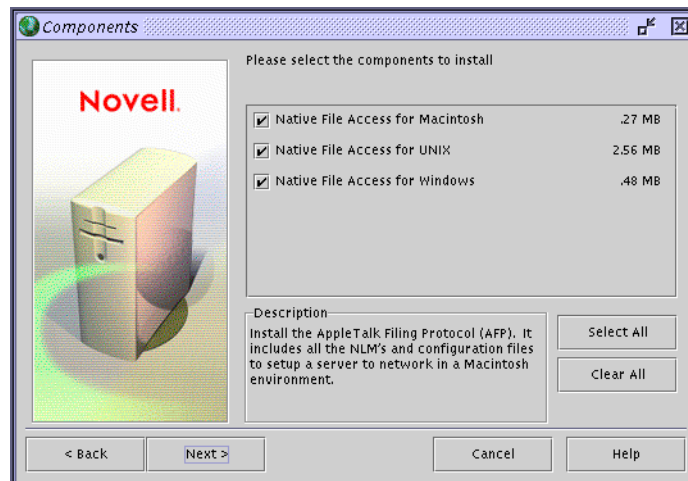
- 1** Obtain the product CD or download the Novell Native File Access Pack software from the Internet.
- 2** Make sure that your NetWare server meets the prerequisites described in “[NetWare Server Prerequisites](#)” on page 13.
- 3** Set up an Administrator Workstation by meeting the prerequisites described in “[Administrator Workstation Prerequisites](#)” on page 15.
- 4** From the Administrator Workstation, log in to the destination server that will run the Novell Native File Access Pack software.
- 5** Create a temporary directory on the destination server.
- 6** Unzip the Novell Native File Access Pack files to the temporary directory on the destination server.
- 7** At the server console, enter **STARTX** to launch the graphical server console.
- 8** Click Novell > Install.

(Figure Description) [Install option menu](#)



- 9** From the Installed Products screen, click Add.
- 10** Enter the path to the temporary directory and select the PRODUCT.NI file.
- 11** Accept the License Agreement.
- 12** Select to install Macintosh and/or Windows components.

(Figure Description) Components screen

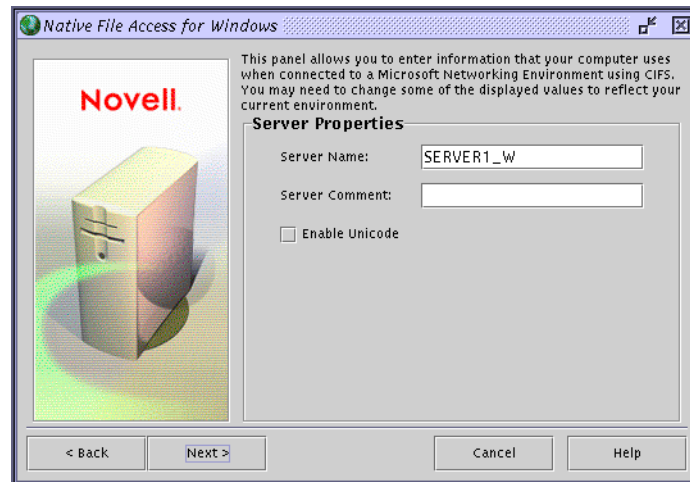


For information on installing the NFS component, see *Novell Native File Access for UNIX Installation and Administration Guide*.

- 13** Click Next.
- 14** (Conditional) If you choose to install the Windows component (CIFS), complete the following steps:
 - 14a** Log in as a user with the Supervisor right.
You must specify the full context for the user.

- 14b** Enter the Server Name and Server Comment that will appear in Network Neighborhood.

(Figure Description) Server Properties screen



The Server Name must be 11 or fewer characters and must be different from the actual NetWare server name. The Server Comment is optional.

- 14c** Specify whether to enable UNICODE.

When checked, this option enables Unicode characters used in double-byte languages.

NOTE: To support Unicode, an additional file named UNINOMAP.TXT must be created and saved in the SYS:\ETC directory. When the -UNICODE value is set to ON, the UNINOMAP.TXT file is used to resolve Unicode-to-ASCII "no-map" problems.

To specify "no-map" cases in the UNINOMAP.TXT file, enter the first Unicode value to watch for and then the second value representing the ASCII replacement code. For example:

0178 98

20AC CC

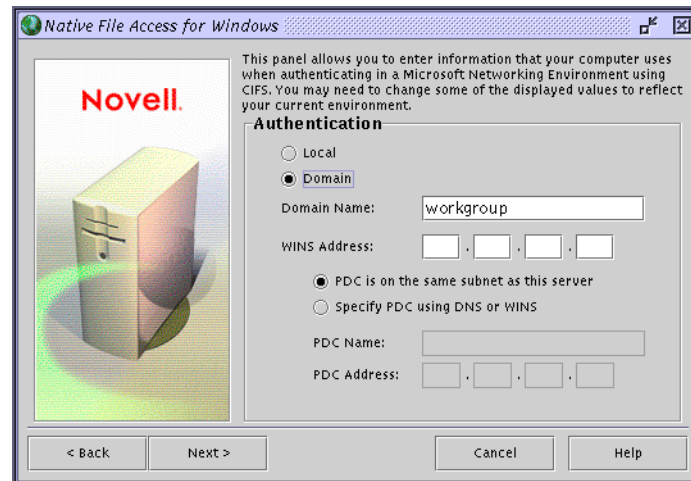
Save the values in the UNINOMAP.TXT file. If an unmappable character is encountered, the system uses the ASCII substitution character specified in the file.

- 14d** Select one of the following and click Next.

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- ◆ If users will authenticate using NDS, select Local.
- ◆ If users will authenticate using a Domain, select Domain.

(Figure Description) Authentication screen

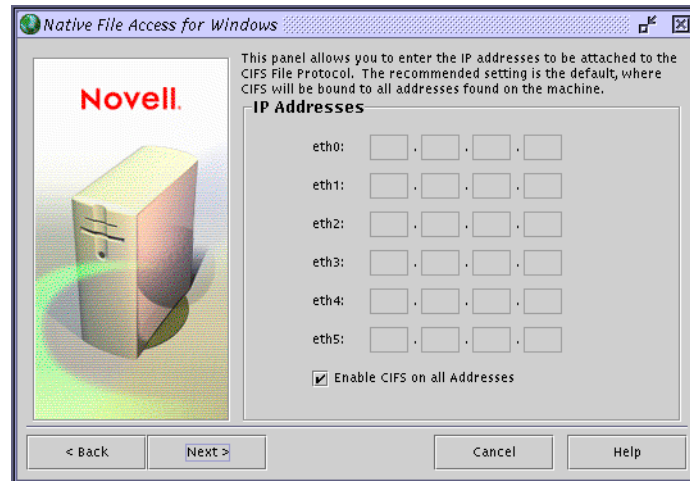


For Windows users, there are two types of authentication methods available with Novell Native File Access: Local and Domain. Local authentication requires a simple password to log in to a NetWare server, but a simple password is not required for Domain authentication.

When Novell Native File Access Pack is configured for domain authentication, it is not possible to change the simple password or the NetWare password using Windows' native Change Password feature. To change the password, you must use Windows' domain management utilities.

