

## installation and administration guide

# Novell<sup>®</sup> Client<sup>™</sup> for Windows\* XP/2003

**4.91 SP5**

September 2008

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# About This Guide

This guide describes how to install and configure the Novell® Client™ for Windows 2000/XP version 4.91 and later software.

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**IMPORTANT:** The Novell Client is not supported on Windows XP Home Edition.

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If you are using a previous version of the Novell Client software, you should update it to the latest version from the [Novell Download Web site \(http://download.novell.com\)](http://download.novell.com). If you are using a previous version of the Novell Client software, some of the information in this documentation might not apply.

This guide is divided into the following sections:

- ♦ Chapter 1, “What’s New,” on page 11
- ♦ Chapter 2, “Preparing to Install the Novell Client,” on page 13
- ♦ Chapter 3, “Installing the Novell Client on a Single Workstation,” on page 17
- ♦ Chapter 4, “Installing and Upgrading the Novell Client on Multiple Workstations,” on page 21
- ♦ Chapter 5, “Setting Client Properties,” on page 55
- ♦ Chapter 6, “Managing File Security and Passwords,” on page 59
- ♦ Chapter 7, “Managing Login,” on page 73
- ♦ Chapter 8, “Printing to a Network Printer,” on page 93
- ♦ Chapter 9, “Uninstalling the Novell Client,” on page 97
- ♦ Appendix A, “Troubleshooting Issues,” on page 101
- ♦ Appendix B, “Documentation Updates,” on page 105

For information on accessing data on a Linux\* server using the same methods you use on a NetWare® server using the Novell Client for Windows software, see the *NCP Server for Linux Administration Guide* ([http://www.novell.com/documentation/oes/ncp\\_lx/data/h9izvdye.html#h9izvdye](http://www.novell.com/documentation/oes/ncp_lx/data/h9izvdye.html#h9izvdye)).

## Audience

This guide is intended for network administrators.

## Feedback

We want to hear your comments and suggestions about this manual and the other documentation included with this product. Please use the User Comments feature at the bottom of each page of the online documentation, or go to [www.novell.com/documentation/feedback.html](http://www.novell.com/documentation/feedback.html) and enter your comments there.

## Documentation Updates

For the latest version of this documentation, see the [Novell Clients online documentation \(http://www.novell.com/documentation/lg/noclienu/index.html\)](http://www.novell.com/documentation/lg/noclienu/index.html).

## **Additional Documentation**

For documentation on known issues, see the *Novell Client 4.91 for Windows 2000/XP/2003 Readme* (<http://www.novell.com/documentation/noclienu/index.html>).

For documentation on login scripts, see the *Novell Login Scripts Guide* ([http://www.novell.com/documentation/linux\\_client/login/data/front.html](http://www.novell.com/documentation/linux_client/login/data/front.html)).

## **Documentation Conventions**

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

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

- ♦ Section 1.1, “Novell Client 4.91 Support Pack 5 for Windows XP/2003,” on page 11
- ♦ Section 1.2, “Novell Client 4.91 Support Pack 4 for Windows XP/2003,” on page 11
- ♦ Section 1.3, “Novell Client 4.91 Support Pack 3 for Windows XP/2003,” on page 11
- ♦ Section 1.4, “Novell Client 4.91 Support Pack 2 for Windows XP/2003,” on page 11
- ♦ Section 1.5, “Novell Client 4.91 Support Pack 1 for Windows XP/2003,” on page 12
- ♦ Section 1.6, “Novell Client 4.91 for Windows XP/2003,” on page 12

## 1.1 Novell Client 4.91 Support Pack 5 for Windows XP/2003

Several bugs have also been resolved since the last release. See “Section 6.0 Fixes Since the Last Release” in the [Novell Client 4.91 SP5 for Windows XP/2003 Readme \(http://www.novell.com/documentation/noclienu/clientreadme/data/ncw\\_readme\\_sp5.html\)](http://www.novell.com/documentation/noclienu/clientreadme/data/ncw_readme_sp5.html) for more information.

## 1.2 Novell Client 4.91 Support Pack 4 for Windows XP/2003

The Novell® Client™ 4.91 SP 4 for Windows XP/2003 includes the ability to configure 802.1x authentication. For more information, see [Section 7.5, “Configuring 802.1X Authentication,” on page 79](#)

Several bugs have also been resolved since the last release. See “Section 6.0 Fixes Since the Last Release” in the [Novell Client 4.91 SP4 for Windows XP/2003 Readme \(http://www.novell.com/documentation/noclienu/clientreadme/data/ncw\\_readme\\_sp4.html\)](http://www.novell.com/documentation/noclienu/clientreadme/data/ncw_readme_sp4.html) for more information.

## 1.3 Novell Client 4.91 Support Pack 3 for Windows XP/2003

This release contains bug fixes only. For a list of fixes, see “6.0 Fixes Since the Last Release” in the [Novell Client 4.91 SP3 for Windows 2000/XP/2003 Readme \(http://www.novell.com/documentation/noclienu/clientreadme/data/ncw\\_readme\\_sp3.html\)](http://www.novell.com/documentation/noclienu/clientreadme/data/ncw_readme_sp3.html).

## 1.4 Novell Client 4.91 Support Pack 2 for Windows XP/2003

This release includes additional Forgotten Password Recovery functionality. When a user logs in, the Novell Client checks to see if the password policy uses Challenge Response and if the user has entered responses. If responses have not been entered, the user is notified and a dialog box opens so that her or she can enter the responses. Additionally, if the password policy uses a password hint or a password reminder and this has not been set, the Novell Client prompts the user to enter this information.

## 1.5 Novell Client 4.91 Support Pack 1 for Windows XP/2003

This release includes a new feature that lets users recover when they forget their password. On the client login dialog box is a “Forget your password?” link. For more information, see [Section 6.3.1, “Using the “Did You Forget Your Password?” Link,”](#) on page 64.

## 1.6 Novell Client 4.91 for Windows XP/2003

This release includes the following new features:

- ◆ Changes to the Update Agent to allow you to deploy new property page settings. For more information, see [Section 5.3, “Setting Properties on Multiple Workstations after Installation,”](#) on page 56.
- ◆ Changes to Automatic Client Upgrade that allow you to enable the Update Agent on multiple workstations without running a complete software installation. For more information, see [“Enabling the Novell Client Update Agent by Using ACU Without Installing Novell Client Software”](#) on page 41.
- ◆ Changes to the Novell Client Update Agent and Automatic Client Upgrade to allow components to be uninstalled. For more information, see [Section 9.2, “Uninstalling Network Components Using Update Agent or ACU,”](#) on page 97.
- ◆ Unicode\* filenaming in mixed language environments.
- ◆ Implementation of the Novell Universal Password (also known as the NDS® Login Method), available in NetWare 6.5 and later, which provides more robust and strong password and password management so users can create a common password that can be used by all protocols for authentication. Also included are support for password hints, administrator messages, and password requirements. For more information, see [Section 6.2, “Managing Passwords,”](#) on page 60. For more information on disabling NMAS and NICI, see [Section 2.6, “Configuring Security Authentication,”](#) on page 14.
- ◆ Support for the NetIdentity agent  
The NetIdentity agent can be installed with the Novell Client or as a separate installation. It provides background authentication to Windows Web-based applications that require Novell eDirectory™ authentication, such as iPrint, Novell Virtual Office, and NetStorage.
- ◆ Windows NT\* is no longer supported.

# Preparing to Install the Novell Client

# 2

This section explains how to prepare to install the Novell<sup>®</sup> Client<sup>™</sup> for Windows 2000/XP software.

- ♦ [Section 2.1, “Novell Client Software Version Numbers,” on page 13](#)
- ♦ [Section 2.2, “Supported Windows Platforms,” on page 13](#)
- ♦ [Section 2.3, “Supported Server Platforms,” on page 14](#)
- ♦ [Section 2.4, “Locating the Latest Client Software,” on page 14](#)
- ♦ [Section 2.5, “Checking for Client Workstation Incompatibilities,” on page 14](#)
- ♦ [Section 2.6, “Configuring Security Authentication,” on page 14](#)
- ♦ [Section 2.7, “Additional Information,” on page 15](#)

## 2.1 Novell Client Software Version Numbers

The following software is included in the Novell Client 4.91 SP5 for Windows XP/2003 build:

- ♦ Novell Client 4.91 SP5 for Windows XP/2003
- ♦ NMAS<sup>™</sup> 3.4
- ♦ NMAS Challenge Response Method 2.07.0001
- ♦ NICI 2.7.3
- ♦ NetIdentity Agent 1.2.3

## 2.2 Supported Windows Platforms

The Novell Client for Windows supports the following Windows operating systems. For all platforms, the Novell Client supports only 32-bit versions of Windows. The Novell Client cannot be installed on a 64-bit version of Windows 2003, Windows XP, or Windows 2000.

- ♦ Windows 2000 Professional
- ♦ Windows 2000 Server
- ♦ Windows 2000 Advanced Server
- ♦ Windows Server 2003 Server Edition
- ♦ Windows Server 2003 Enterprise Edition
- ♦ Windows XP Professional
- ♦ Windows XP Tablet PC Edition

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**IMPORTANT:** The Novell Client might run but is not supported on Windows XP Home edition.

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## 2.3 Supported Server Platforms

The Novell Client 4.91 SP5 for Windows XP/2003 supports Novell Open Enterprise Server (OES) 1, OES 2, NetWare® 5.1, NetWare 6.0, and NetWare 6.5.

## 2.4 Locating the Latest Client Software

Novell Client software is available from the [Novell Download \(http://download.novell.com\)](http://download.novell.com) Web site and as a part of the Consolidated Support Pack CD.

### 2.4.1 Downloading the Latest Software

- 1 Create an installation directory.
- 2 At the [Novell Downloads \(http://download.novell.com\)](http://download.novell.com) Web site, select *Novell Client* from the Product or Technology drop-down list.
- 3 Click *Search*.
- 4 Click the Client software that you want to download.
- 5 Follow the download instructions provided with the files on the Web site.

### 2.4.2 Locating the Latest Software on the Consolidated Support Pack CD

To locate the latest Novell Client software on the Consolidated Support Pack CD, check the Readme file located at the root of the CD. This file indicates the location of all software on the CD and gives instructions for installation.

## 2.5 Checking for Client Workstation Incompatibilities

The Novell Client is not designed to run on Windows XP Home Edition.

## 2.6 Configuring Security Authentication

By default, Novell Client implements the Novell Universal Password, which provides robust and strong passwords. As a part of this implementation, Novell Client installs NMAS and NICI.

NMAS authentication adds additional security to the network. However, if your network does not use NMAS, login might take additional time and you might want to disable NMAS authentication on the server and not install it with the Novell Client software. Novell Client installs NICI Client 2.6.8.2 and NMAS Client 3.2.0.6 by default. If you do not want to install them during the Client installation, install using a configuration file (unattend file) that specifies not to install them. For more information, see [“Creating the Configuration File \(Unattend File\)” on page 47](#).

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**NOTE:** If you disable NMAS, the Challenge Response functionality is not available.

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For more information on disabling NMAS, see “Disabling NMAS on the Server” in the [Novell Modular Authentication Services 3.0 Administration Guide \(http://www.novell.com/documentation/nmas30/index.html?page=/documentation/nmas30/admin/data/am4bbpx.html\)](http://www.novell.com/documentation/nmas30/index.html?page=/documentation/nmas30/admin/data/am4bbpx.html).

For more information on deploying universal passwords, see the *Universal Password Deployment Guide* in the *Novell Modular Authentication Services 3.0 Administration Guide* (<http://www.novell.com/documentation/nmas30/index.html?page=/documentation/nmas30/admin/data/allq21t.html>).

## 2.7 Additional Information

- “Installing the Novell Client on a Single Workstation” on page 17
- “Installing and Upgrading the Novell Client on Multiple Workstations” on page 21



# Installing the Novell Client on a Single Workstation

# 3

This section explains how to install the Novell® Client™ for Windows software on one workstation.

If you plan to install the Novell Client software on a small number of workstations, or if the workstations are not yet connected to a network, download the software from the [Novell Download \(http://download.novell.com\)](http://download.novell.com) Web site.

If you are installing or upgrading the Novell Client software on several workstations on the network, consider using the network installation explained in “[Installing and Upgrading the Novell Client on Multiple Workstations](#)” on page 21.

- ♦ [Section 3.1, “Installing Novell Client Software on a Workstation,”](#) on page 17
- ♦ [Section 3.2, “Using Setup Parameters with the Novell Client Installation,”](#) on page 18
- ♦ [Section 3.3, “Configuring Network Protocols,”](#) on page 18
- ♦ [Section 3.4, “Common Networking Tasks,”](#) on page 19

## 3.1 Installing Novell Client Software on a Workstation

1 Do one of the following:

- ♦ Download the latest Novell Client software and then follow the download instructions included on the download page.
- ♦ Install the Novell Client software from the Consolidated Support Pack CD.

See [Section 2.4, “Locating the Latest Client Software,”](#) on page 14.

---

**TIP:** There are several customized parameters that you can use during the installation by running the installation from the command line. These include special accessibility settings, status logging, automatic client upgrade, and others. For more information, see [Section 3.2, “Using Setup Parameters with the Novell Client Installation,”](#) on page 18.

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- 2 Make sure that the logged-in user is an administrator on the workstation because users without administrator rights to the workstation cannot install new software.
- 3 Double-click `setupnw.exe` in directory where you unzipped the download file.
- 4 Follow the on-screen instructions.

The typical installation installs the basic Novell Client and upgrades any components you currently have on the workstation that are also included in this version. Components that are not upgraded in this version of the Novell Client are not changed.

---

**TIP:** The Typical Install option installs only the basic Novell Client components. If you want to install NDPS®, use the Custom Installation option. If you are upgrading Novell Client software, the same custom components are installed unless you choose different ones. If

components that were previously included with the Novell Client installation (such as ZENworks®) are no longer included with the installation, these components are left alone and are not upgraded or deleted.

---

The Custom installation allows you to choose which components are installed.

---

**NOTE:** NICI Client 2.7 and NMASTM Client 3.0 are installed by default. If they are already installed, they are updated automatically. You can control both the installation and use of NMASTM by installing the Novell Client using a configuration (unattend) file. For more information, see “[Creating the Configuration File \(Unattend File\)](#)” on page 47.

---

- 5 When the installation is complete, reboot your workstation.

## 3.2 Using Setup Parameters with the Novell Client Installation

There are several customized parameters that you can use during the installation by running the installation from the command line. These include special accessibility settings, status logging, automatic client upgrade, and others.

- 1 Click *Start > Run*.
- 2 Type the path to the software followed by a space, a slash (/), and then the parameter.

```
path_to_the_software\setupnw.exe [/u] [/
u:path_to_an_unattend_file] [/sl] [/sl:path_to_status_log_file]
[/acu] [/508] [/?]
```

The following table explains the setup parameters.

**Table 3-1** Windows 2000/XP Setup Parameters

Parameter	Description
U	Use settings in the default configuration (unattend) file, <i>unattend.txt</i> .
U:path	Use settings in the specified configuration (unattend) file, specified in the path given.
SL	Create status log entries in the default status file, <i>status.log</i> .
SL:path	Create status log entries in the specified status log file, specified in the path given.
ACU	Automatically upgrade the client if it is an older version.
508	Enable special accessibility options in accordance with the Workforce Investment Act of 1998 Section 508.
?	Display help screen for setup parameters.

## 3.3 Configuring Network Protocols

After you install the Novell Client, make sure that it is configured correctly for your network.

---

**IMPORTANT:** Before you configure network protocols, make sure you have the correct information and any addresses needed. If you configure protocols incorrectly, the workstation cannot connect to the network, or it might conflict with other workstations using the same address.

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- 1 Right-click *My Network Places*, click *Properties*, right-click *Local Area Connection*, select the protocol that you want to configure, then click *Properties*.
- 2 Configure the protocol options on each tabbed page, then click *OK*.

For example, if your network uses DHCP to assign IP addresses automatically, click the *IP Address* tab and then click *Obtain IP Address Dynamically*. Or, if you must use a static IP address, click *Specify an Address* and type a valid IP address.

---

**TIP:** Click the question mark in the upper right corner, then click in any field for more information about that field.

---

- 3 Click *OK*.

You might be prompted to supply the Windows operating system CD. If you do not have access to the correct files, you might not be able to create a network connection.

You should now set the Novell Client properties for the workstation. See [Chapter 5, “Setting Client Properties,”](#) on page 55.

## 3.4 Common Networking Tasks

Novell Client software is integrated with Windows. Features are integrated into standard Windows interfaces such as My Computer, Network Neighborhood, Control Panel, and the Red N icon (N) on the status bar.

Instructions for performing common client tasks are provided under the Red N menu:

- 1 Right-click the Red N icon in the notification area.
- 2 Click *Novell Client Help* > *Novell Client User Guide*.



# Installing and Upgrading the Novell Client on Multiple Workstations

This section explains how to install and upgrade the Novell® Client™ for Windows software on multiple workstations either across a network or from a Web server. It also discusses how to set up full-client installations, updates, and Support Pack installations.

Because the Novell Client software installation options are robust and flexible so that they can be customized to suit your needs, a general understanding of all the options and processes is provided first. Subsequent sections help you decide which installation processes are best for your situation. Then, the specific installation steps are given. Finally, ways to control what users see during installation are discussed.

- ♦ [Section 4.1, “Understanding Novell Client Installation and Update Options,” on page 21](#)
- ♦ [Section 4.2, “Understanding Which Installation Process to Use,” on page 29](#)
- ♦ [Section 4.3, “Novell Client Installation Procedures,” on page 34](#)

## 4.1 Understanding Novell Client Installation and Update Options

Novell Client software has a robust set of tools that enable you to deploy client software upgrades and Support Packs to all workstations in your network without installing individually on each workstation. These tools can be combined in several different ways to create custom installation methods that suit your network and your workstation configurations.

The Novell Client can also be installed or updated from either a network server using a UNC path or mapped drive, or it can be installed or updated from a Web server using a URL. Depending on your network and the workstations that need to be updated, you might want to configure one or both of these installation methods. Using both of these methods is explained later in this section.

---

**TIP:** For more information about installing on one workstation, see [Chapter 3, “Installing the Novell Client on a Single Workstation,” on page 17](#).

---

A general understanding of all of the tools and how they work together can help you decide which tools are best suited for your needs. The following is an explanation of the various tools and configuration files that can be used to customize the installation or update of the Novell Client software.

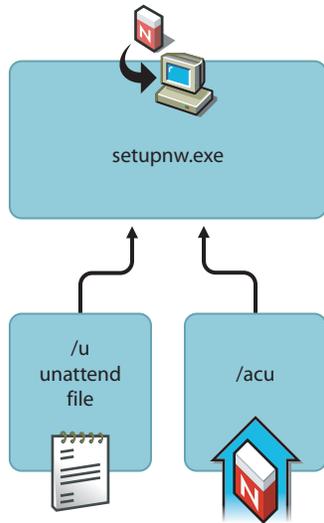
- ♦ [Section 4.1.1, “Understanding the Basic Novell Client Installation \(setupnw.exe\),” on page 22](#)
- ♦ [Section 4.1.2, “Understanding Novell Client Support Pack Installation \(setupsp.exe\),” on page 22](#)
- ♦ [Section 4.1.3, “Understanding Automatic Client Upgrade \(acu.exe\),” on page 23](#)
- ♦ [Section 4.1.4, “Understanding Novell Client Install Manager \(nciman.exe\),” on page 25](#)

- ◆ Section 4.1.5, “Understanding Novell Client Web Install Utility (setupip.exe),” on page 25
- ◆ Section 4.1.6, “Understanding the Novell Client Update Agent (cuagent.exe),” on page 27

## 4.1.1 Understanding the Basic Novell Client Installation (setupnw.exe)

Novell Client software is installed by `setupnw.exe`.