- 14e** (Optional) Specify the IP address to be attached to the Windows (CIFS) protocol.

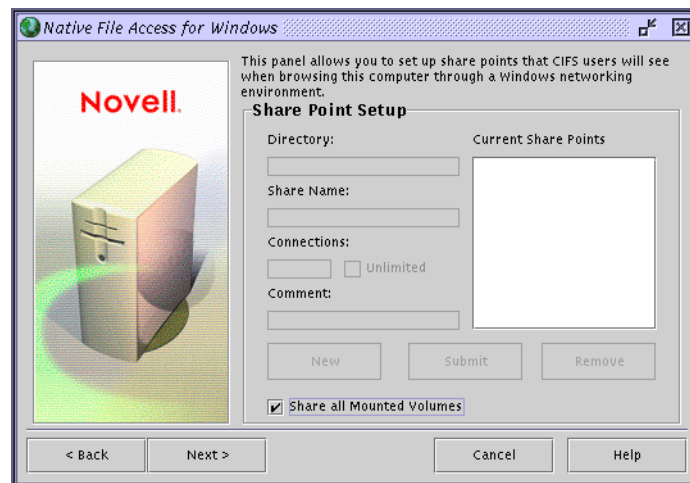
(Figure Description) IP Addresses screen



The default is to bind all IP addresses to the CIFS protocol.

- 14f** (Optional) Specify additional NetWare volumes or folders that you want to appear as share points in Network Neighborhood.

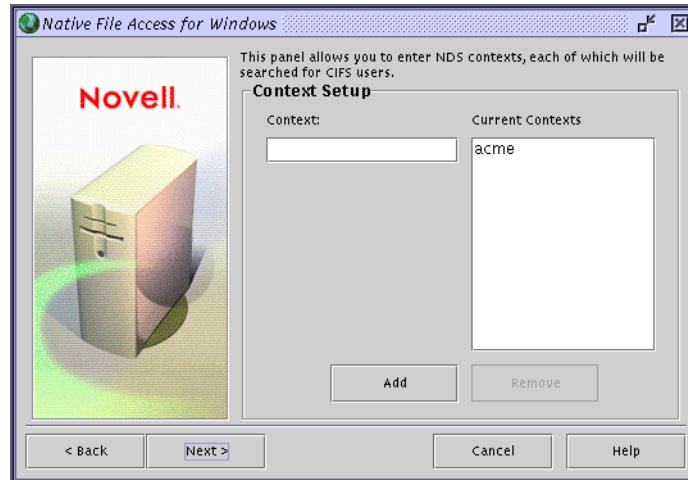
(Figure Description) Share Point Setup screen



To specify a new share point, click New and then enter the path to the directory, a name, and a description. The directory name must end with a backslash (\). For example, SYS:\SYSTEM.

- 14g** Specify the NDS contexts for all Windows users who need access to the server.

(Figure Description) Context Setup screen



The list of NDS contexts are maintained in the CIFSCTXS.CFG file that can also be updated after installation. For more information, see [“Specifying Contexts in the Context Search File” on page 39.](#)

- 15** (Conditional) If you choose to install the Macintosh component (AFP), complete the following steps:
- 15a** From the Administrator Workstation, log in as a user with the Supervisor right.
 - 15b** Open the SYS:ETC\CTXS.CFG file in a text editor.
 - 15c** Enter the contexts of each Macintosh user that requires access to the server. For example:

```
sales.hongkong.acme
```

```
graphics.ny.acme
```

```
sales.ny.acme
```

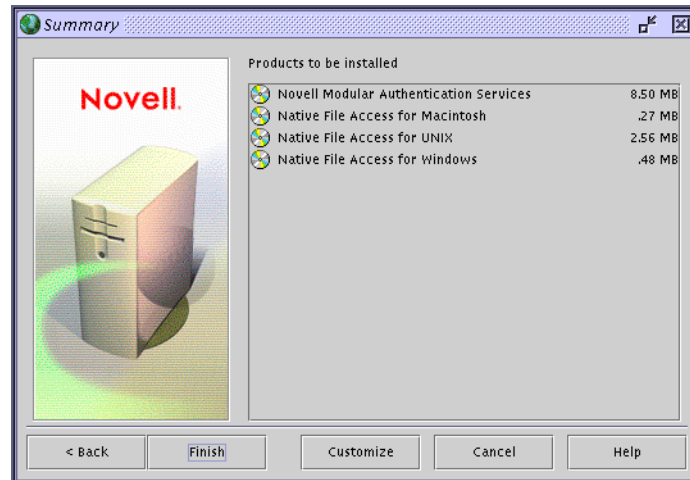
The Native File Access Pack software will search each context in order until it finds the User object. For more information on editing the CTXS.CFG file, see [“Editing the Context Search File” on page 32.](#)

15d Save the file.

15e (Optional) Rename a volume by editing the SYS:ETC\AFPVOL.CFG file.

16 Read the Summary Window and then click Finish.

(Figure Description) Summary screen



17 Restart the server.

Starting and Stopping Services

Each time the server starts, Novell Native File Access Protocols are loaded from commands in the AUTOEXEC.NCF file. You can also load and unload the service from the server console.

Starting and Stopping the Macintosh (AFP) Protocols

1 At the server console, enter **AFPSTRT** to load the Macintosh (AFP) protocols on the server.

Any changes in the configuration files are applied when the protocols are loaded.

2 At the server console, enter **AFPSTOP** to unload the Macintosh (AFP) protocols.

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Starting and Stopping the Windows (CIFS) Protocols

- 1** At the server console, enter **CIFSSTRT** to load the Windows (CIFS) protocols.

Any changes in the configuration files are applied when the service is loaded.

- 2** At the server console, enter **CIFSSTOP** to unload the Windows (CIFS) protocols.

What's Next?

After completing the installation, you need to assign simple passwords to users before Windows and Macintosh users can access the network. Proceed to [Chapter 2, "Installing Novell Native File Access Pack for NetWare 5.1,"](#) on page 13.

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3

Assigning Simple Passwords

Windows, Macintosh, and UNIX users must have a User object and simple password before they can access network resources using native protocols.

A User object specifies attributes and information about which network resources the user can access. User objects are created using ConsoleOne™. For more information, see the *ConsoleOne Users Guide*. (<http://www.novell.com/documentation/lg/consol12d/index.html>)

A simple password lets users log in to the network without any client software. To log in to the network, users are prompted from their operating system's native network access method, such as Network Neighborhood or Chooser, to enter their username and simple password.

Simple passwords can be easily created for one or many users by using one of the following procedures.

- ◆ Create simple passwords for a single user by following the instructions in “Using ConsoleOne to Create Simple Passwords” on page 25.
- ◆ Create simple passwords for one or more users by following the instructions in “Using NetWare Management Portal to Create Simple Passwords” on page 27.

After setting up Novell® Native File Access Pack, you can manage network access by following the instructions in “Managing Users and Rights to Network Resources” on page 29.

Using ConsoleOne to Create Simple Passwords

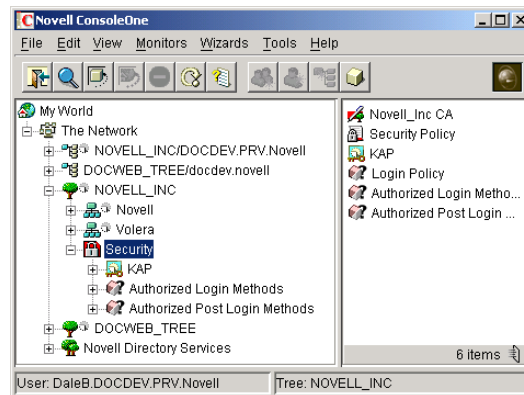
ConsoleOne lets you create simple passwords for users one at a time by completing the following procedure.

- 1 From the Administrator Workstation, log in as a user with the Supervisor right.

Make sure that the Administrator Workstation meets the prerequisites described in “Administrator Workstation Prerequisites” on page 15.

- 2 Run CONSOLEONE.EXE (located in \PUBLIC\MGMT\CONSOLEONE\1.2\BIN\).

(Figure Description) ConsoleOne management screen



Novell ConsoleOne

- 3 Right-click the User object and then click Properties.
- 4 Click the Login Methods tab and select Simple Password.
- 5 Click Assign Simple Password.
- 6 Enter the simple password in the fields provided.

If the simple password is different than the NetWare[®] password, the user would enter the simple password when accessing the network with native protocols and would enter the NetWare password when logging in with the Novell Client[™] software.

- 7 Click Apply.
- 8 Repeat these steps to create a simple password for each user that requires network access using Novell Native File Access software.

Since you have created simple passwords for User objects in NetWare, those users can now use native access methods (Network Neighborhood, Chooser,

etc.) to access network resources. When prompted, they will enter their NetWare username (without context) and the corresponding simple password.

Using NetWare Management Portal to Create Simple Passwords

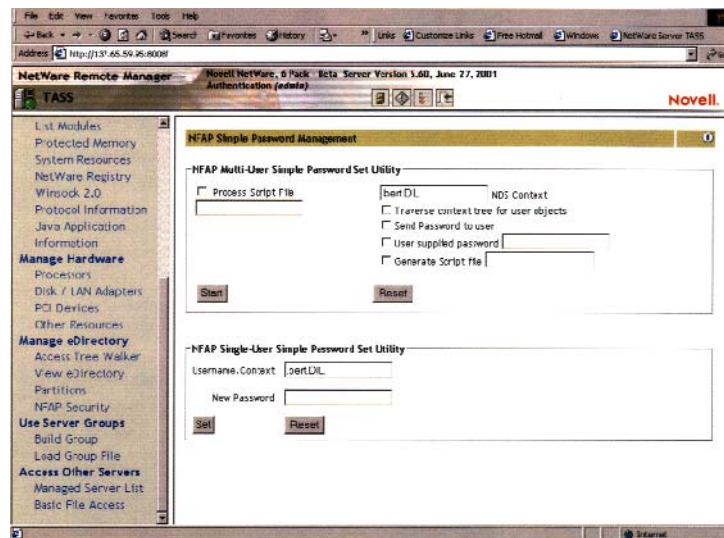
You can use NetWare Management Portal (renamed NetWare Remote Manager in later versions) to create simple passwords for users one at a time and you can use it to create simple passwords for many network users.

- 1 Run NetWare Management Portal following the instructions described in the *NetWare Management Portal Utility Guide* in the NetWare 5.1 documentation. (http://www.novell.com/documentation/lg/nw51/docui/index.html#../port_enu/data/a310k9x.html)

HINT: To run NetWare Management Portal, enter the IP address of the server into the URL field of an Internet browser.

- 2 From the left frame, click Manage eDirectory > NFAP Security.

(Figure Description) NFAP Simple Password Management screen



Creating Simple Passwords for Multiple Users

- 1 Select an option to identify the users to receive simple passwords.

- ♦ Select all User objects in a context by typing in the context in the NDS Context field.
- ♦ Select all User objects in the NDS[®] tree by clicking Traverse Context Tree for User Objects.

NOTE: Searching the entire NDS tree may take several minutes.

2 Select an option for choosing and communicating the password to the user.

- ♦ Send an e-mail to each user notifying them of their simple password by clicking Send Password to User.

To use the Send Password to User feature, you must first use the Access Mail Notification Control Page to set up NetWare Management Portal to perform e-mail notification.

The Access Notification Control Page is available by clicking the configuration icon on the top of the screen. For more information, see the *NetWare Management Portal Utility Guide* in the NetWare 5.1 documentation. (http://www.novell.com/documentation/lg/nw51/docui/index.html#./port_enu/data/a3l0k9x.html)

- ♦ Specify a common password by clicking User Supplied Password and entering a password in the field provided.

The text entered in this field is used as the password for all selected users receiving simple passwords.

3 (Optional) Use a script file to test the results before processing.

Before you commit to assigning simple passwords, you can run and review a script file to make sure that you get the desired results.

3a Click an option for selecting User objects and an option for choosing and communicating the passwords as described above.

3b Click Generate Script File and type a filename in the field provided.

3c Click Start.

3d Open and review the script file using a text editor.

3e Repeat the above steps until the script file contains the appropriate information.

3f Click Process Script File and type the filename of the script in the field provided.

4 Click Start to process the commands.

Creating a Simple Password for a Single User

- 1** In the Username.Context field, type the username and context of the user to receive the simple password.
- 2** In the New Password field, type the text to be used as the simple password.
- 3** Click Set.

You will need to notify the user of the password

Managing Users and Rights to Network Resources

ConsoleOne helps you manage Novell Native File Access for each computer platform (Macintosh, Windows, and UNIX). You can create users and groups, assign and restrict rights to directories, and view the rights of specific users.

To provide rights to network access, do the following:

- 1** From the Administrator Workstation, log in to the NetWare server running Novell Native File Access Pack software.

You must use a Windows workstation that meets the prerequisites as described in “[Administrator Workstation Prerequisites](#)” on page 15.
- 2** Run CONSOLEONE.EXE located in
\\PUBLIC\MGMT\CONSOLEONE\1.2\BIN\.
- 3** Set up and manage rights as described in the *ConsoleOne Users Guide*.
(<http://www.novell.com/documentation/lg/consol12d/index.html>)

What's Next?

You have now installed the software and set up passwords so Macintosh and Windows users can access files on the network with no additional software.

For an explanation of how Macintosh users access network files and for more information on managing Macintosh workstations, see [Chapter 4, “Working with Macintosh Computers,”](#) on page 31.

For an explanation of how Windows users access network files and for more information on managing Windows workstations, see [Chapter 5, “Working with Windows Computers,”](#) on page 39.

To set up access for UNIX workstations, see the *Novell Native File Access for UNIX Installation and Administration Guide*.

4 Working with Macintosh Computers

This chapter is divided into two sections—tasks administrators can perform and tasks end users can perform using Macintosh computers.

Administrator Tasks

There are several ways that you can simplify your administration tasks and customize how Macintosh workstations interact with the network.