**Figure 4-1** Basic Novell Client Installation



The `setupnw.exe` installation process can be modified by two different command line switches:

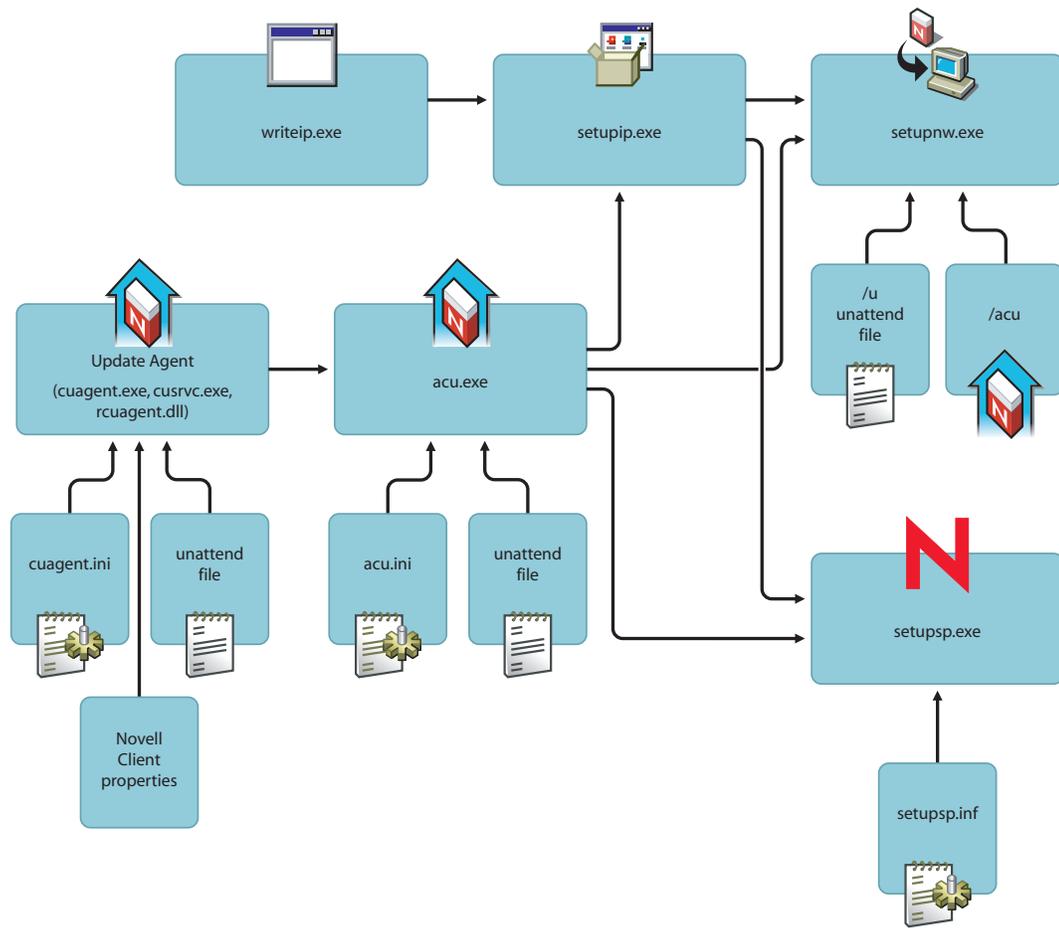
- ◆ **/U**: Applies client settings and modifies install behavior based on settings in a specified configuration (unattend) file created by Novell Client Install Manager (`nciman.exe`). For more information, see “[Creating the Configuration File \(Unattend File\)](#)” on page 47.
- ◆ **/ACU**: Directs `setupnw.exe` to perform an upgrade of the currently installed client software only if the version to be installed is a later one.

`/ACU` and `/U` can be specified together at the command line.

## 4.1.2 Understanding Novell Client Support Pack Installation (setupsp.exe)

If workstations need to have only a specific Support Pack applied, use the Novell Client Support Pack installation utility (`setupsp.exe`). The Support Pack installs only a subset of client files and does not require a client version change. Support Pack Install Files can also be added to the Client Install Files (in an overlay manner) to allow the installation of both the client and the Support Pack in one step. For more information, see “[Installing Support Packs](#)” on page 42.

Figure 4-2 Support Pack Installation

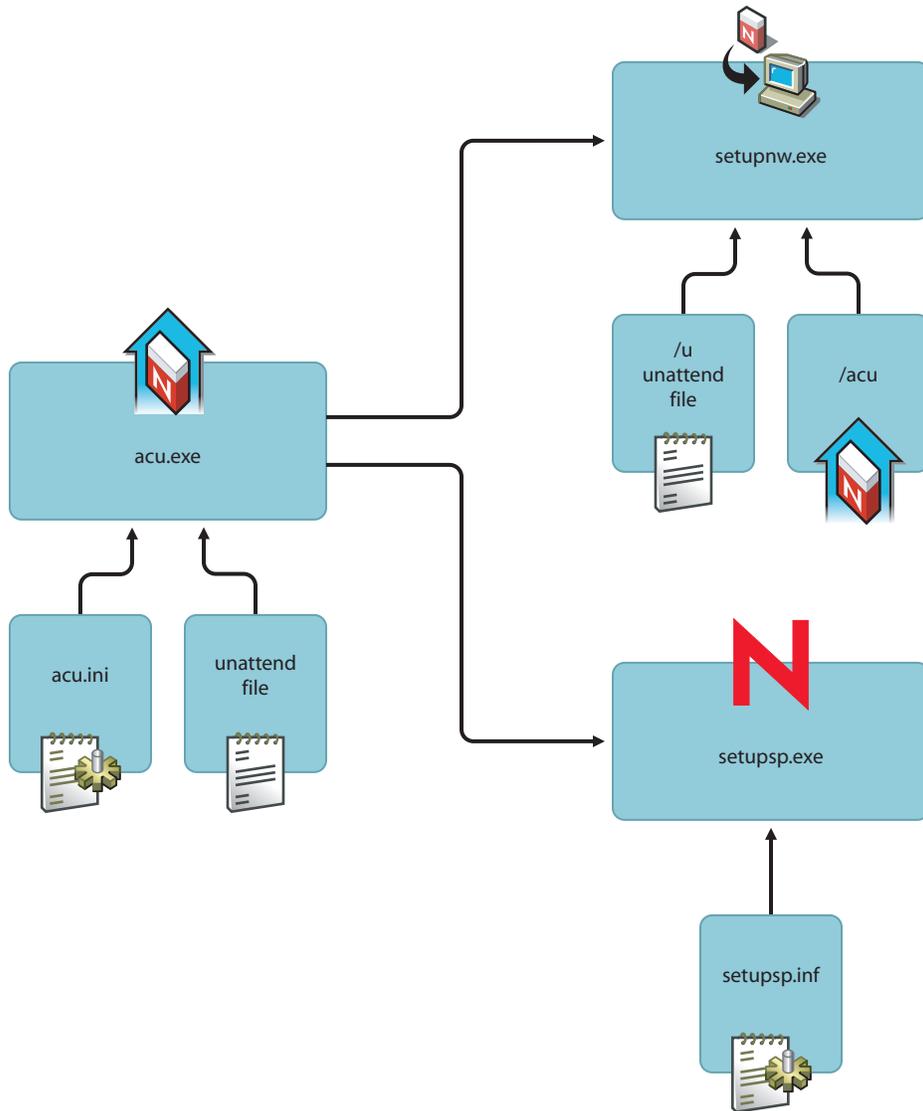


Setupsp.exe can be customized by modifying the setupsp.inf file to specify Support Pack options, display options, and update options.

### 4.1.3 Understanding Automatic Client Upgrade (acu.exe)

The Automatic Client Upgrade utility (acu.exe) determines whether the client needs to be updated, allows you to specify several installation options, and allows you to uninstall unwanted components.

Figure 4-3 Automatic Client Upgrade Process



ACU's actions are determined by `acu.ini`, a text file that can be modified to change the behavior of `acu.exe`. ACU can also accept information from a configuration (unattend) file that is created by Novell Client Install Manager (`nciman.exe`). For more information, see [“Creating the Configuration File \(Unattend File\)”](#) on page 47.

---

**IMPORTANT:** If you use a configuration (unattend) file to configure Novell Client with `acu.exe`, you must change the `Use=No` to `Use=Yes` and you must specify the name of the configuration file and the path to it in the `File=\\server\volume\path\file`. Both of these changes are made in the `[UNATTENDFILE]` section of the `acu.ini` file.

---

ACU can be launched from within the login script. ACU determines if a complete update of the Novell Client (`setupnw.exe`) or a Support Pack (`setupsp.exe`) is required and then launches the appropriate utility. Each utility then can use the associated configuration files to complete a customized installation. Launching ACU from the login script saves network bandwidth during login because the Setup utility is run only if the client needs to be updated.

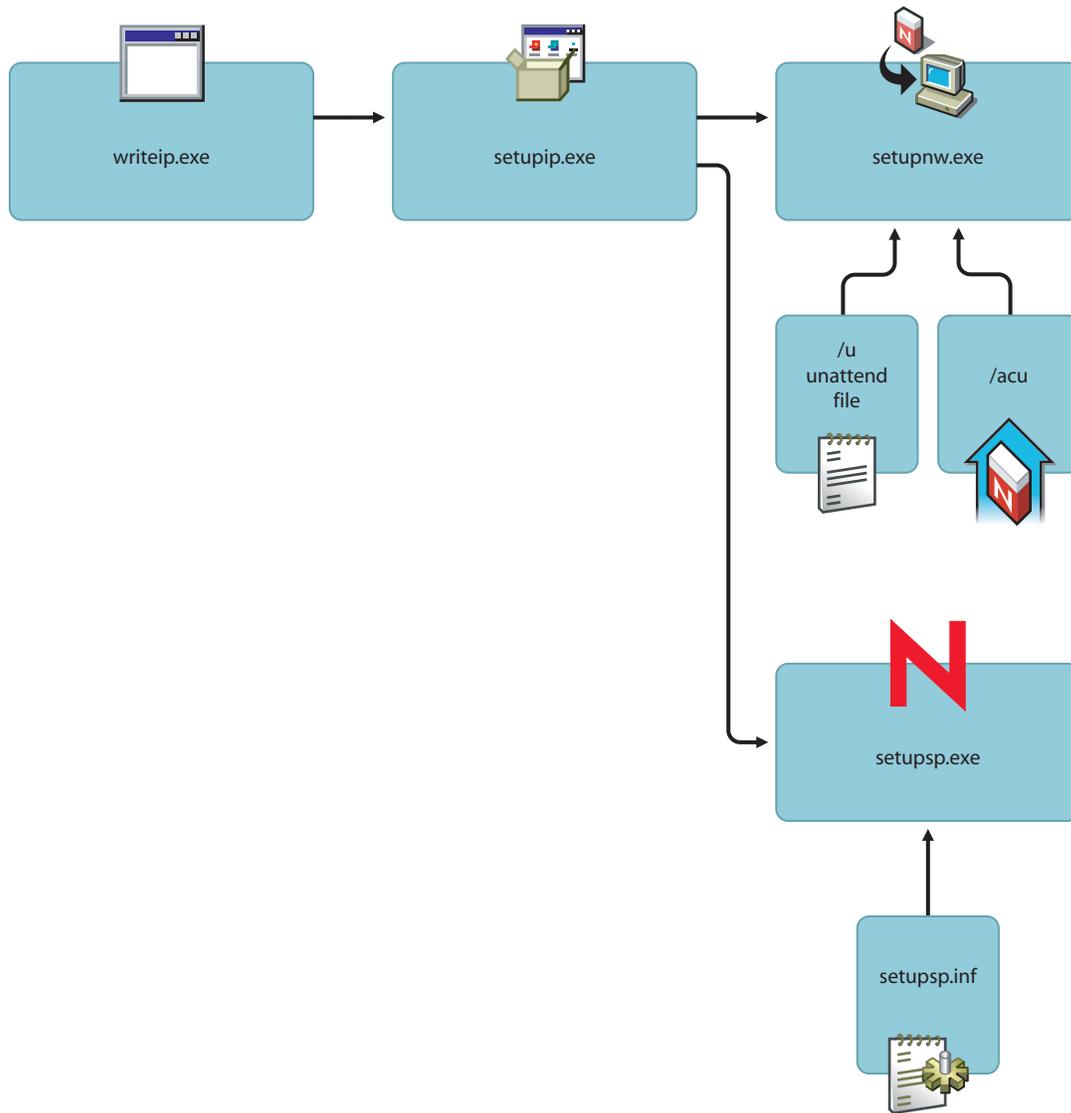
#### **4.1.4 Understanding Novell Client Install Manager (nciman.exe)**

Novell Client Install Manager (`nciman.exe`) generates a configuration (`unattend`) file that sets client settings and dictates client installation behavior. Novell Client Install Manager is located in the `admin` folder in the directory where you unzipped the download file. This file can be used by the Automatic Client Upgrade utility (`acu.exe`) or by the Client install utility (`setupnw.exe`). You can create several different configuration files for different groups of workstations if necessary and specify their use by indicating a path to the desired configuration file in the `acu.ini` file or at the command line. For more information, see [“Creating the Configuration File \(Unattend File\)” on page 47](#).

#### **4.1.5 Understanding Novell Client Web Install Utility (setupip.exe)**

The Novell Client Web Install utility simplifies the creation of a Web-based installation. `Setupip.exe` is a utility that downloads the Novell Client install files from a Web server and launches the Novell Client install.

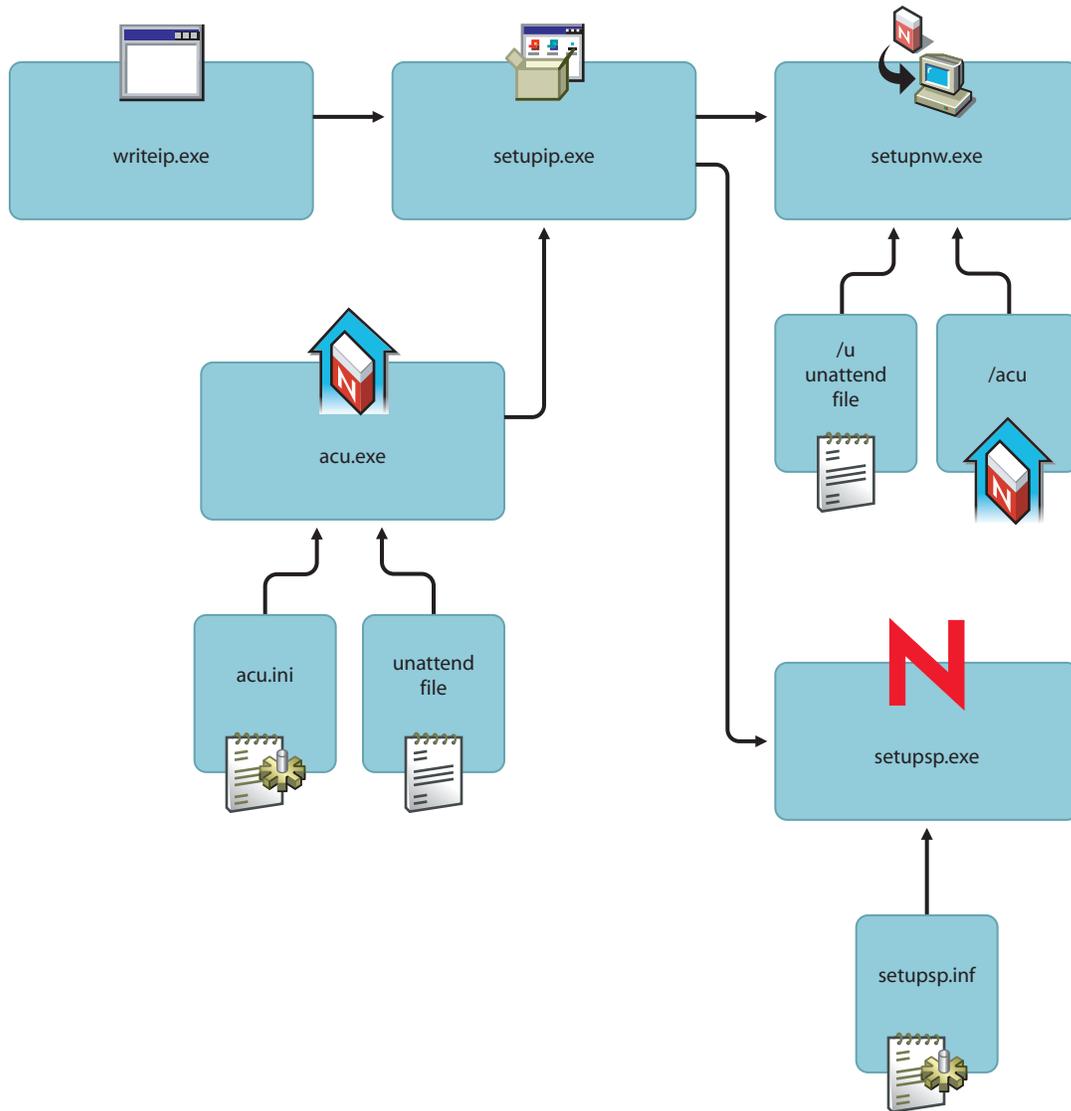
**Figure 4-4** *Novell Client Web Install Utility*



`Setupip.exe` is created by running `writeip.exe`. It can configure up to five different addresses that the client can be installed from as well as indicate whether to launch a full client installation (`setupnw.exe`) or to launch a Support Pack installation (`setupsp.exe`). It can also be configured to accept settings from a configuration (unattend) file.

`Setupip.exe` can also launch `acu.exe` to determine if a complete installation or a Support Pack installation needs to be launched.

Figure 4-5 Novell Client Web Install Affected by ACU



#### 4.1.6 Understanding the Novell Client Update Agent (cuagent.exe)

The Novell Client Update Agent provides a workstation-initiated (manual or automatic) update of the Novell Client software. It launches `acu.exe` from a specified location. The Update Agent can be run manually from the Red N menu or it can be configured to automatically check for updates at specified intervals.



## 4.2 Understanding Which Installation Process to Use

Now that you have an understanding of the tools available, you should choose the best installation methods for your network. To simplify the decision of what processes to use, refer to the decision tree in [Figure 4-7](#) or [Figure 4-8](#). Each possible installation method is listed as a part of the tree.

If you have a complex network, you might need to refer to the decision tree multiple times to decide which installation type is right for different segments of the network. For example, you might have workstations that connect to the network through a NetWare® server and workstations that access only a corporate Web server. You might have deployed the Novell Client previously with the Update Agent configured to some workstations and not to others.

It is important to note that if your network has workstations that have different requirements, the steps that you ultimately take to deploy the Novell Client might be very similar or the same. The decision trees can help you to understand the specific steps needed in each case.

The following decision trees explain options for a network installation of the Novell Client or Support Pack update ([Figure 4-7 on page 29](#)) or a Web installation of the Novell Client ([Figure 4-8 on page 30](#)).

**Figure 4-7** Network Installation or Service Pack Decision Tree

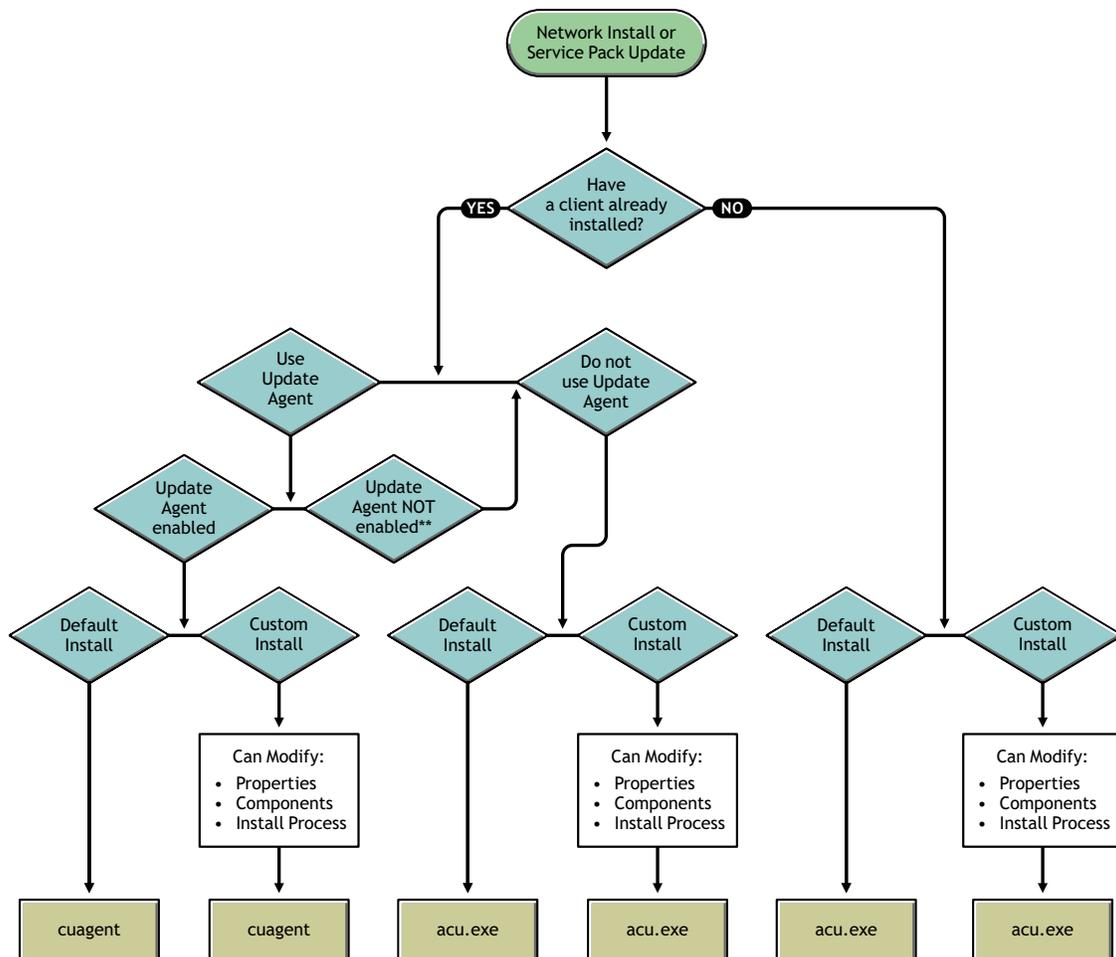
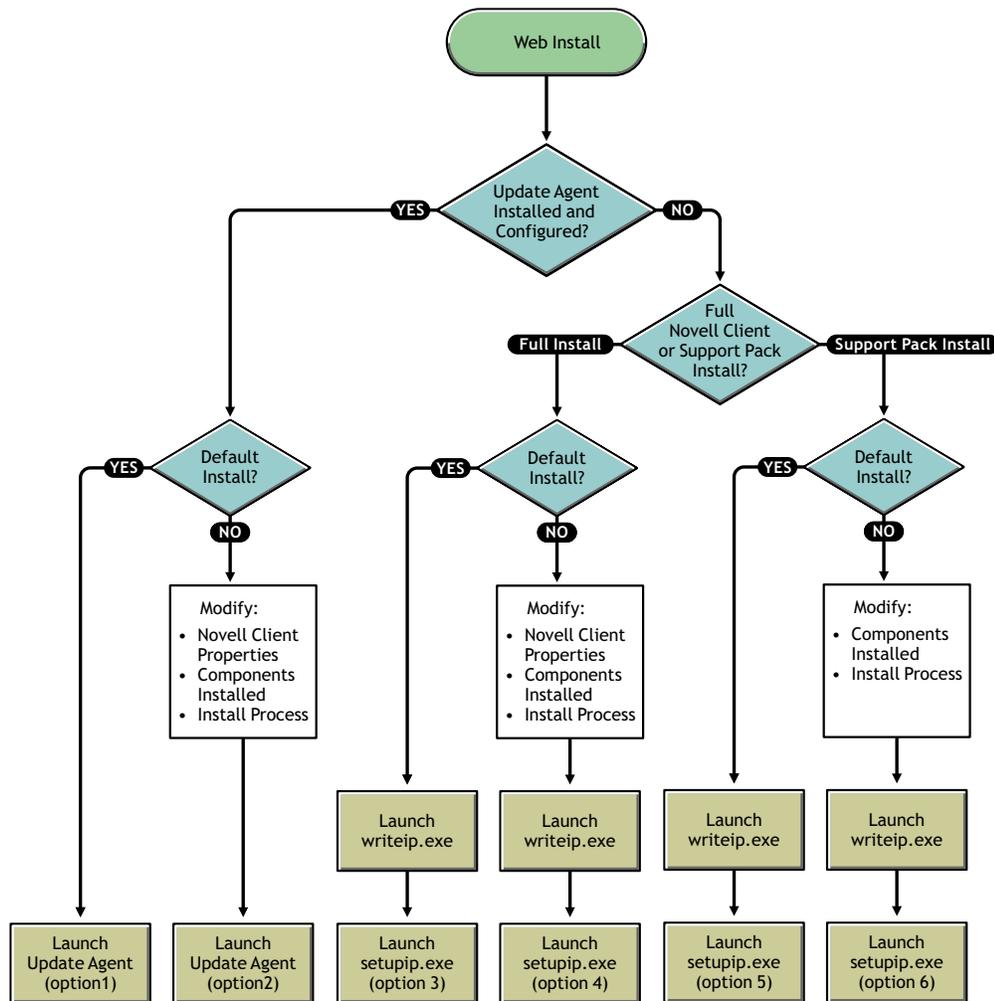


Figure 4-8 Web Installation Decision Tree



### 4.2.1 Network Server Install Options

The following are network installation options as described in the Novell Client installation decision tree (Figure 4-7 on page 29).

#### Update Agent Default Install (Network Server Decision Tree Option 1)

The following is the procedure required to complete the default installation of the Novell Client on workstations that already have Novell Client installed with the Update Agent configured and that have a connection to the network.

1. Set up the Novell Client Install on a NetWare server.
2. Set up Novell Client Upgrade Agent.
3. Deploy the client installation using the selected method.

## Update Agent Custom Install (Network Server Decision Tree Option 2)

The following is the procedure required to complete a custom installation of the Novell Client on workstations that already have Novell Client installed with the Update Agent configured and that have a connection to the network.

---

**TIP:** Before you set up a custom install, consider which options you want users to see during installation. You can make the necessary modifications to the corresponding configuration files while making other custom install changes.

---

1. Set up the Novell Client Install on a NetWare server.
2. (Optional) Create a custom configuration (unattend) file.
3. (Optional) Modify the installation options in the `acu.ini` file.
4. Set up Novell Client Upgrade Agent.
5. (Optional) Modify the installation options in the `cuagent.ini` file.
6. Deploy the client installation by using the selected method.

## Default Network Upgrade Without the Update Agent (Network Server Decision Tree Option 3)

The following is the procedure required to complete the default update of the Novell Client on workstations that already have the Novell Client installed *without* the Update Agent configured, but with a connection to the network.

1. Set up the Novell Client Install on a NetWare server.
2. Deploy the client installation by using the selected method.

## Custom Network Upgrade Without the Update Agent (Network Server Decision Tree Option 4)

The following is the procedure required to complete the custom update of the Novell Client on workstations that already have the Novell Client installed *without* the Update Agent configured but with a connection to the network.

---

**TIP:** Before you set up a custom install, consider which options you want users to see during installation. You can make the necessary modifications to the corresponding configuration files while making other custom install changes.

---

1. Set up the Novell Client Install on a NetWare server.
2. (Optional) Create a custom configuration (unattend) file.
3. (Optional) Modify the installation options in the `acu.ini` file.
4. Deploy the client installation by using the selected method.

### **Default Network New Installation (Network Server Decision Tree Option 5)**

The following is the procedure required to complete the default installation of the Novell Client on workstations that *do not* have the Novell Client installed but do have a connection to the network.

1. **Set up the Novell Client Install on a NetWare server.**
2. **Deploy the client installation by using the selected method.**

### **Custom Network New Installation (Network Server Decision Tree Option 6)**

The following is the procedure required to complete the custom installation of the Novell Client on workstations that *do not* have the Novell Client installed but do have a connection to the network.

---

**TIP:** Before you set up a custom install, consider which options you want users to see during installation. You can make the necessary modifications to the corresponding configuration files while making other custom install changes.

---

1. **Set up the Novell Client Install on a NetWare server.**
2. **(Optional) Create a custom configuration (unattend) file.**
3. **(Optional) Modify the installation options in the `acu.ini` file.**
4. **Deploy the client installation by using the selected method.**

## **4.2.2 Web Server Installation Options**

The following are Web server installation options as described in the Novell Client Installation Decision Tree (Figure 4-8 on page 30).

### **Web Server Update Agent Default Upgrade (Web Server Decision Tree Option 1)**

The following is the procedure required to complete the default Web server upgrade of the Novell Client on workstations that already have the Novell Client installed with the Update Agent configured.

1. **Set up the Novell Client Install on a Web server.**
2. **Launch the Novell Client Update Agent from the Red N menu or automatically.**

### **Web Server Update Agent Custom Upgrade (Web Server Decision Tree Option 2)**

The following is the procedure required to complete the custom Web server upgrade of the Novell Client on workstations that already have the Novell Client installed with the Update Agent configured.

---

**TIP:** Before you set up a custom install, consider which options you want users to see during installation. You can make the necessary modifications to the corresponding configuration files while making other custom install changes.

---

1. **Set up the Novell Client Install on a Web server.**
2. **(Optional) Create a custom configuration (unattend) file.**
3. **(Optional) Modify the installation options in the `acu.ini` file.**

4. (Optional) Modify the installation options in the `cuagent.ini` file.
5. Launch the Novell Client Update Agent from the Red N menu or automatically.

### **Web Server Default Install (Web Server Decision Tree Option 3)**

The following is the procedure required to complete the default Web server installation of the Novell Client on workstations that already have the Novell Client installed *without* the Update Agent configured.

1. Set up the Novell Client Install on a Web server.
2. Create and configure the `setupip.exe` download executable.
3. Distribute the download executable.

### **Web Server Custom Install (Web Server Decision Tree Option 4)**

The following is the procedure required to complete the custom Web server installation of the Novell Client on workstations that already have the Novell Client installed *without* the Update Agent configured.

---

**TIP:** Before you set up a custom install, consider which options you want users to see during installation. You can make the necessary modifications to the corresponding configuration files while making other custom install changes.

---

1. Set up the Novell Client Install on a Web server.
2. (Optional) Create a custom configuration (unattend) file.
3. (Optional) Modify the installation options in the `acu.ini` file.
4. Distribute the download executable.

### **Web Server Support Pack Default Install (Web Server Decision Tree Option 5)**

The following is the procedure required to complete the default Web server installation of the Novell Client Support Pack on workstations that already have the Novell Client installed.

1. Set up the Novell Client Install on a Web server.
2. Create and configure the `setupip.exe` download executable.
3. Distribute the download executable.

### **Web Server Support Pack Custom Install (Web Server Decision Tree Option 6)**

The following is the procedure required to complete the custom Web server installation of the Novell Client Support Pack on workstations that already have the Novell Client installed.

---

**TIP:** Before you set up a custom install, consider which options you want users to see during installation. You can make the necessary modifications to the corresponding configuration files while making other custom install changes.

---

1. Set up the Novell Client Install on a Web server.
2. (Optional) Create a custom configuration (unattend) file.
3. (Optional) Modify the Support Pack installation options in the `setupsp.inf` file.

4. (Optional) Modify the installation options in the `acu.ini` file.
5. Distribute the download executable.

## 4.3 Novell Client Installation Procedures

This section contains detailed information about the specific procedures required to complete various types of network server and Web server installations of the Novell Client. Because each of these procedures might apply to several installation types, each process is described separately. For more information on how to combine these procedures into a complete installation solution, see [Section 4.2, “Understanding Which Installation Process to Use,” on page 29](#).

### 4.3.1 Setting Up the Novell Client Install on a NetWare Server

- 1 On a NetWare server, log in to a server as Admin or as a user with Admin equivalence.  
Make sure that you have rights to copy files to a network folder that all users can access, as well as rights to modify login scripts.
- 2 Create a folder in `sys:public`.  
For example:  

```
sys:\public\client
```
- 3 Copy the contents of the directory where you unzipped the download file to the folder.  
See [Section 2.4, “Locating the Latest Client Software,” on page 14](#).  
If you are installing the client in only one language or if your network does not have enough space to accommodate multiple language directories, you can delete the language directories that you do not need from the `nls` directory under each client directory. To ensure that you have all necessary files, copy the entire client directory and then delete only the extra language directories.
- 4 Create a Group object in the eDirectory™ tree.
- 5 Place into that group users whose workstations need to be installed or upgraded.
- 6 Make sure that the group has the Read and File Scan rights to the folder that you created.  
If you created a folder in `sys:public`, the new folder should have Read and File Scan rights already associated with it, but you should make sure that these rights have not been changed.
- 7 (Conditional) If you want the results of the installation to be added to a status log file, make sure that the group has the Write right to that file and enable status logging in the `acu.ini` or `cuagent.ini` file (see [“Modifying the ACU Configuration File” on page 42](#) or see [“Creating the Configuration File \(Unattend File\)” on page 47](#)). If you did not create the status log file prior to running the network installation, you must give users the Create and Write rights to the directory.  
A status log file records the success or failure of the installation. When each workstation completes its installation, the status log file is appended to include information on that workstation.
- 8 Complete any additional procedures outlined in the installation type you selected.  
For more information on selecting the type of installation needed, see [Section 4.2, “Understanding Which Installation Process to Use,” on page 29](#).

## 4.3.2 Setting Up the Novell Client Install on a Web Server

Before you can distribute the Novell Client from a Web Server, you must first set up the installation directory on the Web server.

- 1 Create an installation directory on the HTTP Web server where you want users to install from.
- 2 Do one of the following:

- ♦ **Full Novell Client Installs or Upgrades:** Copy the content of the directory where you unzipped the download file to this directory. For more information on locating the latest Novell Client software, see [Section 2.4, “Locating the Latest Client Software,” on page 14](#).
- ♦ **For Support Pack Installs:** Create the following directory structure:

```
\sp
```

and place the Support Pack files in that `sp` directory.

The IP address specified in the WriteIP utility must be a location on a Web server that contains the Support Pack files. If the IP address specified in the WriteIP utility is a location on a Web server that contains both the client and the Support Pack files (in an overlay), both the client and Support Pack files are downloaded; however, only the Support Pack install launches. Creating a directory called `sp` and placing the Support Pack files in that `sp` directory avoids unnecessary download of Client files. The Web download utility downloads only the files in the `sp` directory and launches the Support Pack install.

You can copy the files to up to five different Web servers in order to provide access during peak times.

---

**IMPORTANT:** Ensure that you preserve the case, date, and time of the directories and files that are copied to the Web server. This is especially important on Web servers that are case sensitive, such as Linux servers.

---

- 3 Complete any additional procedures outlined in the installation type you selected.

## 4.3.3 Creating the `setupip.exe` Download Executable

You can install the Novell Client software from a Web server. Using the `WRITEIP` utility, you can create a small executable called `setupip.exe` that downloads the Novell Client install files from a Web server and launches the Novell Client install.

- 1 Run the `writeip.exe` utility located in the `admin` directory in the directory where you unzipped the download file.

For more information on downloading Novell Client, see [Section 2.4, “Locating the Latest Client Software,” on page 14](#).

- 2 Specify the IP address or DNS name of the Web server and the path to the client files.

You can specify up to five locations. Each location is checked in the order in which they are listed until a connection is made. If you select *Choose IP Address at Random*, the order in which the locations are checked is selected randomly. This balances the load across the Web servers.

For example:

```
http://111.111.11.1/client
```

or

`http://mycompany.com/client`

- 3 Specify download options, such as the location for downloading the client installation files.

Files can be downloaded to a temporary or specific directory.

If you select *Allow User to Change the Download Directory*, the user is prompted for the location of the download directory and can change the default location.

If you do not select *Delete Install Files after Install Is Complete*, the Novell Client installation files remain on the workstation in the specified path or temporary directory.

- 4 Specify client install launch options.

**Support Pack Install:** Only the Support Pack software is downloaded and installed, if needed. For specific information on setting up the directories correctly on the Web server, see [Section 4.3.2, “Setting Up the Novell Client Install on a Web Server,” on page 35.](#)

**Automatic Client Upgrade:** The client install runs only if the client software is a later version than the one currently installed on the workstation. For more information, see [“Modifying the ACU Configuration File” on page 42.](#)

**Unattend File:** The installation reads the configuration file in order to configure the client properties. This file should be placed in the same folder as the installation utility. For more information, see [“Creating the Configuration File \(Unattend File\)” on page 47.](#)

- 5 Click *OK*.

`Setupip.exe` is created. `Writeip.ini`, which stores the options you selected in `writeip.exe`, is also created.

- 6 Complete any additional procedures outlined in the installation type you selected.

For more information on selecting the type of installation needed, see [Section 4.2, “Understanding Which Installation Process to Use,” on page 29.](#)

#### 4.3.4 Distributing setupip.exe

Distribute `setupip.exe` by placing it on a Web site, sending it through e-mail, or distributing it on a diskette.

When users double-click `setupip.exe`, the executable downloads the client install files from the specified IP address and launches the Novell Client installation.

`setupip.exe` determines what language version of the client to install based on the settings in the Regional and Language Options (Windows XP) or the Regional Options (Windows 2000) dialog box in the Control Panel. If the Novell Client supports the language, `setupip.exe` downloads the /NLS language files for that language. If the Novell Client does not support the language (that is, the /NLS files are not available for download), the copy fails with a message to contact the system administrator. If the language is not supported by the Novell Client, the English /NLS files must be available. For example, this means that you cannot use `setupip.exe` to force an English language version of the Novell Client onto a workstation with German regional settings.

## 4.3.5 Setting Up the Novell Client Update Agent

---

**IMPORTANT:** This procedure is just one of the tasks required to complete installation of the Novell Client on multiple workstations. For more information on how this procedure combines with other procedures to create an install method, see [Section 4.2, “Understanding Which Installation Process to Use,”](#) on page 29.

---

You can simplify future client software upgrades by enabling the Novell Client Update Agent. The Update Agent can be run manually at any time from the Red N menu or can be run automatically when users log in to the network.

If it is run automatically, the Update Agent determines if the preconfigured number of days have elapsed since the last upgrade check and then checks the specified location for a newer version of the client. If a newer version is found, the new install is launched. You can preconfigure the interval of days as well as the location of the newer client version.

---

**IMPORTANT:** Before workstations can check to see if updates are available, the Update Agent must be configured during a software installation or by using Automatic Client Upgrade (ACU). Or, you can configure the Update Agent on each machine locally through the Novell Client property pages. For more information, see [Section 4.3.7, “Enabling the Novell Client Update Agent,”](#) on page 40.

---

- 1 Create a configuration (unattend) file by running the Novell Client Install Manager utility (`nciman.exe`).  
See [“Creating the Configuration File \(Unattend File\)”](#) on page 47.
- 2 Click *Client*, then click the *Update Agent* tab.
- 3 (Optional) Select the *Enable Automatic Update Agent* option and set the launch interval.
- 4 Select the *Update Location* option and specify the Update Location path (mapped drive, UNC path or URL).
- 5 (Optional) Select the *Previous Install Location* option.  
This causes the previous install location to be used if the update location cannot be found. If the Update Agent should use only the previous install location, deselect the *Update Location* option.
- 6 (Conditional) If the user does not have the Administrator right on the workstation, select the *Administrator Rights* option.  
Novell Client must be installed by a user that has administrative rights on the workstation. If this option is selected, the Update Agent runs as a user with administrative rights and the installation is completed. If this option is not selected and the user does not have administrative rights, the Update Agent does not run and the user is notified that he or she does not have the correct rights.
- 7 To save the file in the correct location, complete the steps in [“Creating the Configuration File \(Unattend File\)”](#) on page 47.
- 8 Complete any additional procedures outlined in the installation type you selected.  
For more information on selecting the type of installation needed, see [Section 4.2, “Understanding Which Installation Process to Use,”](#) on page 29.

## 4.3.6 Modifying the Update Agent Configuration File

- 1 Locate the `cuagent.ini` file in the admin directory.
- 2 Modify the `cuagent.ini` file settings, then save the file.