Creating Simple Passwords for Several Macintosh Users

You can create simple passwords for users one at a time using ConsoleOne™, but if you want to create passwords for many Macintosh users, there is a quicker way. You can add the CLEARTEXT option to the LOAD AFPTCP command at the server console. For example:

```
LOAD AFPTCP CLEARTEXT
```

When the CLEARTEXT option is added to the AFPTCP command, users logging in to the server from a Macintosh workstation are prompted to provide their NDS® username and NDS password. Once the NDS password is verified, a simple password is automatically created and stored in NDS. The simple password is the same as the NDS password.

The CLEARTEXT option is meant to be a temporary way to create simple passwords for many Macintosh users. After Macintosh users have created simple passwords, the AFPTCP NLM should be loaded without the CLEARTEXT option.

WARNING: The CLEARTEXT option allows unencrypted passwords to be sent over the network. If you are concerned about someone capturing your password

over the network, you should not use this option. Instead, you should manage passwords using ConsoleOne on the Administrator Workstation.

Editing the Context Search File

A context search file allows Macintosh users to log in to the network without specifying their full context. The context search file contains a list of contexts that are searched when no context is provided or the object cannot be found in the provided context. When the Macintosh user enters a username, the server searches through each context in the list until it finds the correct User object.

Macintosh allows only 31 characters for the username. If the full NDS context and username are longer than 31 characters, you must use a search list to provide access.

HINT: Macintosh users do not need to enter a context or have an entry in the context search file if their User objects are placed in the same container as the Server object.

If User objects with the same name exist in different contexts, the first one in the context search list will be used.

To edit the context search file, do the following:

- 1** Using any text editor, edit the CTXS.CFG file stored in the SYS:\ETC directory of the server running Novell[®] Native File Access Pack.
- 2** On separate lines, enter the contexts to search.

For example, if you had users with full NDS distinguished names such as Robert.sales.acme, Maria.graphics.marketing.acme, Sophia.graphics.marketing, and Ivan.marketing.acme, then you would enter the following contexts to the CTXS.CFG file:

```
sales.acme
graphics.marketing.acme
marketing.acme
```

- 3** Save the file in the SYS:\ETC directory.

The file is read the next time a Macintosh user logs in.

When Macintosh users log in, they enter only a username and the simple password. The system finds the User object in the context specified in the CTXS.CFG file.

Creating a Guest User Account

Novell Native File Access Pack for NetWare 5.1 allows you to create a Guest User object. Macintosh users are accustomed to being able to log in as Guest with no password required.

- 1** From the Administrator Workstation, use ConsoleOne to create a User object named Guest.
- 2** Determine and assign the appropriate rights to the Guest object by double-clicking the Guest object and then clicking Rights to Files and Folders.
- 3** Remove the ability for the user to change the password by clicking Restrictions and then unchecking Allow User to Change Password.
- 4** Enable the Guest account by adding the full NDS context of the Guest object to the context search file as described in [“Editing the Context Search File” on page 32](#).
- 5** Unload and reload the AFPTCP.NLM program with the GUESToption to make the Guest button available on the login screen.

Any Macintosh user can now log in as Guest with no password and receive the access rights assigned to the Guest object.

Renaming Volumes

Volumes can be renamed so that they appear in Chooser under a different name.

- 1** Using any text editor, create a file named AFPVOL.CFG.
- 2** On separate lines, enter the current name of the volume and, in quotes, the new name of the volume. For example:

```
server1.sys "System Volume"  
server1.img "Graphics"  
#The above volume contains image files.
```

NOTE: The pound sign (#) marks a line as a comment.

- 3** Save the file in the SYS:\ETC directory of the server running Novell Native File Access Pack.

Once the volume has been renamed, it keeps the name even if you delete the file and restart the server. To return to the previous name, repeat these steps and rename the volume to its original name. For example: .

System volume "server1.sys".

- 4 Unload and reload the AFPTCP.NLM program.

Macintosh End User Tasks

Accessing Network Files

Once the Novell Native File Access software is properly configured on the server, Macintosh users can use Chooser to access files and directories each time they are required or they can create an alias on the desktop that is retained after rebooting.

- 1 In Mac OS 8 or 9, click the Apple menu > Chooser > AppleTalk > Server IP Address.

In Mac OS X, click Go > Connect to Server.

- 2 Enter the IP address or DNS name of the NetWare[®] server, and then click Connect.

- 3 Enter the username and password, and then click Connect.

- 4 Select a volume to be mounted on the desktop.

Although you now have access to the files, mounting the volume to the desktop does not make it available after rebooting.

- 5 (Optional) Create an alias to the desired volume or directory.

Aliases are retained after rebooting.

- 5a Click the NetWare server icon.

- 5b Click File > Make Alias.

The alias icon appears on the desktop.

Logging In to the Network as Guest

If the network administrator has set up the Guest User object account as described in [“Creating a Guest User Account” on page 33](#), Macintosh users can log in to the network as Guest with no password required.

- 1 In Mac OS 8 or 9, click the Apple menu > Chooser > AppleTalk > Server IP Address.

In Mac OS X, click Go > Connect to Server.

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- 2** Enter the IP address or DNS name of the NetWare server, and then click Connect.
- 3** Click Guest Login > Connect.

The Guest user has rights to access network resources as configured by the network administrator.

Changing Passwords from a Macintosh Computer

Macintosh users can change their passwords. When they change their simple password, their NDS password is automatically synchronized.

- 1** In Mac OS 8 or 9, click the Apple menu > Chooser > AppleTalk > Server IP Address.
In Mac OS X, click Go > Connect to Server.
- 2** Enter the IP address or DNS name of the NetWare server, and then click Connect.
- 3** Enter the username.
- 4** Click Change Password.
- 5** Enter the old password and the new password, and then click OK.

Assigning Rights and Sharing Files from a Macintosh Computer

Although using ConsoleOne from the Administrator Workstation is the recommended method for managing rights, Macintosh users have some file sharing and management capability using Chooser.

HINT: For more information on how to use ConsoleOne to set up and manage rights, see the [ConsoleOne Users Guide](http://www.novell.com/documentation/lg/consol12d/index.html) (<http://www.novell.com/documentation/lg/consol12d/index.html>) or view the ConsoleOne online Help.

NetWare Rights versus Macintosh Rights

Using Chooser to access network files and folders is fairly consistent with the Macintosh environment, but there are some differences between NetWare and Macintosh file sharing. Macintosh users can view the sharing information about specific folders by clicking Get Info/Sharing.

Inherited Rights and Explicit Rights

The Macintosh file system uses either inherited rights (which use enclosing folder's privileges) *or* explicit rights (which assign rights to a group or user). A folder in the Macintosh file system cannot have both inherited and explicit rights.

NetWare uses both inherited *and* explicit rights to determine the actual rights that a user has. NetWare allows a folder (or directory) to hold file rights for multiple groups and users. Because of these differences, Macintosh users will find that access rights to folders and files might function differently than expected.

NetWare uses inherited rights, so Macintosh's "Use Enclosing Folder's Privileges" is automatically turned off. When a Macintosh user views the Get Info/Sharing dialog box for a NetWare folder, only the User/Group assignments are visible if there is an explicit assignment on the folder. If the NetWare folder inherits User/Group rights from a parent group or container, those rights are not displayed in the dialog box, nor will there be any indication that the folder is inheriting rights from a group or container.