The `cuagent.ini` file enables you to configure the following settings:

Option	Description	Settings
[AgentStatus]	Specifies whether the Update Agent is configured. If configured, the rest of the <code>.ini</code> file is read. If disabled, the Agent does not look for an update to the Client	Disabled=Yes   No (Default: No)
[LaunchUpdate]	Specifies whether the Client Install is launched. When this option is set to Yes, the Update Agent determines if an update is needed and then launches the necessary update. When it is set to No, the Update agent determines if an update is needed but does not launch the necessary update.	Launch=Yes   No (Default: Yes)
[Redirection]	Specifies a path to redirect the Update Agent to a different location for Novell Client files. This is useful if you need to locate the files on a different server.  The path can be a mapped drive, UNC path, or URL.  You can redirect the Update Agent five times (once in each of five different <code>cuagent.ini</code> files located in different locations).	Location= <i>path_to_update</i>
[UpdatePrompt]	Specifies whether users are prompted to begin the update and are notified about the location the update will run from.  <b>Display</b> specifies whether users are prompted to update Novell Client.  <b>Display Location</b> specifies whether users are notified about the location that the update is to run from.  <b>Administrator Message</b> specifies additional text that appears when the user is prompted to start an update.	Display=Yes   No  DisplayLocation=Yes   No (Default: No)  AdministratorMessage= <i>message_from_administrator</i>
[AgentFiles]	Specifies whether the Update Agent software should be updated before the Novell Client update occurs.  This option lets you update the Update Agent if newer software is available with features that you want to use or if the Update Agent has a defect. Then, the newer Update Agent completes the Client software update.	Update=Yes   No (Default: No)

Option	Description	Settings
[AgentSettings]	<p>Specifies settings located on the Novell Client Update Agent property page. If you change settings in the <code>cuagent.ini</code> file, these changes are made in the Registry and appear in the Novell Client Update Agent property page. These changes go into effect the next time the Update Agent is run.</p> <p><b>Update</b> specifies whether the settings are transferred from the <code>.ini</code> file to the workstation's registry.</p> <p><b>Enable Automatic Update Agent</b> specifies whether the Update Agent is launched automatically. The Update Agent checks for a new version of the Novell Client at the designated interval and from the designated locations. The Update Agent is launched as a part of the login process.</p> <p><b>Update Agent Launch Interval</b> sets the interval (in days) that the Novell Client Update Agent checks for a new version of the Novell Client.</p> <p><b>Enable Update Location</b> specifies whether the Novell Client Update Agent looks for a new version of the Novell Client in the designated update location.</p> <p>The Update Agent checks for updates in the following order of configured locations: 1) Update Location, 2) Previous Install Location.</p> <p>The Update Agent looks in each configured location for valid file types and stops when it locates any. Ensure that you have the latest files in the <b>first</b> location that the Update Agent searches.</p> <p><b>Update Location</b> specifies the update location (mapped drive, UNC, or URL).</p> <p><b>Enable Previous Install Location</b> specifies whether the Novell Client Update Agent looks for a new version of the Novell Client in the previous install location.</p> <p><b>Administrator Rights</b> specifies whether the Novell Client Update Agent has administrative rights on the workstation. The Update Agent must have these rights to update the Novell Client. This is useful when the user who logs in to the workstation is not the workstation Administrator user. If this setting is set to No, the Update Agent is launched with the rights of the currently logged-in user.</p>	<p>Update=Yes   No (Default: No)</p> <p>EnableAutomaticUpdateAgent=Yes   No</p> <p>UpdateAgentLaunchInterval=<i>interval_in_days</i></p> <p>EnableUpdateLocation=Yes   No</p> <p>UpdateLocation=<i>update_location_path</i></p> <p>EnablePreviousInstallLocation=Yes   No</p> <p>AdministratorRights=Yes   No</p>

Option	Description	Settings
[ClientSettings]	<p><b>Update</b> specifies whether the Novell Client Update Agent looks for Novell Client property page updates.</p> <p><b>Unattend File</b> specifies the name of the configuration (unattend) file that contains property page settings. This file should be in the same location as the Update Agent.</p> <p><b>Display Prompt</b> specifies whether users are prompted to update client settings.</p> <p><b>Display Location</b> specifies whether users are notified about the location from which the update will run.</p> <p><b>Administrator Message</b> specifies additional text that appears when users are prompted to update.</p>	<p>Update=Yes   No (Default:No)</p> <p>UnattendFile=<i>lfile_name</i></p> <p>DisplayPrompt=Yes   No (Default: No)</p> <p>DisplayLocation=Yes   No (Default: No)</p> <p>AdministratorMessage=<i>message_from_administrator</i></p>
[StatusLogging]	Specifies whether a status log is created and where it is located.	<p>Use=Yes   No (Default: Yes)</p> <p>File=<i>log_file_path</i></p>

3 Copy this file to the directory where you unzipped the download file.

4 Complete any additional procedures outlined in the installation type you selected.

For more information on selecting the type of installation needed, see [Section 4.2, “Understanding Which Installation Process to Use,”](#) on page 29.

### 4.3.7 Enabling the Novell Client Update Agent

- ♦ [“Enabling the Novell Client Update Agent During a Client Install or Upgrade”](#) on page 40
- ♦ [“Enabling the Novell Client Update Agent by Using ACU Without Installing Novell Client Software”](#) on page 41
- ♦ [“Enabling the Novell Client Update Agent on a Local Workstation”](#) on page 41

#### Enabling the Novell Client Update Agent During a Client Install or Upgrade

1 Select your type of the Novell Client installation.

You must select an install process that allows you to modify the client properties (meaning it cannot be a default install type, because the default installs do not modify any configuration files or settings).

For more information on selecting an installation type, see [Section 4.2, “Understanding Which Installation Process to Use,”](#) on page 29.

2 During the installation process, create a custom configuration (unattend) file to modify the properties.

For more information, see [“Creating the Configuration File \(Unattend File\)”](#) on page 47.

- 3 In the Novell Client Install Manager (`nciman.exe`), double-click *Client*, click the *Update Agent* tab, then make the following changes:
  - 3a Select *Enable Automatic Update Agent*.
  - 3b (Optional) To launch the Update Agent automatically at a set interval, select *Enable Automatic Update Agent* and then set the launch interval (in days).  
If the Update Agent is not set to launch automatically, users can still launch it from the Red N menu whenever an update needs to be run.
  - 3c Specify an update source location.  
You can select either a specific location on the network or the previous install location (if you intend to place updates in the same location as the last install). The Update Agent always looks in the specified location for new files.
- 4 Continue changing additional configuration settings to create your custom configuration (unattend) file, then click *OK*.
- 5 Complete any additional procedures outlined in the installation type you selected.  
For more information on selecting the type of installation needed, see [Section 4.2, “Understanding Which Installation Process to Use,”](#) on page 29.

### Enabling the Novell Client Update Agent by Using ACU Without Installing Novell Client Software

- 1 Modify the `acu.ini` file so that the `[UpdateAgentSettings]` section of the `.ini` file is set to `UPDATE=YES`.  
See [“Modifying the ACU Configuration File”](#) on page 42 for more information.
- 2 Change the desired Update Agent settings in the `[UpdateAgentSettings]` section of the `acu.ini` file.
- 3 Run ACU through the login scripts.  
See [“Distributing the Novell Client by Using Login Scripts”](#) on page 52.

The next time users log in, ACU runs and changes to the Update Agent settings are made. The Update Agent is configured and checks for updates as specified in the settings.

### Enabling the Novell Client Update Agent on a Local Workstation

- 1 At the user's workstation, right-click the Red N icon in the notification area.
- 2 Click *Novell Client Properties*.
- 3 Click the *Update Agent* tab.
- 4 Set the properties that you want to change.

---

**TIP:** Help for all the Property pages is available directly on the property pages by clicking the Question Mark (?) or right-clicking and then selecting What's This? Also, this information and additional information on other settings is available in the August 2004 AppNotes® article [“Novell Client 4.9 SP2: initialization, Login and Settings”](http://www.novell.com/coololutions/appnote/620.html) (<http://www.novell.com/coololutions/appnote/620.html>).

---

- 5 Click *OK* to make the changes and close the property pages.

## 4.3.8 Installing Support Packs

The Support Pack installs only a subset of client files and does not require a version change for the Client. Support Packs can also be added to the Client (in an overlay manner) to allow the installation of both the Client and the Support Pack in one step. Depending on the installation option you use to deploy Support Packs, the process differs slightly.

For example, if you choose one of the Web Server installation options, the IP address specified in the WriteIP utility must be a location on a Web server that contains the Support Pack files. If the IP address specified in the WriteIP utility is a location on a Web server that contains both the Client and the Support Pack files (in an overlay), both the client and Support Pack files are downloaded; however, only the Support Pack install launches. Creating a directory called `sp` in the directory where you unzipped the download file and placing the Support Pack files in that `sp` directory avoids unnecessary download of client files. The Web download utility downloads only the files in the `sp` directory and launches the Support Pack install.

In addition, Novell Client property page settings cannot be changed through the default Support Pack installation because only a subset of the Novell Client files are changed. If you need to install a Support Pack and update properties, you must either complete a full client installation that has the Support Pack files in an overlay or use the Update Agent to run both the Support Pack installation and update the Novell Client properties.

For more information on selecting an installation option, see [Section 4.2, “Understanding Which Installation Process to Use,” on page 29](#).

## 4.3.9 Modifying the ACU Configuration File

---

**IMPORTANT:** This procedure is just one of the tasks required to complete installation of the Novell Client on multiple workstations. For more information on how this procedure combines with other procedures to create an install method, see [Section 4.2, “Understanding Which Installation Process to Use,” on page 29](#).

---

The Automatic Client Upgrade utility (`acu.exe`) determines whether the client needs to be updated and lets you specify several installation options.

- 1 Open the `acu.ini` file located in the folder that you created on the server.
- 2 Modify the configuration options.

---

**IMPORTANT:** If you use a configuration (unattend) file to configure the Novell Client and you are using `acu.exe`, you must change the `[UNATTENDFILE]` option to Yes in the `acu.ini` file.

---

Option	Description	Settings
[LaunchInstall]	Specifies whether Setup is launched after <code>acu.exe</code> determines that the installation is necessary.	Launch=Yes   No (Default: Yes)
[DisplayDialog]	Specifies whether users are prompted to begin the upgrade.	Display=Yes   No (Default: Yes)
[UnattendFile]	Specifies whether a configuration (unattend) file is used and where it is located.	Use=Yes   No (Default: No)  <i>File=configuration_file_path</i>
[StatusLogging]	Specifies whether a status log is created and where it is located.  If you did not create a status log file prior to installation, it is now created and placed in the installation directory on the network or in the directory specified in the File setting.	Use=Yes   No (Default: No)  <i>File=log_file_path</i>
[AdministratorMessage]	Specifies additional text that appears when the user is prompted to start an ACU.	<i>Message=the_message_you_want_to_appear</i>
[ClientLocalInstall]	Specifies whether the installation is copied to a specified local directory and run locally.	LocalInstall=Yes   No (Default: No)  <i>LocalDirectory=directory_where_you_want_the_installation_copied</i> (Default: c:\novell\clientlocalinstall)  DeleteLocalInstall=Yes   No (Default: No)
		<b>TIP:</b> If you want to delete the files after the installation is complete, set <code>DeleteLocalInstall=Yes</code> .

Option	Description	Settings
[UpdateAgentSettings]	<p>Specifies the Novell Client Update Agent property page settings.</p> <hr/> <p><b>IMPORTANT:</b> Use this section to set the Update Agent settings if you do not already have the Update Agent installed and configured. If it is installed and configured, make changes in the <code>cuagent.ini</code> file.</p> <hr/> <p>If you change settings, these changes are made in the Registry and appear in the Novell Client Update Agent property page. These changes go into effect the next time the Update Agent is run.</p> <p><b>Update</b> specifies whether the settings are transferred from the <code>.ini</code> file to the workstation's registry.</p> <p><b>Enable Update Agent</b> specifies whether the Update Agent is configured. This setting specifically applies to workstations running Novell Client version 4.90 SP2 that are upgrading Novell Client software. Selecting this option enables the Update Agent to perform the software update.</p> <p><b>Enable Automatic Update Agent</b> specifies whether the Update Agent is launched automatically. The Update Agent checks for a new version of the Novell Client at the designated interval and from the designated locations. The Update Agent is launched as a part of the login process.</p> <p><b>Update Agent Launch Interval</b> sets the interval (in days) that the Novell Client Update Agent checks for a new version of the Novell Client.</p> <p><b>Enable Update Location</b> specifies whether the Novell Client Update Agent looks for a new version of the Novell Client in the designated update location.</p> <p>The Update Agent checks for updates in the following order of configured locations: 1) Update Location, 2) Previous Install Location.</p>	<p>Update=Yes   No (Default: No)</p> <p>EnableUpdateAgent=Yes   No</p> <p>EnableAutomaticUpdateAgent=Yes   No</p> <p>UpdateAgentLaunchInterval=<i>interval_in_days</i></p> <p>EnableUpdateLocation=Yes   No</p> <p>UpdateLocation=<i>update_location_path</i></p> <p>EnablePreviousInstallLocation=Yes   No</p> <p>AdministratorRights=Yes   No</p>

Option	Description	Settings
[UpdateAgentSettings] continued...	<p>The Update Agent looks in each configured location for valid file types and stops when it locates them. Ensure that you have the latest files in the first location that the Update Agent searches.</p> <p><b>Update Location</b> specifies the update location (mapped drive, UNC, or URL).</p> <p><b>Enable Previous Install Location</b> specifies whether the Novell Client Update Agent looks for a new version of the Novell Client in the previous install location.</p> <p><b>Administrator Rights</b> specifies whether the Novell Client Update Agent has administrative rights on the workstation. The Update Agent must have these rights to update the Novell Client. This is useful when the user who logs in to the workstation is not the workstation Administrator user. If this setting is set to No, the Update Agent is launched with the rights of the currently logged-in user.</p>	

Option	Description	Settings
[Uninstall]	Specifies which network components are uninstalled. Users are prompted to reboot after the uninstall is complete.	IPX=Yes   No (Default: No)
	<b>IPX</b> specifies whether IPX™ is uninstalled.	CMD=Yes   No (Default: No)
	<b>CMD</b> specifies whether Compatibility Mode is uninstalled.	Client=Yes   No (Default: No)
	<b>Client</b> specifies whether the Novell Client is uninstalled.	NDPS=Yes   No (Default: No)
	<b>NDPS</b> specifies whether Novell Distributed Print Services™ is uninstalled.	WorkstationManager=Yes   No (Default: No)
	<b>Workstation Manager</b> specifies whether Workstation Manager, a component of ZENworks®, is uninstalled.	NAL=Yes   No (Default: No)
	<b>NAL</b> specifies whether Novell Application Launcher™, a component of ZENworks, is uninstalled.	ImagingService=Yes   No (Default: No)
	<b>Imaging Service</b> specifies whether Imaging Service, a component of ZENworks, is uninstalled.	RemoteManagement=Yes   No (Default: No)
	<b>Remote Management</b> specifies whether Remote Management, a component of ZENworks, is uninstalled.	NICI=Yes   No (Default: No)
	<b>NICI</b> specifies whether Novell International Cryptographic Infrastructure (NICI) is uninstalled.	NMAS=Yes   No (Default: No)
	<b>NMAS</b> specifies whether Novell Modular Authentication Services (NMAS™) is uninstalled.	NetIdentity=Yes   No (Default: No)
	<b>NetIdentity</b> specifies whether NetIdentity is uninstalled.	AdministratorMessage= <i>message_from_administrator</i>
	<b>Administrator Message</b> specifies additional text that appears when the uninstall begins.	

**3** Complete any additional procedures outlined in the installation type you selected.

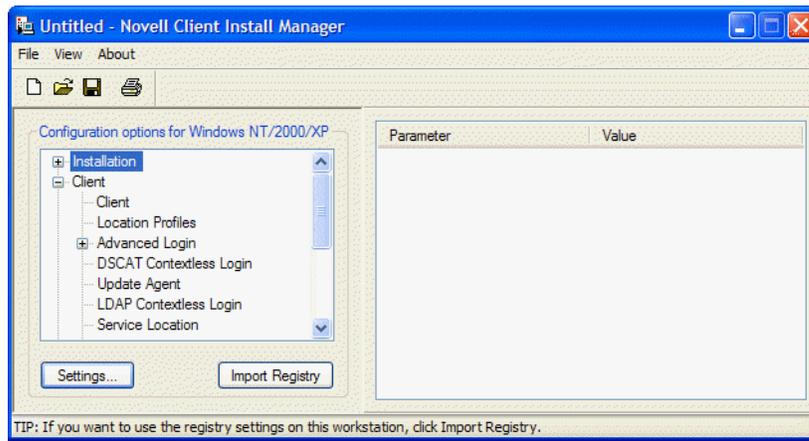
For more information on selecting the type of installation needed, see [Section 4.2, “Understanding Which Installation Process to Use,”](#) on page 29.

## 4.3.10 Creating the Configuration File (Unattend File)

**IMPORTANT:** This procedure is just one of the tasks required to complete installation of the Novell Client on multiple workstations. For more information on how this procedure combines with other procedures to create an install method, see [Section 4.2, “Understanding Which Installation Process to Use,”](#) on page 29.

The Novell Client installation reads a configuration (unattend) file generated by the Novell Client Install Manager in order to customize the installation process and to configure the Novell Client settings.

**Figure 4-9** *Novell Client Install Manager*

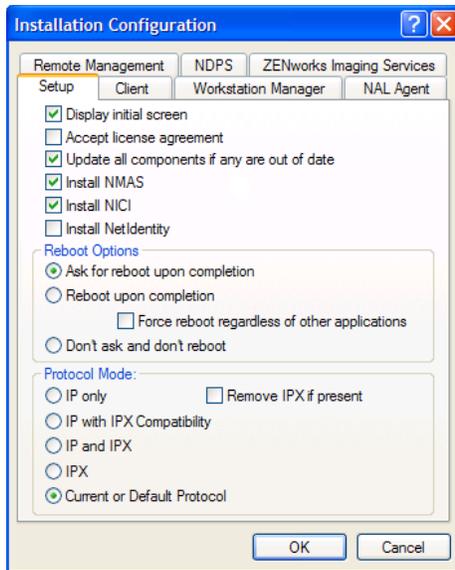


**TIP:** You can import the settings from a workstation that has been previously configured and save them to the configuration file. After you set up the workstation, click *File > Import Registry* to import the settings.

The configuration (unattend) file created by the Novell Client Install Manager provides information such as property page settings and installation settings. This file should be placed in the same folder as the installation utility.

If you are installing the client with the default settings, you do not need to create or modify the configuration files. Skip this process and proceed to [Chapter 5, “Setting Client Properties,”](#) on page 55.

- 1** Start Novell Client Install Manager (`nciman.exe`).  
Novell Client Install Manager is located in the `\admin` folder in the directory that you copied to the server.
- 2** Modify the installation options as needed:
  - 2a** In the Configuration Options list box, double-click the installation option that you want to modify.
  - 2b** On the selected property page, set the parameters and then click *OK*.



The values that you set appear in the Novell Client Install Manager's right list box after you close the property page so that you can see a list of all parameters that have been modified.

**3** Modify the Client Properties as needed.

For example, if your network uses LDAP, you can enable contextless login. Or, you might want to change the welcome screen bitmap.

For more information on the Client Properties, see [Chapter 5, “Setting Client Properties,” on page 55](#) and [Chapter 7, “Managing Login,” on page 73](#). Or, right-click any property to view its help information.

**4** Click *File > Save*.

You can use any filename (for example, `unatt_xp.txt`).

**5** Copy this file to the directory where you unzipped the download file.

---

**IMPORTANT:** The path to the text file cannot contain long filenames.

---

**6** Complete any additional procedures outlined in the installation type you selected.

For more information on selecting the type of installation needed, see [Section 4.2, “Understanding Which Installation Process to Use,” on page 29](#).

### 4.3.11 Modifying the Support Pack Configuration File

---

**IMPORTANT:** This procedure is just one of the tasks required to complete installation of the Novell Client on multiple workstations. For more information on how this procedure combines with other procedures to create an install method, see [Section 4.2, “Understanding Which Installation Process to Use,” on page 29](#).

---

The Novell Client Support Pack utility lets you control how Support Packs are pushed out to workstations by modifying the `setupsp.inf` file to define install custom settings.