Owner, User/Group, and Everyone Rights

Because NetWare allows multiple groups and users to have rights to a single folder, users are not able to delete rights assignments using the Apple Macintosh interface. Users can *add* assignments to allow basic file sharing, but more complex rights administration must be done using the NetWare utilities such as ConsoleOne.

When specifying Owners, Users, and Groups, there is no way to select from current groups. You must enter the correct NetWare name and context (fully distinguished NDS name).

HINT: No context is required if the context is specified in the context search file.

Owner Rights

In the Apple File Sharing environment, an *owner* is a user who can change access rights. In the NetWare environment, users can change access rights if they have been granted the Access Control right for the folder. In NetWare, an owner means the one who created the file. A NetWare owner has no rights by virtue of ownership. In the NetWare environment, the owner is the current user if he has Access Control rights to the folder.

If the user does not have Access Control rights, the NetWare owner will be shown if the NetWare owner is not the current user. If the current user does not have rights to change access and is also the NetWare owner, a message to "Use NetWare Utility" is displayed in the Owner field.

In Apple File Sharing, there can be more than one owner. If you change the owner, Access Control rights are added to the new owner, but are not removed from the current owner. In NetWare, there are two ways to have Access Control rights: (1) have the Access Control right and (2) have the Supervisor right. Adding a new owner only adds the Access Control rights, not the Supervisor right. If the current owner already has the Supervisor right through other NetWare utilities, that right will remain. The Supervisor right also gives full file access rights. This means that if you are the current user and have the Supervisor right, you also have read/write access and you cannot change those rights.

Display only allows for one owner. If multiple users have file access rights, only the current user is shown in the Owner field. This means you could change the owner (which in NetWare simply means adding the Access Control right to the new user) and when you open the file sharing dialog box again, you will be listed as the Owner, even though you have just given ownership or the Access Control right to someone else.

User / Group

Only one User/Group can be displayed for a folder, although NetWare allows multiple users and groups to be assigned file access rights. If both Users and Groups have access to a NetWare folder, Groups are displayed before Users. The Group with the most access rights is preferred over Groups with lesser access rights. Only users or groups with explicit rights (not inherited rights) are shown in the User/Group field. Users and Groups with inherited rights are not shown in the dialog box nor is there any indication that there are Users and Groups with inherited rights.

Adding a group or user does not remove the current group or user; it simply adds the rights to the group or user specified. If the user enters the wrong user or group name, the user gets no feedback. If multiple users or groups are assigned to the folder, it is possible that the user is unable to see the user or group that was just assigned. It could be very difficult to know if the rights assignment worked or not.

Rights set through this interface are inherited by the folder's subfolders. It is impossible to manage all inherited rights from the Macintosh interface.

(Although not recommended, you could set the inherited rights filters from the NetWare utilities to turn off inherited rights.)

Everyone

Assignment of rights to Everyone acts like the Macintosh user expects, with the exception that Everyone's rights are inherited. In NetWare, the object that represents the rights of any authenticated user is used to set Everyone's rights. Everyone's rights can change from folder to folder, but once they are set, they are inherited by subfolders.

5

Working with Windows Computers

This chapter is divided into two sections—tasks administrators can perform and tasks end users can perform using Windows computers.

Administrator Tasks

There are several ways that you can simplify your administration tasks and customize how Windows workstations interact with the network.

Specifying Contexts in the Context Search File

During the installation, you specified the NDS[®] contexts of Windows users that required access to the network. These contexts are saved in the context search file. When the Windows user enters a username, the Novell[®] Native File Access Pack component running on the server searches through each context in the list until it finds the correct User object.

NOTE: In Domain mode, if User objects with the same name exist in different contexts, each user object attempts authentication in order until one succeeds with the corresponding password.

You can add or remove contexts by editing the context search file.

- 1** Using any text editor, edit the CIFSCTXS.CFG file stored in the SYS:\ETC directory of the server running Novell Native File Access Pack.

- 2** On separate lines, enter the full contexts to search.

For example if you had users with full NDS distinguished names such as Robert.sales.acme, Maria.graphics.marketing.acme, Sophia.graphics.marketing, and Ivan.marketing.acme, then you would enter the following contexts to the CIFSCTXS.CFG file:

sales.acme
graphics.marketing.acme
marketing.acme

- 3** Save the file in the SYS:\ETC directory.
- 4** At the server console, enter **CIFSSTOP** to unload the current context search file.
- 5** Enter **CIFSSTRT** to load the new context search file and apply the changes.

When Windows users log in, they enter only a username and the simple password. The system finds the User object in the context specified in the CIFSCTXS.CFG file.

NOTE: Remember that users must have a simple password before they can access the network.

Providing Network Access to Domain Users

You can provide access to users from an existing NT domain by importing them into NDS.

- 1** Configure the Novell Native File Access Pack software for Domain authentication.

Importing users from an NT domain is not supported in Local Mode. In Local Mode, the main NetWare[®] Management Portal page is displayed rather than the NFAP Import Users page.

- 2** Run NetWare Management Portal following the instructions described in the *NetWare Management Portal Utility Guide* in the NetWare 5.1 documentation. (http://www.novell.com/documentation/lg/nw51/docui/index.html#../port_enu/data/a310k9x.html)

The NetWare Management Portal is launched by entering the IP address of the server into the URL field of an Internet browser.

- 3** In the left frame, click Manage eDirectory > NFAP Import Users.
- 4** Browse to the NDS Context that you will import the users into.
Any time you reach a valid context for importing users, a Start button will appear.
- 5** Click Start to import users.

The context that you select will be automatically written to the CIFSCTXS.TXT file, which contains all the contexts of all users.

Status of the import is given on the interval that you select.

- 6 When the import is complete, click Done to clear the screen.

Customizing the Network Environment Using a Configuration File

- 1 Log in to the server running the Novell Native File Access Pack software.
- 2 Change to the SYS:\ETC\ directory.
- 3 Edit CIFS.CFG using a text editor.
Enter the desired parameters following the rules for syntax.
- 4 Save the CIFS.CFG file to the same directory (SYS:\ETC).
- 5 Restart the server.

Configuration File Parameters

The following parameters can be set in the SYS:\ETC\CIFS.CFG file to customize the user experience for your environment.

HINT: Any parameter can be excluded by placing a # at the beginning of the command line. If the parameter is excluded, the default value is used.

-SERVERNAME

The name of the server running Novell Native File Access Pack. The length can be a maximum of 15 characters. This name is displayed in Network Neighborhood. This server name must be different from the NetWare Server name.

Value: *'Server_Name'*

Default: None

-COMMENT

The comment associated with the server name listed above. This comment is displayed when viewing details.

Value: *'Comments'*

Default: None

-AUTHENT

The method of authentication used by Novell Native File Access Pack software.

- ◆ Domain—Clients are members of a domain. A Windows domain controller performs user authentication. The username and password on the domain controller must match the username and password used to log in to the Windows workstation.
- ◆ Local—Clients are members of a workgroup. The server running Novell Native File Access Pack performs the user authentication. The username and password on NetWare must match the username and password used to log in to the Windows workstation.