**1** Open the `setupsp.ini` file located in the folder that you created on the server.

**2** Modify the Support Pack options section only.

---

**IMPORTANT:** Do not change the Client Version and Support Pack Version settings.

---

Option	Description	Settings
Reinstall	<p>Specifies whether <code>setupsp.exe</code> reinstalls the already installed Support Pack on the workstation.</p> <p><b>Yes:</b> <code>Setupsp.exe</code> runs and reapplies updates even when the workstation already has the current Support Pack applied.</p> <p><b>No:</b> <code>Setupsp.exe</code> checks to ensure that the Support Pack on the workstation is the most current one and does not reinstall if it is current.</p>	Reinstall=Yes   No (Default: No)
DisplayInstallPrompts	<p>Specifies whether users are prompted during the Support Pack installation.</p> <p>This setting does not affect <code>RebootOnCompletion</code> or <code>PromptOnCompletion</code>.</p>	DisplayInstallPrompts=Yes   No (Default: Yes)
UpdateNICI	Specifies whether Novell International Cryptographic Infrastructure (NICI) is updated.	UpdateNICI=Yes   No (Default: YES)
UpdateNMAS	Specifies whether Novell Modular Authentication Services (NMAS) is updated.	UpdateNMAS=Yes   No (Default: Yes)
UpdateNetIdentity	Specifies whether NetIdentity is updated even if an older version is detected.	UpdateNetIdentity=Yes   No (Default: Yes)

Option	Description	Settings
RebootOnCompletion	<p>Specifies whether the workstation is rebooted after the Support Pack install is completed.</p> <p><b>Prompt:</b> Users are prompted to decide whether or not to reboot the workstation.</p> <hr/> <p><b>NOTE:</b> The PromptUserOnCompletion setting has no affect if RebootOnCompletion is set to Prompt.</p> <hr/> <p><b>Yes:</b> The workstation is rebooted upon completion. This setting can be used in conjunction with the PromptUserOnCompletion setting to force the reboot and alert users that the reboot must occur.</p> <p><b>No:</b> The workstation is not rebooted upon completion. This setting can be used in conjunction with the PromptUserOnCompletion setting to advise the user that the update is complete. However, there is no forced or prompted reboot of the workstation.</p>	RebootOnCompletion= Prompt   Yes   No (Default: Prompt)
PromptUserOnCompletion	<p>Specifies whether users are prompted that a update has occurred and (optional) that the workstation needs to be rebooted.</p> <p><b>Yes:</b> Displays a prompt explaining that the update is completed. If this setting has been used in conjunction with RebootOnCompletion=Yes, the workstation is rebooted when the user clicks OK.</p> <p><b>No:</b> Does not display a prompt for users. If this setting has been used in conjunction with RebootOnCompletion=Yes, the workstation is rebooted without warning.</p>	PromptUserOnCompletion= Yes   No (Default: Yes)

**3** Complete any additional procedures outlined in the installation type you selected.

For more information on selecting the type of installation needed, see [Section 4.2, “Understanding Which Installation Process to Use,”](#) on page 29.

### 4.3.12 Selecting a Network Server Distribution Option

After you have set up your network installation of the Novell Client, you must decide how to distribute the install files. You can modify the login script to launch installation files, distribute the files through ZENworks, or use another method you have available on your network.

For more information on using login scripts, see “[Distributing the Novell Client by Using Login Scripts](#)” on page 52. For more information on using ZENworks, see the documentation associated with the installed version of ZENworks.

## Distributing the Novell Client by Using Login Scripts

---

**IMPORTANT:** This procedure is just one of the tasks required to complete installation of the Novell Client on multiple workstations. For more information on how this procedure combines with other procedures to create an install method, see [Section 4.2, “Understanding Which Installation Process to Use,”](#) on page 29.

---

Keep in mind the following considerations as you work with login scripts:

- ♦ You need to modify login scripts for users whose workstations are upgraded.
- ♦ To upgrade workstations for users in a container, modify that container's login script.
- ♦ To upgrade workstations for users in a profile, modify that profile's login script.
- ♦ To upgrade specific users' workstations, modify those users' login scripts.
- ♦ To upgrade a workstation running bindery-based client software (such as Microsoft Client for NetWare Networks which ships with Windows 95 or Windows 98), edit the system login script (sys:public\net\$log.dat).

You can create or modify a user login script using either ConsoleOne® or iManager.

- ♦ “[Using iManager](#)” on page 52
- ♦ “[Using ConsoleOne](#)” on page 52
- ♦ “[Sample Client Installation Login Script](#)” on page 53

### Using iManager

- 1 Click *Roles and Tasks > User Management > Modify User*.
- 2 Specify a username and context, then click *OK*.
- 3 Click *General > Login Script*.
- 4 Type the login script commands and information in the login script text box.

For a sample of the login script commands that you need to add to the scripts, see “[Sample Client Installation Login Script](#)” on page 53.

---

**IMPORTANT:** Make sure that you edit the sample login script to match the server names, directory paths, and specifications of your own network.

---

For additional information on all login script commands, see the [Novell Login Scripts Guide](http://www.novell.com/documentation/linux_client/login/data/front.html) ([http://www.novell.com/documentation/linux\\_client/login/data/front.html](http://www.novell.com/documentation/linux_client/login/data/front.html)).

- 5 To save the login script, click *OK*.

### Using ConsoleOne

- 1 Double-click the object whose login script you want to create or modify.
- 2 Click *Login Script*.
- 3 Type the login script commands and information into the login script text box.

For a sample of the login script commands that you need to add to the scripts, see “[Sample Client Installation Login Script](#)” on page 53.

---

**IMPORTANT:** Make sure that you edit the sample login script to match the server names, directory paths, and specifications of your own network.

---

For additional information on all login script commands, see the *Novell Login Scripts Guide* ([http://www.novell.com/documentation/linux\\_client/login/data/front.html](http://www.novell.com/documentation/linux_client/login/data/front.html)).

- 4 To save the login script and close the Details dialog box, click *OK*.

If the login script that you just created was a container or user login script, you're finished and the client software installs or updates the next time users log in.

If the login script that you just created was for a Profile object, you must associate the User object with the Profile object and make the User object a trustee of the Profile object. See “[Getting Around the One User and One Profile Login Script Restriction](http://www.novell.com/documentation/linux_client/login/data/hq16v3gw.html#hs5zi9ik)” ([http://www.novell.com/documentation/linux\\_client/login/data/hq16v3gw.html#hs5zi9ik](http://www.novell.com/documentation/linux_client/login/data/hq16v3gw.html#hs5zi9ik)) in the *Novell Login Scripts Guide*.

### Sample Client Installation Login Script

The following sample shows the commands that you add to the login script in order to install the client software from the network. The sample includes text for installing across an internal network.

---

**NOTE:** In this sample, the text that is necessary to the script is represented in uppercase letters. The information that you should customize for your network is in lowercase letters.

---

```
REM ***** Windows 2000/XP *****
IF OS = "winnt"
    WRITE "Updating Novell Client for Windows 2000/XP."
    #\\server1\sys\public\client\acu.exe
    IF "%ERROR_LEVEL" = "1" THEN
        EXIT
    END
END
```



# Setting Client Properties

# 5

You can optimize the Novell® Client™ for your network by using property pages to configure protocol support, optimize performance, configure optional client parameters, and set a variety of other parameters.

By default, the client is configured for high speed with moderate use of memory and data protection. You can adjust the client to optimize its performance in any of these areas. However, optimizing the client in one area might lessen performance in other areas.

---

**TIP:** Help for all the property pages is available directly on the pages by clicking the question mark (?) or right-clicking and then selecting What's This? Also, this information and additional information on other settings is available in the August 2004 AppNotes® article “Novell Client 4.9 SP2: Initialization, Login and Settings” (<http://www.novell.com/cool solutions/appnote/620.html>). Also, a short description of each Advanced Menu setting is available in the Description field when you select the option.

---

This section discusses the following ways to set properties:

- ♦ Section 5.1, “Setting Properties During Installation,” on page 55
- ♦ Section 5.2, “Setting Properties on a Single Workstation after Installation,” on page 56
- ♦ Section 5.3, “Setting Properties on Multiple Workstations after Installation,” on page 56
- ♦ Section 5.4, “Using DHCP,” on page 57

## 5.1 Setting Properties During Installation

Use the Novell Client Install Manager to set properties for one or more workstations before an unattended install. This method saves you from having to set each workstation individually.

- 1 Start the Novell Client Install Manager (`nciman.exe`) located in the `admin` folder in the directory where you unzipped the download file.
- 2 Modify the installation options as needed.
  - 2a Double-click the configuration option that you want to modify in the Installation Configuration list box.
  - 2b In the property pages, set the parameters and then click *OK*.  
The values that you set appear in the right list box.

---

**TIP:** You can set up one workstation the way you want other workstations to be set up, then use the Novell Client Install Manager to import the settings from that workstation's registry and save them to the configuration file you will use during the ACU install. After you set up the workstation, click *File > Open Registry* to import the settings into the Novell Client Install Manager.

For information about setting properties on a single workstation, see Section 3.3, “Configuring Network Protocols,” on page 18.

---

- 3 Click *File > Save*.

You can save the file with any filename that you want to use. For example, you could rename the file `novell.txt` and then use it in conjunction with an installation method:

- ♦ In an installation type using ACU with the file name specified.  
For more information, see [Chapter 4, “Installing and Upgrading the Novell Client on Multiple Workstations,”](#) on page 21.
- ♦ At the command line by specifying the filename with the `/U` option.  
For more information, see [Chapter 3, “Installing the Novell Client on a Single Workstation,”](#) on page 17.
- ♦ In the Web installation executable created by `writeip.exe`.  
For more information, see [Section 4.3.3, “Creating the setupip.exe Download Executable,”](#) on page 35.

## 5.2 Setting Properties on a Single Workstation after Installation

- 1 At the user's workstation, right-click the Red N icon in the notification area.
- 2 Click *Novell Client Properties*.
- 3 Set the properties that you want to change.

Help for all the property pages is available directly on the pages by clicking the question mark (?) or right-clicking and then selecting *What's This?* This information and additional information on other settings is also available in the August 2004 AppNotes article “[Novell Client 4.9 SP2: Initialization, Login and Settings](http://www.novell.com/coolsolutions/appnote/620.html)” (<http://www.novell.com/coolsolutions/appnote/620.html>).

- 4 Click *OK* to set the changes and close the property pages.

## 5.3 Setting Properties on Multiple Workstations after Installation

You can also set properties on multiple workstations after installation using the Novell Client Update Agent.

- 1 Make sure that Update Agent is configured on each workstation and that the Update Location has been specified.

You can check the Update Agent settings in the Novell Client Properties dialog box (right-click the Red N icon on the status bar > *Novell Client Properties* > *Update Agent*).

Update Agent can be configured during installation or after installation by enabling it on each workstation or using Automatic Client Upgrade. See “[Enabling the Novell Client Update Agent on a Local Workstation](#)” on page 41 or “[Enabling the Novell Client Update Agent by Using ACU Without Installing Novell Client Software](#)” on page 41.

- 2 Using the Novell Client Install Manager, create a configuration (unattend) file with the desired property settings.
- 3 Copy the configuration (unattend) file to the directory in the update location.
- 4 Copy the `cuagent.ini` file from the `admin` directory to the directory in the update location.
- 5 Modify the `cuagent.ini` file in the update location so that the `[ClientSettings]` section has the following settings:

Update=YESUnattendFile=*name\_of\_the\_unattend\_file*

Replace *name\_of\_the\_unattend\_file* with only a filename, as the Update Agent does not accept paths. The file must exist in the directory that the Update Agent is trying to update from.

- 6 (Optional) Make any additional changes to the `cuagent.ini` file.

For example, you might want to modify the Display Prompt or Administrator Message settings.

- 7 Run the Update Agent from the workstation.

See “[Setting Up the Novell Client Update Agent](#)” on page 37.

After settings are updated, the pathname, date, and time of the configuration (unattend) file is displayed in the Last Client Configuration Settings File on the Update Agent Property Page.

## 5.4 Using DHCP

If a DHCP server is set up on your network, the DHCP server can inform the Novell Client of network-specific configuration information.

You can easily configure Novell DHCP servers (NetWare<sup>®</sup> 5 and later) to distribute this information to the clients. See the *Novell DNS/DHCP Services for NetWare Administration Guide* ([http://www.novell.com/documentation/oes/dhcp\\_enu/data/front.html](http://www.novell.com/documentation/oes/dhcp_enu/data/front.html)) for more information.

Clients obtain configuration information from DHCP even when you statically configure the clients' IP addresses or even when the DHCP server used to supply the information is different from the DHCP server supplying an IP address to the clients.

### 5.4.1 Using DHCP as an eDirectory Server Name Service Provider

You can set up a DHCP server to inform Novell Client workstations that use the IP protocol about an eDirectory™ tree name and the IP addresses of servers that are on that tree. When using this feature, it is best to specify the IP addresses of the closest eDirectory servers containing partitions with the user information.

### 5.4.2 Using DHCP to Distribute SLP Configuration Information

You can configure the following SLP parameters through DHCP:

- ♦ IP Address of SLP Directory Agents
- ♦ SLP Scopes

### 5.4.3 Using DHCP to Distribute IPX Compatibility Information

You can configure the following IPX™ compatibility parameters through DHCP:

- ♦ IP Address of Migration Agents
- ♦ CMD Network Number
- ♦ Migration Agent List Stale Time



# Managing File Security and Passwords

# 6

This section explains the following:

- ♦ [Section 6.1, “NetWare File Security,” on page 59](#)
- ♦ [Section 6.2, “Managing Passwords,” on page 60](#)
- ♦ [Section 6.3, “Using Forgotten Password Self-Service,” on page 63](#)
- ♦ [Section 6.4, “Setting Up Passwords in Windows,” on page 68](#)
- ♦ [Section 6.5, “Setting Up AutoAdminLogon for Windows,” on page 68](#)

## 6.1 NetWare File Security

Novell® NetWare® networks restrict access to network files and folders based on user accounts. For example, a user connected to the network through an Administrator account might be able to delete or rename a file that other users can only open and edit.

The NetWare file system keeps track of the rights that users have to files and directories on the network. When users try to access any file on a NetWare network, NetWare either grants access or prohibits certain things that users can do with the file.

Rights are granted and revoked by creating trustee assignments. For more information, see [“Changing Trustee Assignments” on page 59](#).

File rights apply only to the file that they are assigned to. The rights can be inherited from the folder that contains the file. Folder rights apply not only to the folder but also to the files and folders it contains.

- ♦ [Section 6.1.1, “Checking File or Folder Rights,” on page 59](#)
- ♦ [Section 6.1.2, “Changing Trustee Assignments,” on page 59](#)
- ♦ [Section 6.1.3, “Combining Multiple Trustees,” on page 60](#)

### 6.1.1 Checking File or Folder Rights

- 1 In Windows Explorer or My Network Places, right-click the file that you want to check.
- 2 Click *Properties* > *NetWare Rights*.
- 3 In the Trustees box, click the user account.

The rights to the file or folder are displayed on the right side.

### 6.1.2 Changing Trustee Assignments

You must have the Access Control right to change trustee assignments.

- 1 In Windows Explorer or My Network Places, right-click the file that you want to check.

- 2 Click *Properties > NetWare Rights*.
- 3 Add trustees, remove trustees, or change the rights granted to trustees as needed.

Trustee assignments override inherited rights.

To change an Inherited Rights Filter, click the *Inherited Rights and Filters* button on the NetWare Rights property page.

### 6.1.3 Combining Multiple Trustees

As an administrator, you might need to apply the same trustee assignments to a group of selected files. You can combine trustee assignments by selecting the Combine Multiple Trustees option on the NetWare Rights page.

- 1 In Windows Explorer or My Network Places, click a file.
- 2 Press and hold Control while clicking additional files.
- 3 Right-click the selected files.
- 4 Click *Properties > NetWare Rights*.

The *Combine Multiple Trustees* option is enabled.

This option is available only if you're viewing the NetWare rights for multiple files or folders. Additionally, at least one of the files or folders must have at least one trustee assignment. The trustees and rights shown are the combined trustees and rights for all the files.

- 5 Select or deselect the *Combine Multiple Trustees* option.

If you select this option, the trustee assignments that are shown are applied to all selected files after you click *OK* or *Apply*.

For example, Kim is a trustee of file\_a and file\_b. Kim has Read, File Scan, and Access Control rights for file\_a and Read and File Scan rights for file\_b. If you select file\_a and file\_b and view their properties, Kim is shown as a trustee with Read, File Scan, and Access Control rights.

If you select *Combine Multiple Trustees* and then click *OK*, Kim is given the Access Control right for file\_b. Therefore, Kim now has Read, File Scan, and Access Control rights for both file\_a and file\_b.

- 6 Click *OK* or *Apply*.

## 6.2 Managing Passwords

Starting with NetWare 6.5 and eDirectory™ 8.7.3, Novell provides password management tools that help administrators secure the network with stronger passwords and reduce password management by enabling end users to manage their own passwords. This set of tools is referred to as Universal Password.

With Universal Password, users can employ a single username and password to access networks, applications, devices, Internet sites, online services, portals, and more. Administrators can reduce or eliminate the mundane task of resetting user passwords when they are forgotten or lost. Universal Password also manages multiple types of password authentication methods from disparate systems and provides extended password management capabilities. Universal Password is made possible by

Novell Modular Authentication Services (NMAS™) advanced authentication technology that allows for multiple methods of authentication, including simple passwords, smart cards, biometrics, tokens, and digital certificates.

Universal Password uses eDirectory plus NMAS to create just that—a “universal password” that is used for access to all resources. This password takes the place of the combination of simple passwords, NDS® passwords, and enhanced passwords in eDirectory, and allows for the enforcement of strong password policies, such as minimum or maximum number of characters, a combination of alphabetic and numeric characters, and forced password reset.

In addition, password policies let users set a hint for their passwords. If a password is entered incorrectly or is forgotten, users can click *Did you forget your password?* and retrieve the hint they entered to help them remember their password. This reduces administrator time spent resetting forgotten passwords.

For more information on deploying universal passwords, see the *Universal Password Deployment Guide* in the *Novell Modular Authentication Services 3.0 Administration Guide* (<http://www.novell.com/documentation/nmas30/admin/data/allq21t.html>) and “Managing Passwords by Using Password Policies” ([http://www.novell.com/documentation/password\\_management/pwm\\_administration/data/ampxjj0.html](http://www.novell.com/documentation/password_management/pwm_administration/data/ampxjj0.html)) in the *Novell Password Management Administration Guide*. It is important that you understand the requirements for using these advanced password policies before rolling out any password changes to your network.

The Novell Client™ takes advantage of several of the features provided in Universal Passwords, including

- ♦ Stronger password policies set in iManager.
- ♦ Display of password requirements on the Change Passwords screen so that users know what policies you have set for passwords.
- ♦ Access to password hints to help users remember their passwords.
- ♦ Support for changing passwords.
- ♦ Challenge/response for password reset.

## 6.2.1 Creating Strong Passwords

Password policies allow you to set strong password policies such as minimum or maximum number of characters, a combination of alpha and numeric characters, and forced password reset. You set password policies in Novell iManager and then assign them to users. Administering passwords by using Novell iManager automatically sets the Universal Password to be synchronized to simple and NDS password values for backwards compatibility. The NMAS task in iManager allows for granular management of individual passwords and authentication methods that are installed and configured in the system.

For more information on setting up password policies in iManager, see “Managing Passwords by Using Password Policies” ([http://www.novell.com/documentation/password\\_management/pwm\\_administration/data/ampxjj0.html](http://www.novell.com/documentation/password_management/pwm_administration/data/ampxjj0.html)) in the *Novell Password Management Administration Guide*. Make sure that you read this documentation and understand the requirements before rolling out any password changes to your network.

Then, use the Password Policy Wizard in iManager to set up the policies.

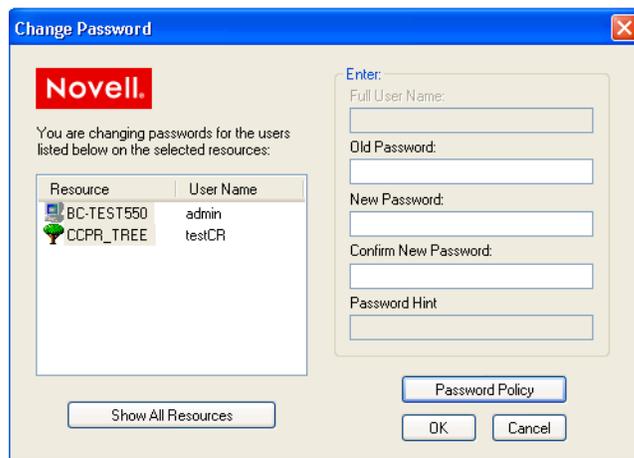
- 1 Make sure you have completed the steps in “Prerequisites for Using Password Policies” ([http://www.novell.com/documentation/password\\_management/pwm\\_administration/data/bo59drg.html#bo59drg](http://www.novell.com/documentation/password_management/pwm_administration/data/bo59drg.html#bo59drg)) in the *Novell Password Management Administration Guide*. These steps prepare you to use all the features of password policies.
- 2 In iManager, click *Password Management > Manage Password Policies*.
- 3 Click *New* to create a new Password policy.
- 4 Follow the steps in the wizard to create Advanced Password Rules, Universal Password Configuration Options, and Forgotten Password selections for the policy.