Value: Domain | Local

Default: Local

-DOMAIN

The domain or workgroup that the server will belong to.

Value: *'Domain_Name'*

Default: Workgroup

-WORKGROUP

The domain or workgroup that the server will belong to. Workgroup and Domain can be used interchangeably.

Value: *'Workgroup_Name'*

Default: Workgroup

-PDC

The PDC server name and static IP address. This is needed if the PDC is on a different subnet. This option should be used only when there is a valid reason for overriding WINS or DNS.

NOTE: The address of the PDC must be static; otherwise, if the PDC reboots and the address changes, the server running Novell Native File Access Pack will not be able to contact the PDC.

Value: *'PDC_Name' Address*

Default: None

-PDCNAME

The PDC server name. If the PDC and server running Novell Native File Access Pack are on different subnets, clients must use DNS name resolution to find the server. PDCNAME does not include the IP address.

Value: *'PDC_Name'*

Default: None

-WINS

Address of WINS server to be used to locate the PDC, if the PDC and server running Novell Native File Access Pack are on different subnets.

Value: *IP_Address*

Default: None

-ATTACH

Bind the CIFS protocol to the IP address specified. For multiple addresses, repeat the command as needed.

Value: *IP_Address*

Default: Bound to all addresses.

-SHARE

Allow any volumes or directories on the server to be specified as shared points and to be accessible via the Network Neighborhood. If no -SHARE line is specified (or is commented out), then all mounted volumes are displayed.

- ◆ *Localpath* is the path to the server volume or directory which becomes the root of the sharepoint. This path must end with a backslash (\).
- ◆ *Sharename* is the name by which the sharepoint is known to the Windows computers.
- ◆ *Connection Limit* is the number of connections allowed to the sharepoint (0 is unlimited).
- ◆ *Comment* is a description for the sharepoint that appears in Network Neighborhood or My Network Places.

Value: *'Localpath' 'Sharename' Connection Limit 'Comment'*

Default: All mounted volumes are shared.

-UNICODE

When On (enabled), this command enables Unicode characters (used in double-byte languages).

Value: On | Off

Default: Off (disabled)

IMPORTANT: To support Unicode, an additional file named UNINOMAP.TXT must be created and saved in the SYS:\ETC directory. When the -UNICODE value is set to On, the UNINOMAP.TXT file is used to resolve Unicode-to-ASCII "no-map" problems.

To specify "no-map" cases in the UNINOMAP.TXT file, enter the first Unicode value to watch for and then the second value representing the ASCII replacement code. For example:

```
0178 98
```

```
20AC CC
```

Save the values in the UNINOMAP.TXT file. If an unmappable character is encountered, the system uses the ASCII substitution character specified in the file.

Sample Configuration File

```
#This name will display in Network Neighborhood with the
#following comment.

-SERVERNAME 'NW51-NNFAP'

-COMMENT 'NetWare 5.1 running Novell Native File Access Pack'

#Novell Native File Access Pack is configured to use Local
#authentication.

-AUTHENT LOCAL

#The workgroup name is ONENET.

-WORKGROUP 'ONENET'

#When this volume is mounted, the local path CIFSVOL:\ will
appear as a sharepoint named Graphics Volume with unlimited
connections (0) and its corresponding comment.

-SHARE 'CIFSVOL:\' 'Graphics Volume' 0 'Lots of image files'
```

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Configuration File Shortcuts

You can enter the following commands at the server console to modify the configuration file.

CIFS SHARE ADD *'localpath'* *'sharename'*
connectionlimit *'comment'* adds a new sharepoint and also adds the command to the CIFS.CFG file.

CIFS SHARE REMOVE *'sharename'* removes the sharepoint and comments it out of the CIFS.CFG file.

Viewing Configuration Details

You can view details about how Novell Native File Access Pack is configured by entering the following commands at the server console.

CIFS INFO displays operational information.

CIFS SHARE displays all active sharepoints.

CIFS SHARE *sharename* displays information about a specific sharepoint.

Windows User Tasks

When Novell Native File Access Pack for NetWare 5.1 is properly configured, Windows users can access files, map drives, and change passwords on NetWare servers.

Accessing Files from a Windows Computer

From a Windows computer, you can access a file and folder each time it is required or you can map drives and create shortcuts that are retained after rebooting.

- 1** Enter your username (no context) and local password to log in to the computer.

- 2** Access the network by clicking the network icon.

In Windows 2000 or Windows ME, click My Network Places > Computer Near Me. In Windows 95/98, click Network Neighborhood.

- 3** Browse to the workgroup or domain specified during the Novell Native File Access software installation.

- 4 Select the server running Novell Native File Access Pack software.

Although it is the same computer, the Novell Native File Access server name is *not* the same as the NetWare server name. For more information, ask your network administrator.

HINT: You can enter the server name or the server IP address in Find Computer to quickly access the server running Novell Native File Access software.

- 5 Browse to the desired folder or file.

Mapping Drives from a Windows Computer

- 1 Enter your username and local password for Microsoft* Networking.

- 2 Click Map Network Drive.

There are several ways to access Map Network Drive. For example, you can use the Tools menu in Windows Explorer or you can right-click Network Neighborhood.

- 3 Browse to or enter the following path:

`\\server_running_Novell_Native_File_Access_software\sharepoint | volume | directory\`

- 4 Select the server running Novell Native File Access Pack software.

Although it is the same computer, the Novell Native File Access server name is *not* the same as the NetWare server name. For more information, contact your network administrator.

- 5 Complete the on-screen instructions for mapping the drive.

Changing Passwords from a Windows Computer

Windows users can change and synchronize their local password and their simple password. When users change the local password, they also change and synchronize their simple password.

From a Windows 2000/NT Computer

- 1 Press Ctrl+Alt+Delete.
- 2 Click Change Password.
- 3 In the Domain field (or the Log On To field in Windows 2000), enter the name of the server running Novell Native File Access Pack software.

If your Windows computer is running Novell Client™ software, click Show All Resources and select the appropriate server.

- 4** Enter the username, old password, and new password as prompted.

The NetWare password and the simple password will be synchronized only if the old simple password matches the NetWare password. If they are different, the NetWare password will not be changed and access to the network will be denied. To change and synchronize the NetWare password, you must use the Administrator Workstation running Novell Client software.

From a Windows 95/98/ME Computer

- 1** Change the local password.
 - 1a** Click Start > Control Panel > Passwords.
 - 1b** Click Change Passwords > Change Windows Password.
 - 1c** Enter the username, old password, and new password as prompted.

- 2** Change the simple password.

2a Click Start > Run.

2b Enter

```
NET PASSWORD
server_running_Novell_Native_File_Access_soft
ware
```

For example:

```
NET PASSWORD NetWare1
```

WARNING: The Windows NET PASSWORD utility sends unencrypted text (called *clear text*) over the network. If you are concerned about someone capturing your password over the network, you should manage passwords using ConsoleOne™ from the Administrator Workstation. For more information on why this issue exists, contact Microsoft Corporation.

- 2c** Enter the same username, old password, and new password when prompted.