For information about each step, see the online help as well as the information in “Managing Passwords by Using Password Policies” ([http://www.novell.com/documentation/password\\_management/pwm\\_administration/data/ampxjj0.html](http://www.novell.com/documentation/password_management/pwm_administration/data/ampxjj0.html)) in the *Novell Password Management Administration Guide*.

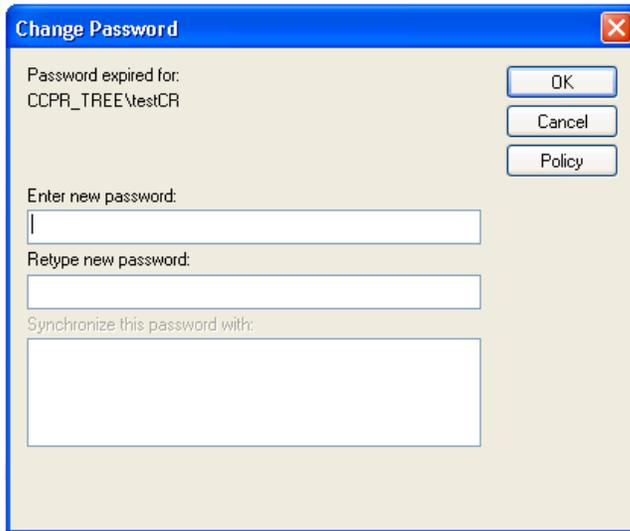
## 6.2.2 Displaying Password Requirements for End Users

Password policies ensure that passwords adhere to administrator-defined criteria. The user can examine these criteria by clicking the *Password Policy* or *Policy* button in any of the Change Password dialog boxes.

**Figure 6-1** *Change Password Dialog Box*

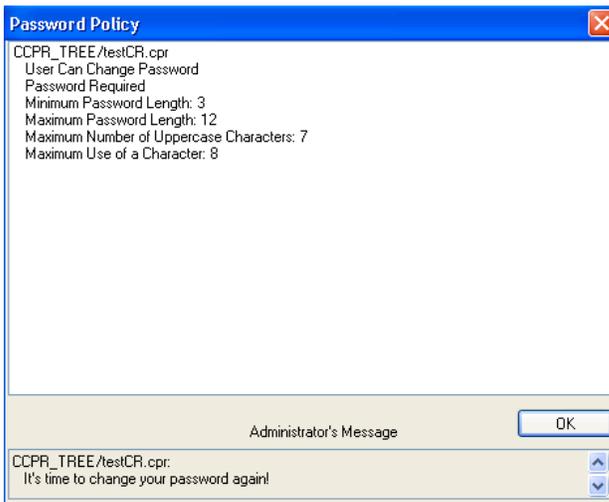


**Figure 6-2** *Change Expired Password Dialog Box*



The following is an example of the password criteria displayed in the Novell Client Password Policy dialog box.

**Figure 6-3** *Novell Client Password Policy Dialog Box*



## 6.3 Using Forgotten Password Self-Service

You can use the Password Policy Wizard in iManager to create a Password policy, which provides users with the ability to recover from a forgotten password without contacting the help desk.

The following features are supported:

- ♦ [Using the “Did You Forget Your Password?” Link \(page 64\)](#)
- ♦ [Using Hints for Remembering Passwords \(page 67\)](#)

---

**IMPORTANT:** Before using Password Self-Service, review the information in “[Managing Passwords by Using Password Policies](http://www.novell.com/documentation/password_management/pwm_administration/data/ampxjj0.html)” ([http://www.novell.com/documentation/password\\_management/pwm\\_administration/data/ampxjj0.html](http://www.novell.com/documentation/password_management/pwm_administration/data/ampxjj0.html)) in the *Novell Password Management Administration Guide*.

---

### 6.3.1 Using the “Did You Forget Your Password?” Link

When you click the *Did you forget your password?* link in the Novell Login dialog box, the system invokes the Forgotten Password Policy specific to the user. The following three options are supported by the Novell Client for Windows:

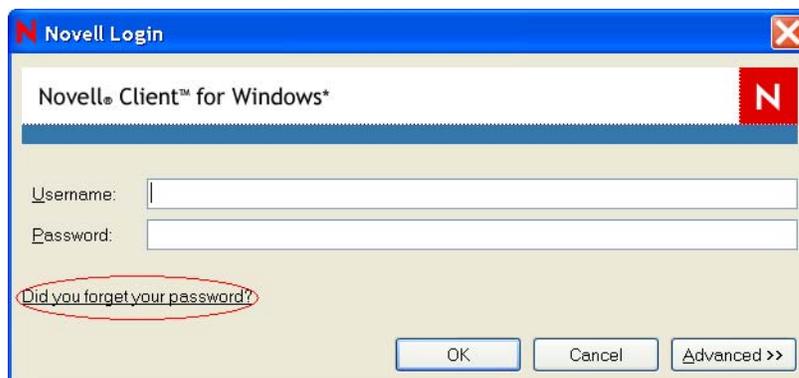
- ♦ Display a password hint.
- ♦ Authenticate via Challenge Response and show a password reminder (requires eDirectory 8.8 or later).
- ♦ Authenticate via Challenge Response and reset the password.

---

**NOTE:** Not all features of Forgotten Password Self-Service are implemented with the Novell Client at this time, including e-mailing passwords and hints.

---

**Figure 6-4** Novell Client Login Dialog Box



---

**NOTE:** The *Did you forget your password?* link is available in Novell Client 4.91 Support Pack 2 and later. Beginning in SP2, the Client prompts users to populate the Challenge Response set if they log in and the sets have not been entered.

---

The workstation administrator can choose to display or not display the *Did you forget your password?* link on the Novell Login dialog box.

- 1 Right click the Red N, then click *Novell Client Properties*.
- 2 Click the *Advanced Login* tab.
- 3 Set the *Forgotten Password Prompt* option to On or Off.

Before the *Did you forget your password?* link can work, you must complete the following:

- ❑ “[Configuring Password Self-Service](#)” on page 65
- ❑ “[Configuring Challenge/Response Settings](#)” on page 65

If you click the link before Password Self-Service is set up, you receive an error. If the administrator changed or set up a new policy, you are prompted on log in.

### **Configuring Password Self-Service**

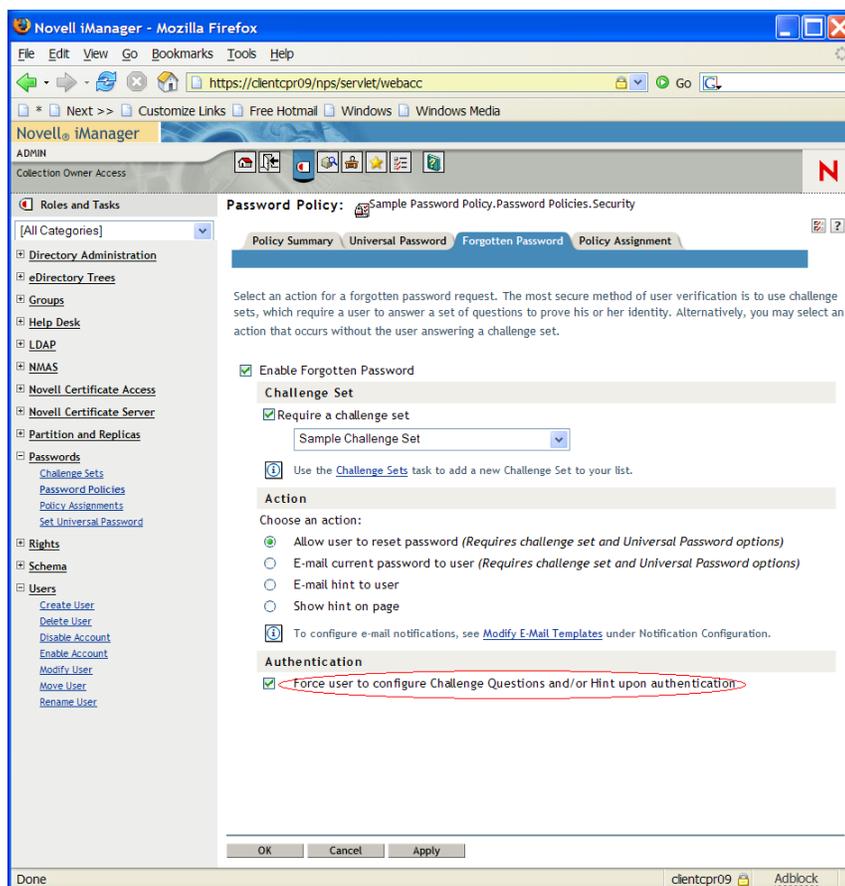
Before users can use the *Did you forget your password?* link, the administrator must configure Password Self-Service and the user must enter the password hint or responses to challenge questions. The administrator should also upgrade to eDirectory 8.8 or later. See “[Password Self-Service](http://www.novell.com/documentation/password_management/pwm_administration/data/bqf5d1r.html)” ([http://www.novell.com/documentation/password\\_management/pwm\\_administration/data/bqf5d1r.html](http://www.novell.com/documentation/password_management/pwm_administration/data/bqf5d1r.html)) in the *Novell Password Management Administration Guide* for more information.

### **Configuring Challenge/Response Settings**

After the administrator configures the challenge sets and password policies, users need to provide their information for the challenge sets in either of the following two ways:

- ◆ Right-click the Red N, then click *User Administration > Challenge/Response Administration*. Depending on how the administrator configured the challenge sets, users enter their information in the dialog boxes presented. For example, if the administrator specifies three questions in the challenge set, users enter information in three different dialog boxes.
- ◆ If the administrator selected the *Force user to configure Challenge Questions and/or Hint upon authentication* option on the Forgotten Password page in iManager, the Client prompts users to enter this information when they log in and when their challenge set information is missing or out of date.

Figure 6-5 Forgotten Password Page in iManager



The challenge/response questions allow for any response, such as a word, a sentence, or a phrase. Because it might be difficult to correctly type a phrase or sentence when the text is hidden, answers are not hidden with asterisks by default, like passwords usually are. However, as an added layer of security, you can configure the challenge/response LCM to hide the user's responses to the challenge questions. For example, when this functionality is enabled, instead of the user's response reading "my son charlie" in plain text, the response reads "\*\*\* \*\* \*\*\*\*\*".

To configure the challenge/response LCM to hide the user's responses to the challenge questions:

- 1 Create the following registry key:  
`HKLM\SOFTWARE\Novell\NIMAS\MethodData\challenge_response`
- 2 Create a DWORD registry value named `mask_responses`, and set it to one of the following values:
  - 0 - FALSE, don't mask responses (default value)
  - 1- TRUE, mask responses

If a user forgets the answers to his or her challenge/response questions, the Novell Client does provide a way to reset the answers. Right-click the Red N icon, then click *User Administration for > Challenge/Response Administration*. The user can then enter new responses in the dialog boxes presented.

## 6.3.2 Using Hints for Remembering Passwords

If you specify a forgotten password action that requires a password hint, users are required to enter a hint that is a reminder of the password. The password hint is checked to make sure that it does not contain the user's password. Users must enter a new hint every time they change their passwords.

**Figure 6-6** Define Password Hint Dialog Box



If a user clicks the *Did you forget your password?* link on the Novell Login screen, a dialog box containing the password hint is displayed.

**Figure 6-7** Forgotten Password Hint Dialog Box



If a user enters an erroneous password, the login program displays an error message, prompting them to retype their password or click the *Did you forget your password?* link.

**Figure 6-8** Password Error Dialog Box



If the policy action is to show a hint but the user did not enter a hint for their current password, an error message is displayed telling the user to contact their system administrator to reset their password and to enter a hint the next time they set their password.

**Figure 6-9** *Forgotten Password Error Dialog Box*



Users can also create a hint at any time using the Change Password window available at login or by pressing Ctrl+Alt+Delete then clicking *Change Password*.

**Figure 6-10** *Change Password Dialog Box*



## 6.4 Setting Up Passwords in Windows

We recommend that you configure workstations to not use any of the Microsoft password restrictions available in User Manager. Novell Client works best if password restrictions are set in eDirectory.

## 6.5 Setting Up AutoAdminLogon for Windows

Windows 2000 and Windows XP can automate the logon process by storing passwords and other pertinent information in the Registry database.

---

**WARNING:** There is a security risk to using the AutoAdminLogon feature. Usernames and passwords in the registry are visible to users. This feature also allows other users to start the computer and use the account to automatically log in even if the workstation is locked. Refer to the Microsoft recommendations on when to use AutoAdminLogon. For more information, see TID # 10052847 at the [Novell Support Web site \(http://support.novell.com/cgi-bin/search/tidfinder.cgi?10052847\)](http://support.novell.com/cgi-bin/search/tidfinder.cgi?10052847).

---

Use Registry Editor (`regedit.exe`) to add the needed logon information.

---

**WARNING:** Using Registry Editor incorrectly can cause serious, system-wide problems that might require reinstalling Windows.

---

**TIP:** To bypass the AutoAdminLogon process, and to log in as a different user, hold down the Shift key after a logout or after a Windows restart.

---

- ◆ [Section 6.5.1, “AutoAdminLogon Options,” on page 69](#)
- ◆ [Section 6.5.2, “Setting the AutoAdminLogon Options,” on page 71](#)
- ◆ [Section 6.5.3, “Changing Passwords in NetWare Login with AutoAdminLogon,” on page 72](#)

## 6.5.1 AutoAdminLogon Options

This section lists the options that you can choose from when setting AutoAdminLogon. To set the options, use the procedure in [“Setting the AutoAdminLogon Options” on page 71](#).

Additional information on AutoAdminLogon is also available in Technical Information Document # 10052847 on the [Novell Support Web Site \(http://www.novell.com/support\)](http://www.novell.com/support).

- ◆ [“For a Windows Workstation Only” on page 69](#)
- ◆ [“For a Windows Workstation and NetWare” on page 70](#)
- ◆ [“For NetWare Only Using Dynamic Local User \(DLU\) for Windows” on page 70](#)
- ◆ [“For Windows with Query for NetWare” on page 71](#)
- ◆ [“For NetWare under Terminal Server” on page 71](#)
- ◆ [“Turn Off AutoAdminLogon” on page 71](#)

### For a Windows Workstation Only

---

**Key:** `hkey_local_machine\software\microsoft\windowsnt\currentversion\winlogon`

---

**Key:** `hkey_local_machine\software\novell\login`

---

AutoAdminLogon=1

AutoAdminLogon=0

DefaultDomain or Local WorkstationName=*Name of Domain or Local Workstation*

DefaultUserName=*Windows User Name*

DefaultPassword=*Windows Password for the DefaultUserName specified above*

---

## For a Windows Workstation and NetWare

---

Key: <code>hkey_local_machine\software\microsoft\windowsnt\currentversion\winlogon</code>	Key: <code>hkey_local_machine\software\novell\login</code>
AutoAdminLogon=1	AutoAdminLogon=1
DefaultDomain or Local WorkstationName= <i>Name of Domain or Local Workstation</i>	DefaultLocationProfile= <i>Name of the Location Profile that contains the information about the Novell User to log in to the NetWare network such as Username, Tree, Context, and Server.</i>
DefaultUserName= <i>Windows User Name</i>	DefaultPassword= <i>Novell Password for the DefaultUserName specified in the Location Profile</i>

---

Location profiles let you save a user's specific login information. The profile automatically sets up login information such as the user's name, server, tree, context, login script, and other applicable information so that the user does not have to type this information. For more information, see [Section 7.3, "Setting Up Location Profiles," on page 74](#).

---

**NOTE:** The Credential information in the Location Profile is not used. The user information in the registry is used instead.

---

## For NetWare Only Using Dynamic Local User (DLU) for Windows

---

Key: <code>hkey_local_machine\software\microsoft\windowsnt\currentversion\winlogon</code>	Key: <code>hkey_local_machine\software\novell\login</code>
AutoAdminLogon=0	AutoAdminLogon=1
	DefaultLocationProfile= <i>Name of the Location Profile that contains the information about the Novell User to log in to the NetWare network such as Username, Tree, Context, and Server.</i>
	DefaultPassword= <i>Novell Password for the DefaultUserName specified in the Location Profile</i>

---

Location profiles let you save a user's specific login information. The profile automatically sets up login information such as the user's name, server, tree, context, login script, and other applicable information so that the user does not need to type this information. In this case, the location profile must specify an eDirectory user with Dynamic Local User (DLU) privileges on the Windows workstation. For more information, see [Section 7.3, "Setting Up Location Profiles," on page 74](#).

## For Windows with Query for NetWare

---

Key: <code>hkey_local_machine\software\microsoft\windowsnt\currentversion\winlogon</code>	Key: <code>hkey_local_machine\software\novell\ login</code>
AutoAdminLogon=1	AutoAdminLogon=0
DefaultDomain or Local WorkstationName= <i>Name of Domain or Local Workstation</i>	AutoAdminQueryNDS=1
DefaultUserName= <i>Windows User Name</i>	<b>IMPORTANT:</b> AutoAdminQueryNDS must be a DWORD value instead of a string value.
DefaultPassword= <i>Windows Password for the DefaultUserName specified above</i>	

---

## For NetWare under Terminal Server

---

Key: <code>hkey_local_machine\software\microsoft\windowsnt\currentversion\winlogon</code>	Key: <code>hkey_local_machine\software\novell\ login</code>
	AutoAdminLogon=1
	DefaultLocationProfile= <i>Name of the Location Profile that contains the information about the Novell User to log in to the NetWare network such as Username, Tree, Context, and Server.</i>
	DefaultPassword= <i>Novell Password for the DefaultUserName specified in the Location Profile</i>

---

## Turn Off AutoAdminLogon

---

Key: <code>hkey_local_machine\software\microsoft\windowsnt\currentversion\winlogon</code>	Key: <code>hkey_local_machine\software\novell\ login</code>
AutoAdminLogon=0	AutoAdminLogon=0

---

## 6.5.2 Setting the AutoAdminLogon Options

- 1 Start Registry Editor (`regedit.exe`).
- 2 Locate the specified Registry keys and set the values as indicated.

If a value does not exist, click *Edit > New > String Value*, type the name of the value, and then press Enter. All the values should be string values except for AutoAdminQueryNDS, which must be a DWORD value instead of a string value.

---

**IMPORTANT:** If no DefaultPassword string is specified, the value of the AutoAdminLogon key is automatically changed from 1 (True) to 0 (False), disabling the AutoAdminLogon feature.

---

- 3 Exit the Registry Editor and log out of Windows.

### **6.5.3 Changing Passwords in NetWare Login with AutoAdminLogon**

If AutoAdminLogon is enabled, be careful when running the NetWare Login utility from the icon in the NetWare (Common) group. When run as a standalone utility from the icon, NetWare Login does not recognize that the workstation is running AutoAdminLogon.

If the primary connection's password expires when running NetWare Login from the icon, the user is given the chance to synchronize all NetWare and Windows passwords. Make sure that users do not synchronize the Windows password, because NetWare Login does not update the Registry setting for AutoAdminLogon.

# Managing Login

# 7

This section contains information on customizing the Novell® Client™ login environment to suit your network and give you greater control over what users can access during login.

- ◆ [Section 7.1, “Setting Up Login Scripts,” on page 73](#)
- ◆ [Section 7.2, “Setting Up Login Restrictions,” on page 73](#)
- ◆ [Section 7.3, “Setting Up Location Profiles,” on page 74](#)
- ◆ [Section 7.4, “Customizing the Novell Login Dialog Box,” on page 76](#)
- ◆ [Section 7.5, “Configuring 802.1X Authentication,” on page 79](#)
- ◆ [Section 7.6, “Enabling Passive Mode Login,” on page 83](#)
- ◆ [Section 7.7, “Logging In to the Network,” on page 84](#)
- ◆ [Section 7.8, “Logging Out of the Network,” on page 85](#)
- ◆ [Section 7.9, “Setting Up LDAP Contextless Login and LDAP Treeless Login,” on page 85](#)

## 7.1 Setting Up Login Scripts

When a user successfully logs in to the network, one or more login scripts are executed that automatically set up the workstation environment. Login scripts are similar to batch files and are executed by the Novell Login utility. You can use login scripts to map drives and search drives to directories, display messages, set environment variables, and execute programs or menus.

For more information on setting up login scripts, see the *Novell Login Scripts Guide* ([http://www.novell.com/documentation/linux\\_client/login/data/front.html](http://www.novell.com/documentation/linux_client/login/data/front.html)).

## 7.2 Setting Up Login Restrictions

Login restrictions are limitations on user accounts that control access to the network. These restrictions can be set in Novell iManager or ConsoleOne® for each user and include the following:

- ◆ Requiring a password
  - You can specify its minimum length, whether it must be changed and how often, whether it must be unique, and whether the user can change it. You can also require strong passwords. See [Section 6.2, “Managing Passwords,” on page 60](#).
- ◆ Setting the number of logins with an expired password and the number of incorrect login attempts allowed
- ◆ Setting account limits such as an account balance or expiration date
- ◆ Limiting disk space for each user by specifying the maximum blocks available for each user on a volume
- ◆ Specifying the number of simultaneous connections a user can have
- ◆ Specifying (by node address) which workstations users can log in on
- ◆ Restricting the times when users can log in (you can assign all users the same hours, or you can restrict users individually)

When a user violates login restrictions by entering an incorrect password or the exceeding the number of logins with an expired password, the account is disabled and no one can log in using that username. This prevents unauthorized users from logging in.

## 7.3 Setting Up Location Profiles

Location profiles let you save the information from a user's specific login to a location profile. When the user selects this profile during login, the profile automatically sets up login information such as the user's name, server, tree, context, login script, and other applicable information so that the user does not have to type this information.

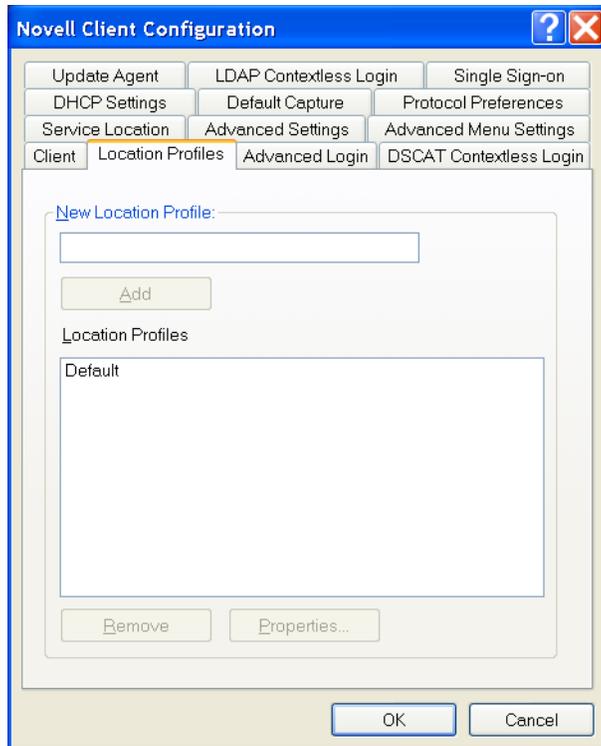
Location profiles are especially powerful for users who log in from multiple places. Users can have separate profiles for the office, home, laptop, or any other workstation they use. This simplifies the login process so that users do not need to remember their login information for each workstation. Using multiple location profiles also gives you control over what users can access from each workstation.

You can create location profiles on a single workstation that are specifically customized for that user, or you can create location profiles that are more general in nature to be delivered during installation of the Novell Client for Windows using the Novell Client Install Manager.

- ◆ [Section 7.3.1, “Creating a Location Profile on a Specific Workstation,” on page 74](#)
- ◆ [Section 7.3.2, “Creating a Location Profile for Use on Multiple Workstations,” on page 75](#)
- ◆ [Section 7.3.3, “Removing a Location Profile,” on page 76](#)

### 7.3.1 Creating a Location Profile on a Specific Workstation

- 1 Right-click the Red N icon on the status bar, then click *Novell Client Properties > Location Profiles*.



- 2 Type the name of the profile that you want to add, then click *Add*.
- 3 From the Service menu, select one of the following:
  - ◆ Login Service (to configure login settings)
  - ◆ Connection Service (to configure your dial-up connection settings)
- 4 From the Service Instance menu, do one of the following:
  - ◆ Select an existing service instance.
  - ◆ Type a name for a new service instance, then click *Add* to specify the settings for this service in the Novell Client Login window or Connection Services window.
- 5 Click *OK*.

### 7.3.2 Creating a Location Profile for Use on Multiple Workstations

Location Profiles are one of many settings that can be predefined using a custom (unattend) configuration file that is applied during installation of the Novell Client. For more information, see [“Creating the Configuration File \(Unattend File\)” on page 47](#).

To create a location profile to be distributed by Novell Client Install Manager:

- 1 Start the Novell Client Install Manager to create a custom (unattend) file.
- 2 In the Configurations Options window, click *Client > Location Profiles*.
- 3 Type the name of the profile that you want to add, then click *Add*.

- 4 From the Service menu, select one of the following:
  - ♦ *Login Service* (to configure login settings)
  - ♦ *Connection Service* (to configure your dial-up connection settings)
- 5 From the Service Instance menu, do one of the following:
  - ♦ Select an existing service instance.
  - ♦ Type a name for a new service instance, then click *Add* to specify the settings for this service in the Novell Client Login window or Connection Services window.
- 6 Click *OK*.
- 7 In the NCIMAN *Parameter* list, right-click the location profile, click *Distribute*, then select whether to append or replace any existing location profiles already on the workstations.

Appending an existing location profile merges the settings in this file with the settings that exist in the location profile already on a workstation. Replacing overwrites any existing location profile with this one.

By default, the new location profile item is automatically appended to any location profile that might exist on a workstation.

---

**WARNING:** If you right-click and select *Clear List and Distribute*, the location profile you just created is deleted.

---
- 8 Continue creating the configuration file.

For more information, see [“Creating the Configuration File \(Unattend File\)” on page 47](#).

This file will be applied during the next client installation or can be run from a login script, by ACU, or by Update Agent. For more information on distribution methods, see [Section 4.3.12, “Selecting a Network Server Distribution Option,” on page 51](#) and [Section 4.1.1, “Understanding the Basic Novell Client Installation \(setupnw.exe\),” on page 22](#).

### 7.3.3 Removing a Location Profile

- 1 Right-click the Red N icon on the status bar, then click *Novell Client Properties > Location Profiles* to open the Novell Client property pages.
- 2 Select the name of the profile that you want to remove, then click *Remove > OK*.

## 7.4 Customizing the Novell Login Dialog Box

The Novell Login dialog box can be customized to show the features that you want users to have access to. Customizing gives you control over the following:

- ♦ Initial Novell login

This disables the Novell Login window when the workstation is started. Users must then log in using the Red N menu or Start menu.
- ♦ NMAS authentication

NMAS™ authentication adds additional security to the network. However, if your network does not use NMAS, login might take additional time and you might want to disable NMAS authentication.

For more information, see “Disabling NMAS on the Server” in the *Novell Modular Authentication Services 3.0 Administration Guide* (<http://www.novell.com/documentation/nmas30/index.html?page=/documentation/nmas30/admin/data/am4bbpx.html>).

---

**IMPORTANT:** In the Novell Client Install Manager (`nciman.exe`), you can control both the installation and use of NMAS. On the *Installation > Setup* page, there is an *Install NCI and NMAS* option. If you option when you create a configuration (unattend) file that is used to install multiple clients on your network, NCI and NMAS are not installed. In the *Client > Advanced Login* page, there is an *NMAS Authentication* option. If you deselect this option, Novell Client page does not use NMAS during authentication even if the component is installed. If the component is not installed and this option is selected, Novell Client login skips the NMAS authentication and installation continues.

---

- ◆ OEM extended ASCII password

To enable the use of the OEM extended ASCII characters in passwords, select this option. You should use OEM extended ASCII characters only if you have legacy software that requires you to use the OEM Code Page. The latest versions of the Novell Client support extended ASCII characters using the UNICODE code page and do not need this setting to be enabled in order to handle special characters such as Ñ or é.

- ◆ Default policy support

After the user logs in to the network, the authentication server's `\sys\public\` directory is searched for a `ntconfig.pol` file. If the file is found, the policy is applied to the user and workstation.

- ◆ Novell Login dialog box customization

This dialog box can be customized to control the availability of certain login options. This gives you control over how users log in.

- ◆ *Location* list at the top of the dialog box

Hiding the *Location* field is especially useful if you have set up only one location profile for a workstation. In this case, the *Location* field is not useful and might confuse or distract users.

- ◆ *Advanced* button

If you have set up several location profiles and do not want users to change the data in various login fields (such as *Tree*, *Context*, *Server*, and *Run Scripts*), you can hide the *Advanced* button.

- ◆ *Variables* button on the Script tabbed page

If you use %2, %3, %4, or %5 in the login script, you might want to set these values in the location profile but not allow users to change them. In this case, it might be helpful to hide the *Variables* button.

- ◆ *Clear Connections* check box

If you want all connections to be cleared every time users log in, or if you don't want any connections to be cleared, you can set the value in the location profile and then hide the *Clear Connections* check box.

---

**NOTE:** The *Clear Connections* check box is never visible during initial login, because an initial login automatically clears all connections.

---

- ◆ *Workstation Only* check box

If you do not want to allow workstation-only logins—for example, if you want to require that users log in to NetWare® in order to use their workstations—you can hide the *Workstation Only* check box that appears under the *Password* field during an initial login.

- ◆ Suppress *Single Sign on for This Login* check box

This check box lets you disable the single sign-on process for the current login attempt.

- ◆ *Tree* field

If the Novell Login dialog box is being used to log in to a specific tree, disable the *Tree* field to prevent users from changing the tree.

- ◆ *Tree* button

If the Novell Login dialog box is being used to log in to a specific tree, disable the *Tree* button to prevent the user from changing the tree.

- ◆ *Context* field

If the Novell Login dialog box is being used to log in to a specific tree, disable the *Context* field to prevent users from changing the context.

- ◆ *Context* button

If the Novell Login dialog box is being used to log in to a specific tree, disable the *Context* button to prevent users from changing the context.

- ◆ *Force Logoff* button

*Force Logoff* lets you terminate the previously logged-in user's Novell Client session even if he or she locked the workstation.

---

**WARNING:** Any unsaved work that the previous user had open is lost. To maintain open applications and current network connections, log in using the previously logged-in username and password.

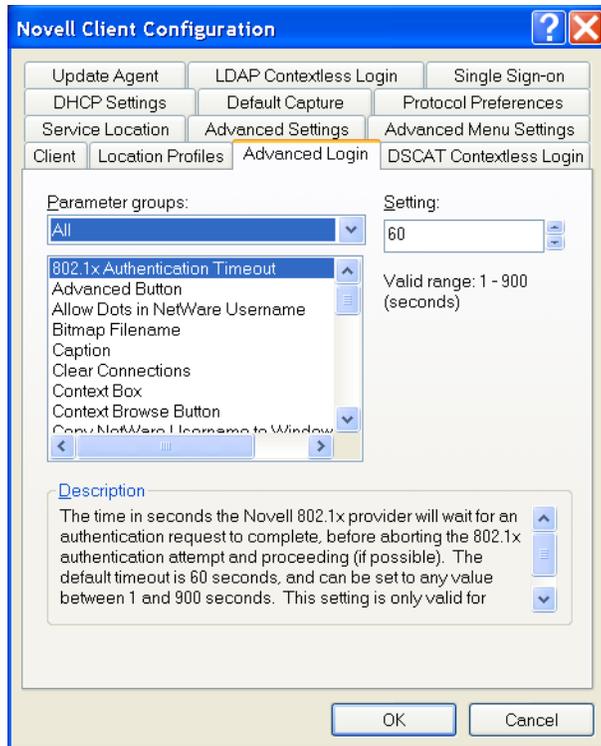
---

- ◆ Welcome screen

You can customize the Welcome screen with a custom bitmap and caption.

To show or hide any Login dialog box options:

- 1 Right-click the Red N icon on the status bar, then click *Novell Client Properties* to open the Novell Client Configuration dialog box.
- 2 Click *Advanced Login*.



- 3 Select *Show On Login* in the *Parameter groups* drop-down list.
- 4 Select the parameter you want, then select *On* or *Off* in the *Setting* drop-down list.  
A short description of each parameter is available in the *Description* field when you select the parameter.
- 5 Click *OK*.

## 7.5 Configuring 802.1X Authentication

The Novell Client 4.91 SP5 for Windows XP/2003 includes an Extensible Authentication Protocol (EAP) plug-in to the Microsoft Windows XP supplicant, which lets users authenticate through RADIUS to wireless access points and wired switches for added network security. Using [FreeRADIUS](http://wiki.freeradius.org/Main_Page) ([http://wiki.freeradius.org/Main\\_Page](http://wiki.freeradius.org/Main_Page)) as the RADIUS server, users can authenticate to their local machines, to eDirectory, and to 802.1X with the same set of credentials for a single sign-on experience.

When 802.1X authentication is enabled, the username and password entered in the Novell Login dialog box are first passed to the EAP plug-in module. An exchange of messages (PEAP/MSCHAPv2) between the Windows supplicant, the wireless access point/wired switch, and the RADIUS server allows network access if the correct credentials were entered. After the 802.1X authentication has succeeded, both the eDirectory and local logins take place just as they have in previous versions of the Novell Clients. If the 802.1X authentication fails, no access to the network is given, and the user will not be able to access the network.

The 802.1x authentication feature supports both wired and wireless connections. Only password-based authentication is supported (the Novell Client 4.91 SP5 for Windows XP/2003 supports only PEAP with MSCHAPv2). Biometrics (non-password-based) authentication types are not supported with this release. If you want certificate support, the Microsoft EAP plug-ins are sufficient and no Novell-specific EAP support is required.

The ability to browse for trees and servers in the Novell Login dialog box is not supported because the 802.1X port blocks all network access.

---

**TIP:** We recommend testing this functionality with user accounts that don't expire. There is a possibility that grace login messages won't display to users, which means that users might unknowingly exhaust their grace logins.

---

This configuration is intended for use only with the native 802.1x supplicant provided with Windows. We recommend that you install only the driver for your wireless adapter (that is, that you do not install other supplicants or utilities that come with wireless adapters). This is because such utilities often disable the wireless service in Windows. You should also make sure that the *Use Windows to configure your wireless network* setting is always enabled (to do this, right-click the wireless connection).

- ♦ [Section 7.5.1, “Prerequisites,” on page 80](#)
- ♦ [Section 7.5.2, “Enabling 802.1X Authentication,” on page 80](#)
- ♦ [Section 7.5.3, “Troubleshooting Tips,” on page 82](#)
- ♦ [Section 7.5.4, “For More Information,” on page 83](#)

## 7.5.1 Prerequisites

- Install a clean version of Windows XP Service Pack 2 (SP2).
- Install the Windows WPA2 wireless patch, available from [Update for Windows XP \(KB893357\)](#) (<http://www.microsoft.com/downloads/details.aspx?familyid=662bb74d-e7c1-48d6-95ee-1459234f4483&displaylang=en>).

This update to Windows XP provides support for Wi-Fi Protected Access 2 (WPA2), which is the latest standards-based wireless security solution derived from the IEEE 802.11i standard.

- Install the wlan api patch, available from [Wireless LAN API \(KB918997\)](#) (<http://www.microsoft.com/downloads/details.aspx?FamilyId=52A43BAB-DC4E-413F-AC71-158EFD1ADA50>).

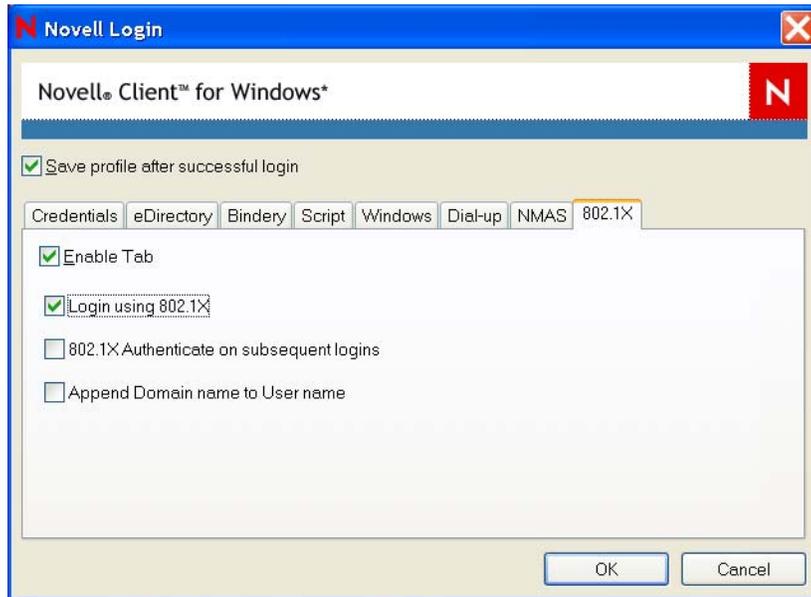
Installing this set of application programming interfaces (APIs) lets you create applications that can manage wireless LAN profiles and connectivity on Microsoft Windows XP SP2 using the native wireless functionality in Windows, called Wireless Zero Configuration (WZC) service.

- Make sure the *Authenticate as computer when computer information is available* option on the *Authentication* tab of your Local Area Connection Properties dialog box is selected.

## 7.5.2 Enabling 802.1X Authentication

- 1 Right-click the Red N in the system tray, then click *Novell Client Properties*.
- 2 In the Novell Client Configuration dialog box, click the *Location Profiles* tab.
- 3 Select *Default* in the *Location Profiles* box, then click *Properties*.

- 4 Select *Default* in the *Service Instance* drop-down list, then click *Properties*.
- 5 Click the *802.1X* tab, then select *Enable Tab*.



- 6 Select *Login using 802.1X*.

You can also select any of the following options:

**802.1X Authenticate on subsequent logins:** Causes 802.1X authentication to take place when a user logs in from the Red N, even if he or she is already logged in to the Windows workstation. If the user is not logged in, 802.1X authentication takes place even if this option is not selected.

**Append Domain name to User name:** Prepends the user's domain to the username when the username is submitted to 802.1X. The format is DomainName/username. Use this option if the RADIUS server expects the domain name to precede the username. This options is normally used when IAS/AD is the RADIUS backend.

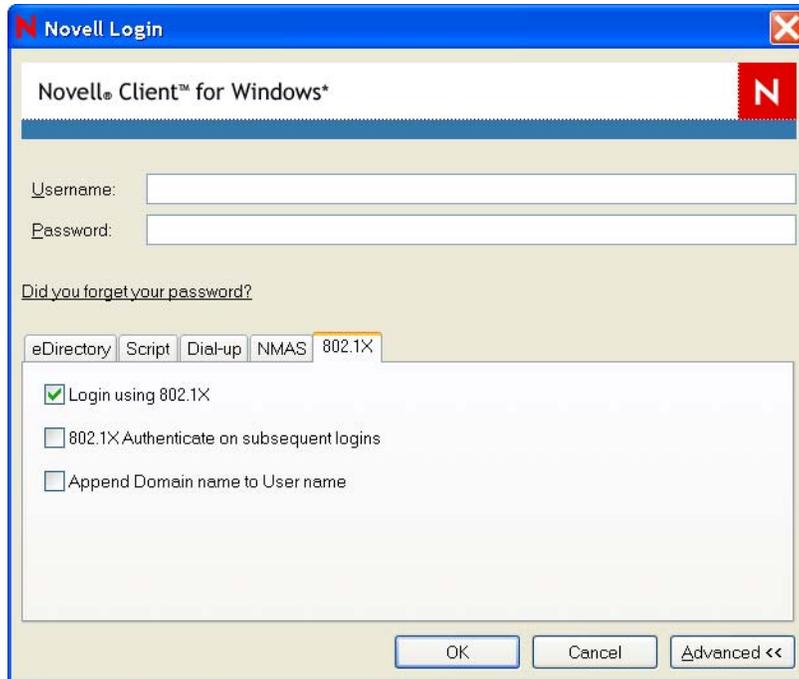
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**NOTE:** Contextless login runs after you click *OK*.

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- 7 Click *OK* three times.
- 8 Reboot the workstation for the changes to take effect.

After it is enabled, a 802.1X tab appears in the Novell Login dialog box when you click the *Advanced* tab. Use the options on the tab (see [Step 6](#)) to control 802.1X authentication at login time.