The NetWare password and the simple password will be synchronized only if the old simple password matches the NetWare password. If they are different, the NetWare password will not be changed and access to the network will be denied. To change and synchronize the NetWare password, you must use the Administrator Workstation running Novell Client software.

For Computers Using Domain Authentication

If the computer is configured to use domain authentication, then the password checking is done by the domain controller. The password can be changed using the Windows administration tools for a domain controller. For more information, contact your network administrator.

6

Setting Up Novell Native File Access Pack with Novell Cluster Services

Novell® Cluster Services™ software combined with Novell Native File Access Pack for NetWare® 5.1 provides high availability, scalability, and security to your network while reducing administrative costs associated with managing client workstations.

This chapter describes how to set up a NetWare 5.1 clustered environment so that Macintosh and Windows computers can use Novell Native File Access Pack software to access files on the network.

NOTE: For information on setting up UNIX computers to use Novell Native File Access Pack in a clustered NetWare 5.1 environment, see the *Novell Native File Access for UNIX Installation and Administration Guide*.

Prerequisites

Before installing Novell Native File Access Pack in a clustered environment, make sure that you have met the following prerequisites:

- Novell Cluster Services 1.01 installed on NetWare 5.1 servers
For information on configuring Novell Cluster Services, see <http://www.novell.com/documentation/lg/ncs/index.html>.
- NetWare 5.1 configured as described in “[NetWare Server Prerequisites](#)” on page 13
- Administrator workstation configured as described in “[Administrator Workstation Prerequisites](#)” on page 15
- Novell Native File Access Pack software installed on each server in the cluster following the instructions in “[Installing the Software](#)” on page 16

Setting Up for Macintosh

To set up the Macintosh portion of Novell Native File Access Pack in an environment running Novell Cluster Services, complete the following:

- 1** Load AFPTCP.NLM on all servers in the cluster by entering **LOAD AFPTCP** at the server system console.
HINT: You can add this command to the AUTOEXEC.NCF file of each server.
- 2** Cluster-enable the shared-disk volumes by following the procedures described in the [Cluster Services documentation](http://www.novell.com/documentation/lg/ncs/index.html). (<http://www.novell.com/documentation/lg/ncs/index.html>)
- 3** (Optional) Rename cluster-enabled volumes so Macintosh users will see the same volume name regardless of what server has the volume mounted.

For instructions, see **“Renaming Volumes” on page 33**.

Volumes are displayed as "ServerName.VolumeName." If the server fails over, the user sees the next failover server with the same volume name. For example, Server1.VOL1 becomes Server2.VOL1. Renaming each ServerName.VolumeName to a common name displays the common name regardless which server is providing the volume. For example, renaming Server1.VOL1 to Graphics, Server2.VOL1 to Graphics, and Server3.VOL1 to Graphics displays Graphics regardless which server is providing VOL1.

Macintosh clients should now be able to access files on the server cluster by entering the IP address or server name of the cluster-enabled volume.

NOTE: Novell Native File Access does not support automatic reconnect for Macintosh computers. If the network connection between a Mac computer and one of the servers in the cluster fails, the user must reconnect using the same IP address for the cluster-enabled volume.

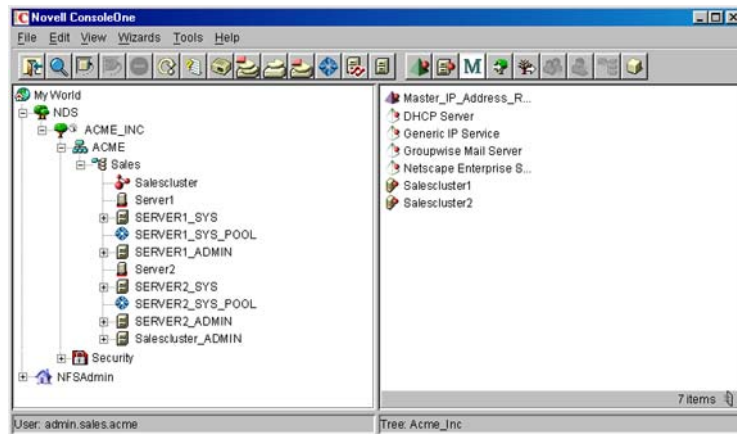
Setting Up for Windows

To set up the Windows portion of Novell Native File Access Pack in an environment running Novell Cluster Services, complete the following steps:

- 1** Remove the CIFSSTRT.NCF command from each server's AUTOEXEC.NCF file.
- 2** Create a Cluster Resource object that corresponds with the Novell Native File Access Pack support for Windows.

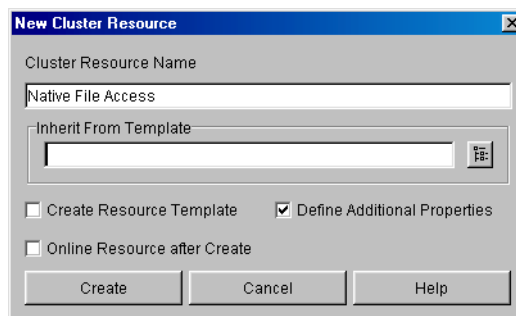
- 2a** Log in as a user with the Supervisor right to a server in the cluster.
- 2b** Run ConsoleOne™ located in
SYS:\PUBLIC\MGMT\CONSOLEONE\1.2\BIN\.

(Figure Description) ConsoleOne screen



- 2c** Select the Cluster Resource object.
- 2d** Click File > New > Cluster > Cluster Resource.
- 2e** Name the Cluster Resource (for example, Native_File_Access).

(Figure Description) New Cluster Resource dialog box



- 2f** Click Create.
- 3** Edit the Cluster Resource Load Script.
HINT: A sample Cluster Resource Load Script is given at the end of this step.

The commands for configuring the Windows portion of Novell Native File Access Pack are controlled by the Cluster Resource Load Script.

3a Click File > Properties.

3b Click Scripts > Cluster Resource Load Script.

3c Add the following commands to the Cluster Resource Load Script replacing *VOL1*, *VOL2*, and *VOL3* with the names of the shared disk volumes:

```
NSS /ACTIVATE=VOL1
NSS /ACTIVATE=VOL2
NSS /ACTIVATE=VOL3
MOUNT VOL1
MOUNT VOL2
MOUNT VOL3
TRUSTMIG VOL1 WATCH
TRUSTMIG VOL2 WATCH
TRUSTMIG VOL3 WATCH
```

3d Assign the IP address that will be used to move the Cluster Resource object during failover and failback by adding the following commands and replacing *A.B.C.D* with the IP address assigned to the Cluster Resource object created in [Step 2 on page 50](#).

```
ADD SECONDARY IPADDRESS A.B.C.D
LOAD SETMD4
LOAD CIFSDNS
```

3e Attach the IP address to the shared volume by entering the following command and substituting the *A.B.C.D* with the proper IP address, *VOL1* with the path you are exporting, *WORK* with the name of the share, *0* with the number of connections, and *Work_Volume* with the name to display.

```
LOAD CIFS.NLM -ATTACH A.B.C.D -SHARE VOL1:\
  WORK 0 'Work_Volume'
```

NOTE: Do not separate this command and its parameters by hard returns.

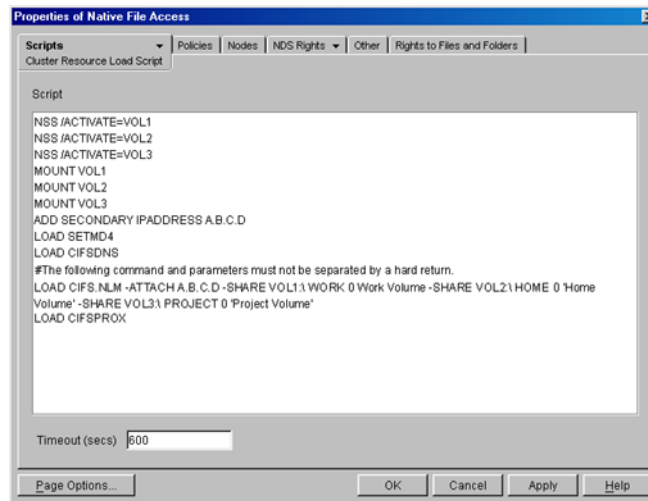
You can specify multiple instances of parameters such as the following:

```
LOAD CIFS.NLM -ATTACH A.B.C.D -SHARE VOL1:\
  WORK 0 'Work_Volume' -SHARE VOL2:\ HOME 0
```

```
'Home_Volume' -SHARE VOL3:\ PROJECT 0
'Project_Volume'
```

NOTE: All shares to be advertised must reside on the shared-disk system.

(Figure Description) Cluster Resource Load Script window



- 3f** Make sure that all commands and parameters in the SYS:\ETC\CIFS.CFG file on each server are added to the LOAD CIFS.NLM command.

For example, if the CIFS.CFG file contains the command and parameters LOAD CIFS.NLM -SERVERNAME Server1 -UNICODE Off -AUTHENT Local -WORKGROUP -Workgroup, you would add these parameters to the LOAD command.

Adding to the example in [Step 3e on page 52](#), the command would be updated to

```
LOAD CIFS.NLM -SERVERNAME Server1 -UNICODE Off
-AUTHENT Local -WORKGROUP Workgroup -ATTACH
A.B.C.D -SHARE VOL1:\ WORK 0 'Work Volume' -
SHARE VOL2:\ HOME 0 'Home Volume' -SHARE VOL3:\
PROJECT 0 'Project Volume'.
```

NOTE: Do not separate this command and its parameters by hard returns.

- 3g** Rename each SYS:\ETC\CIFS.CFG file to SYS:\ETC\CIFS.BAK.
3h Add the command **LOAD CIFS.PROX**.

3i Add the command `HTTP A.B.C.D /KEYFILE:"SSL CertificateIP"`.

3j Add the command `LOAD NFAP4NRM` to automatically load the NetWare Remote Manager component that lets you set up and manage passwords.

For more information on the NFAP4NRM.NLM program, see [“Using NetWare Management Portal to Create Simple Passwords” on page 27.](#)

Sample Cluster Resource Load Script

```
NSS /ACTIVATE=VOL1

NSS /ACTIVATE=VOL2

NSS /ACTIVATE=VOL3

MOUNT VOL1

MOUNT VOL2

MOUNT VOL3

TRUSTMIG VOL1 WATCH

TRUSTMIG VOL2 WATCH

TRUSTMIG VOL3 WATCH

ADD SECONDARY IPADDRESS A.B.C.D

# Add commands to start Native File Access for CIFS

LOAD SETMD4

LOAD CIFSDNS

LOAD CIFS.NLM -SERVERNAME Server1 -UNICODE Off -AUTHENT
Local -WORKGROUP -Workgroup -ATTACH A.B.C.D -SHARE VOL1:\
WORK 0 'Work Volume' -SHARE VOL2:\ HOME 0 'Home Volume' -
SHARE VOL3:\ PROJECT 0 'Project Volume'

LOAD CIFSprox

HTTPBIND A.B.C.D /KEYFILE:"SSL CertificateIP"

LOAD NFAP4NRM
```

4 Edit the Cluster Resource Unload Script.

4a Open the Cluster Resource Unload Script.

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4b Click File > Properties.

4c Click Scripts > Cluster Resource Unload Script.

4d Add the following command replacing *A.B.C.D* with the proper IP address.

```
DEL SECONDARY IPADDRESS A.B.C.D
HTTPUNBIND A.B.C.D
```

4e Add the following commands to stop the Native File Access service.

```
UNLOAD NFAP4NRM
UNLOAD CIFSROX
UNLOAD CIFS
UNLOAD CIFS DNS
UNLOAD SETMD4
```

4f Add the following commands replacing *VOL1*, *VOL2*, and *VOL3* with the names of the shared disk volumes.

```
TRUSTMIG VOL3 UNWATCH
TRUSTMIG VOL2 UNWATCH
TRUSTMIG VOL1 UNWATCH
DISMOUNT VOL3 /FORCE
DISMOUNT VOL2 /FORCE
DISMOUNT VOL1 /FORCE
NSS /FORCEDEACTIVATE=VOL3
NSS /FORCEDEACTIVATE=VOL2
NSS /FORCEDEACTIVATE=VOL1
```

4g Add any other UNLOAD commands that might exist to the CIFS.CFG file located in the SYS:\ETC\ directory on each server.

Sample Cluster Resource Unload Script

```
DEL SECONDARY IPADDRESS A.B.C.D

HTTPUNBIND A.B.C.D

UNLOAD NFAP4NRM

# Add commands to stop Native File Access for CIFS

UNLOAD CIFSROX

UNLOAD CIFS
```

```
UNLOAD CIFSDNS

UNLOAD SETMD4

# Edit the following lines to match the volume name
# and IP address chosen.

# Client and server software should be configured with
# the IP address of the service. Use << to pipe
# characters into any command the requires keyboard input.

TRUSTMIG VOL3 UNWATCH

TRUSTMIG VOL2 UNWATCH

TRUSTMIG VOL1 UNWATCH

DISMOUNT VOL3 /FORCE

DISMOUNT VOL2 /FORCE

DISMOUNT VOL1 /FORCE

NSS /FORCEDEACTIVATE=VOL3

NSS /FORCEDEACTIVATE=VOL2

NSS /FORCEDEACTIVATE=VOL1
```

5 Configure the Cluster Resource policies.

For a complete description of policies and modes such as failback, failover, and start mode, see the NetWare Cluster Services documentation. (<http://www.novell.com/documentation/lg/ncs/index.html>)

6 Assign the cluster resource preferred nodes.

NetWare Cluster Services automatically assigns the Cluster Resource to all nodes in the cluster. The order of assignment is the order that the nodes appear in the resource list.

What's Next?

With the NetWare 5.1 cluster configured with Novell Native File Access, Macintosh and Windows users can receive the benefits of a clustered environment—without needing additional client software.

For an explanation of how Macintosh users access network files and for more information on managing Macintosh workstations, see [“Working with Macintosh Computers” on page 31](#).

For an explanation of how Windows users access network files and for more information on managing Windows workstations, see [Chapter 5, “Working with Windows Computers,” on page 39](#).

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