---

**IMPORTANT:** For 802.1X to work correctly during the initial login, make sure that the *Authenticate as computer when computer information is available* option is selected on the *Authentication* tab of your Local Area Connection Properties dialog box.

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### 7.5.3 Troubleshooting Tips

- ♦ If 802.1X authentication succeeds after the desktop is up and you are log in from the Red N but fails on the initial boot login, check to see if the *Authenticate as computer when computer information is available* check box on the *Authentication* tab of your Local Area Connection Properties dialog box is selected. This option must be selected for the initial login to succeed.
- ♦ If the authentication times out, check to see if the radius server is getting queried for the authentication. Also check to make sure the *Validate server certificate* check box on the *Protected EAP Properties* tab on the Local Area Connection Properties dialog box is not selected.
- ♦ If you think debug or trace logs will help, start Regedit and go to `HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Tracing` and enable tracing for Noveap. This causes Windows to create a `Noveap.log` file in the `windows\tracing` directory.
- ♦ Utilities installed with many NIC cards can cause odd behavior. Make sure the user has only installed the drivers for the NIC card and none of the other utilities.
- ♦ If you still cannot get 802.1X to work, remove the Novell Client and try to get the Microsoft authentication working first. Pre-desktop authentication will not likely work in this case, but after the desktop is up, Microsoft uses the Windows username and password for 802.1X authentication.

For this to work, the username and password for Windows must match the username and password in eDirectory. There are many resources on the Web that can help you troubleshoot wireless access on Windows XP, including the following:

- ♦ [Troubleshooting IEEE 802.11 Wireless Access with Microsoft Windows](http://thesource.ofallevil.com/technet/network/wifi/wifitrbl.msp) (<http://thesource.ofallevil.com/technet/network/wifi/wifitrbl.msp>)
- ♦ [How to troubleshoot wireless network connections in Windows XP](http://support.microsoft.com/kb/313242) (<http://support.microsoft.com/kb/313242>)
- ♦ [How to troubleshoot wireless network connections in Windows XP Service Pack 2](http://support.microsoft.com/kb/870702) (<http://support.microsoft.com/kb/870702>)
- ♦ [Troubleshooting Microsoft Windows XP-based Wireless Networks in the Small Office or Home Office](http://download.microsoft.com/download/3/4/c/34c120aa-40ed-4683-897c-e4d157a010d2/WiFi_SOHO_Tshoot.doc) ([http://download.microsoft.com/download/3/4/c/34c120aa-40ed-4683-897c-e4d157a010d2/WiFi\\_SOHO\\_Tshoot.doc](http://download.microsoft.com/download/3/4/c/34c120aa-40ed-4683-897c-e4d157a010d2/WiFi_SOHO_Tshoot.doc))

After you have wireless authentication working without the Novell Client, install the Client and enable the Client's 802.1X authentication.

## 7.5.4 For More Information

For more information on 802.1X, see the following:

- ♦ "802.1x White Paper" ([http://www.alliedtelesyn.com/media/pdf/8021x\\_wp.pdf](http://www.alliedtelesyn.com/media/pdf/8021x_wp.pdf))
- ♦ "Configuring 802.1x Authentication" ([http://www.cisco.com/univercd/cc/td/doc/product/lan/cat4000/8\\_3/configur/8021x.pdf](http://www.cisco.com/univercd/cc/td/doc/product/lan/cat4000/8_3/configur/8021x.pdf))
- ♦ "How to Set Up Secure 802.1x EAP/TLS Access to ATI Switches in a Test Lab" ([http://www.alliedtelesyn.com/media/datasheets/secure\\_access\\_testlab\\_sd\\_b.pdf](http://www.alliedtelesyn.com/media/datasheets/secure_access_testlab_sd_b.pdf))

## 7.6 Enabling Passive Mode Login

When configured for passive mode login, the Novell Client's NWGina defers to the Microsoft Graphical Identification and Authentication Dynamic Link Library (`msgina.dll`) for the initial workstation login. After authentication to the workstation, NWGina attempts to authenticate to the Novell environment. The username and password used for workstation authentication are also used for the Novell authentication.

To successfully authentication to the Novell environment, the username must exist in eDirectory, and the default location profile must be properly configured with the Tree and Context information.

To enable passive mode login, set the following registry keys:

```
[HKEY_LOCAL_MACHINE\SOFTWARE\Novell\NWGINA]
"PassiveMode"=dword:00000001

[HKEY_LOCAL_MACHINE\SOFTWARE\Novell>Login]
"PassiveModeNDSLogin"=dword:00000001
"PassiveModeNDSLoginSilent"=dword:00000000 or 00000001
"PassiveModeNDSLoginRequired"=dword:00000000 or 00000001
```

## Registry Setting Descriptions

- ◆ `PassiveMode`: (0/1) default is 0  
0 = normal mode  
1 = passive mode
- ◆ `PassiveModeNDSLogin`: (0/1) default is 0  
0 = don't do Novell login  
1 = do Novell login
- ◆ `PassiveModeNDSLoginSilent`: (0/1) default is 0  
0 = report Novell login errors  
1 = don't report Novell login errors
- ◆ `PassiveModeNDSLoginRequired`: (0/1) default is 0  
0 = don't require Novell login  
1 = require Novell login

### Notes:

- ◆ If the `PassiveModeNDSLoginRequired` setting is True (1), the GINA login experience requires a successful Novell authentication in order to succeed.
- ◆ The `PassiveModeNDSLoginSilent` setting requires functionality released in the Novell Client for Windows XP/2003 4.91 SP3 or later.
- ◆ Login scripts are not processed in passive mode. A workaround is to run them after the GINA login. You can do this by placing a run entry in the registry, or you can create an entry in the startup folder.

The following is a run key example:

```
[HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Run]
`nwscrip=reg_expand_sz:loginw32.exe %username% /NA /CONT
```

## 7.7 Logging In to the Network

---

**IMPORTANT:** We recommend that you do not use any of the legacy NetWare 16-bit DOS utilities for managing login, including `LOGIN.EXE`, `LOGOUT.EXE`, `CX.EXE`, `ATTACH.EXE`, etc. from the NetWare server's `SYS:LOGIN` or `SYS:PUBLIC` directories.

---

There are several ways to initiate a Novell Client login after users have already logged in to a Novell server or to the local workstation:

- ◆ Right-click the Red N icon on the status bar, then click *Novell Login*.
- ◆ Right-click Network Neighborhood, then click *Novell Login*.
- ◆ Click *Start > Programs > Novell (Common) > Novell Login*.
- ◆ In Network Neighborhood, double-click the desired tree or server and the Novell Login loads automatically.
- ◆ In Network Neighborhood, right-click the desired tree or server and then click either *Authenticate* or *Login*.
- ◆ Run `loginw32.exe` from the command prompt.

## 7.8 Logging Out of the Network

To log in to new Novell services while logging out of other servers or clearing the current connections, use the Novell Client Login and select the *Clear Current Connections* option.

If you want to log out of both the Windows workstation and a Novell server, press Ctrl+Alt+Del and then click *Logout*.

To log out of a specific server, right-click Network Neighborhood, click *Novell Connections*, select the server or tree, and then click *Detach*. Or, right-click the Red N menu, click *Novell Connections*, select the server or tree, and then click *Detach*.

## 7.9 Setting Up LDAP Contextless Login and LDAP Treeless Login

Several large Novell customers have used LDAP Contextless Login to facilitate the merging of several trees in to one global tree. Before LDAP Contextless Login, users were often annoyed by being required to change their context information in the login screen when changes took place in the tree structure. This resulted in IT costs to manage and support the change. LDAP Contextless Login makes it easier for users to work in the new global tree because it makes it unnecessary for the users to manage or know about changes to their organization's name or its placement in the hierarchy. Because users no longer need to enter their context to authenticate, the context can be changed on the back end as many times as necessary without the users needing to know and without the costs associated with managing and supporting these changes.

The Lightweight Directory Access Protocol (LDAP) is an Internet communications protocol that lets client applications access directory information. It is based on the X.500 Directory Access Protocol (DAP) but is less complex than a traditional client and can be used with any other directory service that follows the X.500 standard. Lightweight Directory Access Protocol (LDAP) Services for Novell eDirectory is a server application that lets LDAP clients access information stored in eDirectory.

If your network has LDAP Services for Novell eDirectory set up on your eDirectory tree and you are running Novell eDirectory 8.5 or later, users who are logging in to the network from Windows can log in to the network without having to enter their context in the Novell Login screen. To log in, users need to know only their username, password, and the name of the tree that is running LDAP Services. Optionally, you can also have users log in to the network without having to specify the eDirectory tree name.

User objects can be located in the tree by username or e-mail address. You can also enable wildcard searches. If wildcard searches bring up multiple usernames, the user is prompted to select his username.

Generally, when a user connects to the network using LDAP, the connection is made through an LDAP client. Now, the Novell Client Login acts as an LDAP client and connects to the network. All LDAP clients bind (connect) to Novell eDirectory as one of the following types of users:

- ♦ [Public] User (Anonymous Bind)
- ♦ Proxy User (Proxy User Anonymous Bind)
- ♦ NDS<sup>®</sup> or eDirectory User (NDS User Bind)

---

**NOTE:** The NDS User Bind is not used by LDAP Contextless Login.

---

The type of bind and the rights assigned to the corresponding User object determine the content that the LDAP client can access. LDAP clients access a directory by building a request and sending it to the directory. When an LDAP client sends a request through LDAP Services for eDirectory, eDirectory completes the request for only those attributes that the LDAP client has the appropriate access rights to. There are additional restrictions that can be set to further secure connections.

This documentation assumes that you are familiar with LDAP. It contains links to information about LDAP and eDirectory; it is not meant to replace or supersede the documentation about LDAP running on eDirectory. If you are unfamiliar with LDAP, you should familiarize yourself with LDAP and how it operates in your network.

For more information on LDAP for Novell eDirectory, see “[Understanding How LDAP Works with eDirectory](http://www.novell.com/documentation/edir88/edir88/data/h0000007.html#h0000007)” (<http://www.novell.com/documentation/edir88/edir88/data/h0000007.html#h0000007>) in the *Novell eDirectory 8.8 Administration Guide*.

Before users can log in to the network without their context or tree information, you must complete the following steps:

- 1 Set up Novell LDAP Services for eDirectory.  
See “[Setting Up Novell LDAP Services for eDirectory](#)” on page 86.
- 2 Do one of the following:
  - ♦ If you are installing Novell Client software on a few workstations, install the software and then configure the Novell Client property pages so that the LDAP port number and SSL settings in the client properties match the settings on your LDAP server. See “[Setting Up LDAP Contextless Login on One Workstation](#)” on page 89.
  - ♦ If you are installing Novell Client software on multiple workstations, preconfigure the LDAP contextless login property pages prior to installing the client software so that the LDAP port number and SSL settings in the client properties match the settings on your LDAP server (see “[Setting Up LDAP Contextless Login on Multiple Workstations](#)” on page 92). Then install the Client software.
- 3 Inform users about contextless login.  
See “[Logging In Using LDAP Contextless Login](#)” on page 92.

If you experience problems with LDAP Contextless Login, check the Server and Group object configurations. Most problems occur in the access rights given to the Proxy User. You can use any LDAP browser available from the Internet to check the access rights. Browse to the user and verify that you can read the inetOrgPerson property and other properties you are searching for, such as CN and MAIL. If these cannot be seen through the LDAP browser by logging in anonymously, contextless login cannot perform the proper searches to resolve the User object's context in the tree.

## 7.9.1 Setting Up Novell LDAP Services for eDirectory

Before users can take advantage of LDAP Contextless Login, the network must be running Novell LDAP Services for eDirectory 8.5 or later and you must have completed the following steps:

- 1 Install and configure the LDAP Services for eDirectory on the LDAP server.

See “Understanding LDAP Services for Novell eDirectory” (<http://www.novell.com/documentation/edir88/edir88/data/a4wyf4a.html#a4wyf4a>) and “Configuring LDAP Services for Novell eDirectory” (<http://www.novell.com/documentation/edir88/edir88/data/ahlmb7h.html#ahlmb7h>) in the *Novell eDirectory 8.8 Administration Guide*.

**2** Do one of the following:

- ♦ Grant the Read right to the Public Object.  
See “[Connecting As a \[Public\] User](#)” on page 87.
- ♦ Create a Proxy User Object that has the correct rights.  
See “[Connecting As a Proxy User](#)” on page 87.

## Connecting As a [Public] User

An anonymous bind is a connection that does not contain a username or password. If an LDAP client without a name and password binds to LDAP Services for eDirectory and the service is not configured to use a Proxy User, the user is authenticated to eDirectory as user [Public].

User [Public] is a nonauthenticated eDirectory user. By default, user [Public] is assigned the Browse right to the objects in the eDirectory tree. The default Browse right for user [Public] allows users to browse eDirectory objects but blocks user access to the majority of object attributes.

The default [Public] rights are typically too limited for most LDAP clients. Although you can change the [Public] rights, changing them gives these rights to all users. Because of this, we recommend that you use the Proxy User Anonymous Bind. For more information, see “[Connecting As a Proxy User](#)” on page 87.

To give user [Public] access to object attributes, you must do the following in iManager or ConsoleOne:

- 1** Make user [Public] a trustee of the appropriate container or containers.
- 2** Grant the Read right to user [Public].

Without the Read right, user [Public] cannot search containers for the User object information.

You can grant the Read right to the specific attributes that LDAP Contextless Login searches for User objects or you can grant rights to all attributes. For example, you can grant rights only to the e-mail address or telephone number; when LDAP Contextless Login searches the tree as user [Public], it searches only these attributes.

## Connecting As a Proxy User

A proxy user anonymous bind is an anonymous connection linked to an eDirectory username. If an LDAP client binds to LDAP for eDirectory anonymously, and the protocol is configured to use a Proxy User, the user is authenticated to eDirectory as the Proxy User. The name is then configured in both LDAP Services for eDirectory and in eDirectory.

The key concepts of proxy user anonymous binds are as follows:

- ♦ All LDAP client access through anonymous binds is assigned through the Proxy User object.
- ♦ The Proxy User must have a null password and must not have any password restrictions (such as password change intervals). Do not force the password to expire or allow the Proxy User to change passwords.

- ◆ You can limit the locations that the Proxy User can log in from by setting address restrictions for the Proxy User object.
- ◆ The Proxy User object must be created in eDirectory and assigned rights to the eDirectory objects you want to publish. The default user rights provide Read access to a limited set of objects and attributes. Assign the Proxy User Read and Search rights to all objects and attributes in each subtree where access is needed.
- ◆ The Proxy User object must be enabled on the General page of the LDAP Group object that configures LDAP Services for eDirectory. Because of this, there is only one Proxy User object for all servers in an LDAP group.
- ◆ You can grant a Proxy User object rights to All Properties (default) or Selected Properties. In order for contextless login or treeless login to work, the Read right must be granted so that LDAP can search the container or tree for the User object. Typically, you assign the Proxy user rights to the Root of the tree so that LDAP can view the attributes of the User objects throughout the tree. However, you might want to restrict access by assigning the Read right only to individual Organizational Units that you want LDAP to search.

For more information, see “Configuring LDAP Objects” (<http://www.novell.com/documentation/edir88/edir88/data/agq8auc.html#agq8auc>) in the *Novell eDirectory 8.8 Administration Guide*.

---

**NOTE:** LDAP Contextless Login requires clear text passwords to be enabled for LDAP. This does not affect the eDirectory password required during Login. They remain encrypted.

---

To give the Proxy User rights to only selected properties on eDirectory 8.7 or later, complete the following steps.

---

**NOTE:** LDAP Contextless Login works with eDirectory 8.5 or later. However, these steps apply specifically to eDirectory 8.7. If you are using a compatible version other than eDirectory 8.7, check the documentation that corresponds to your version for steps.

---

### In Novell iManager

- 1 Click the *Roles and Tasks* button.
- 2 Click *Rights Management > Modify Trustees*.
- 3 Specify the top container the Proxy User is to have rights over or click the *Browse* button to browse to and select the container in question, then click *OK*.
- 4 In the Modify Trustees dialog box, click *Add Trustee*.
- 5 In the Contents dialog box, browse to and click the Proxy User's object.  
In the same dialog box, notice that the Proxy User's object appears in the Selected Objects area near the bottom.
- 6 Click *OK*.
- 7 On the Modify Trustees screen, click *Assigned Rights for the Proxy User*.
- 8 Select the *All Attributes Rights* and *Entry Rights* options, then click *Delete Property*.
- 9 Click *Add Property*, then select the *Show All Properties in Schema* options
- 10 Select an inheritable right for the Proxy User, such as mailstop (in the lowercase section of the list) or Title, then click *OK*.

To add additional inheritable rights, repeat **Step 9** and **Step 10**.

**11** Click *Done*.

#### In ConsoleOne

**1** Right-click the top container that the Proxy User is to have rights over, then click *Trustees of This Object > Add Trustee*.

**2** Browse to the Proxy User, then click *OK*.

**3** Deselect the following:

- ♦ The Browse right for the Entry Rights property
- ♦ The Read and Compare rights for the All Attributes Rights property

**4** Click *Add Property*, then select the *Show All Properties* option.

**5** Select an inheritable right for the Proxy User, such as mailstop (in the lowercase section of the list) or Title, then click *OK*.

To add additional inheritable rights, repeat **Step 4** and **Step 5**.

**6** Click *OK > Apply > Close*.

To implement proxy user anonymous binds on eDirectory 8.7 or later, you must create the Proxy User object in eDirectory and assign the appropriate rights to that user. Assign the Proxy User Read and Browse rights to all objects and attributes in each subtree where access is needed. You also need to enable the Proxy User in LDAP Services for eDirectory by specifying the same proxy username.

#### In Novell iManager

**1** Click the *Roles and Tasks* button.

**2** Click *LDAP Management > LDAP Overview*.

**3** In the LDAP Overview dialog box, click the name of an LDAP Group object to configure.

**4** In the Authentication Options area, type the name and context of an eDirectory User object in the *Proxy User* field.

**5** Click *Apply > OK*.

#### In ConsoleOne

**1** Right-click the LDAP Group object.

**2** Click *Properties > General*.

**3** Type the name of an eDirectory User object in the *Proxy Username* field.

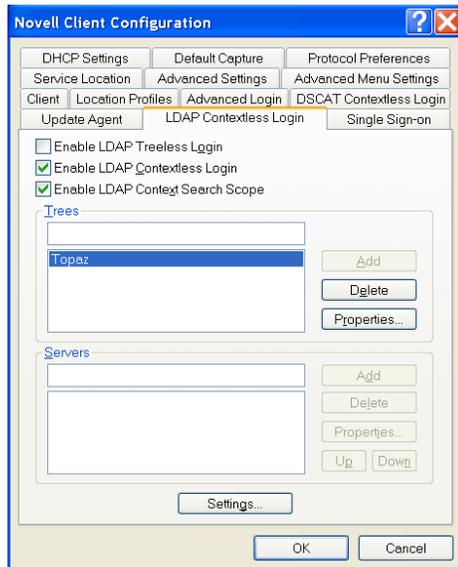
**4** Click *OK*.

## 7.9.2 Setting Up LDAP Contextless Login on One Workstation

After you have set up the LDAP Group object and assigned the correct rights to the User object that is associated with the proxy username, you need to set up LDAP Contextless Login on the workstations.

If you want to install on a few workstations, complete these steps. If you want to install on many workstations, see “[Setting Up LDAP Contextless Login on Multiple Workstations](#)” on page 92.

- 1 At the user's workstation, right-click the Red N icon on the status bar and then click *Novell Client Properties*.
- 2 Click the *LDAP Contextless Login* tab.



- 3 Do one of the following:
  - ♦ To enable treeless login, select *Enable Treeless Login*. Enable Contextless Login is automatically selected for you because you must set up contextless login to enable treeless login.
  - ♦ To enable only LDAP contextless login, select *Enable LDAP Contextless Login*.
- 4 In the *Trees* field, specify the name of an eDirectory tree running LDAP services and then click *Add*.
- 5 In the *Servers* field, specify the IP address or DNS names of the server running LDAP services and then click *Add*.

Order is important for speed and efficiency because servers are queried for their tree until one is found that matches the tree specified by the user.

- 6 (Conditional) If this is the first time this server has been added to the list, check the server properties on the LDAP Server Properties page that appears to make sure that the timeout settings and data encryption settings are correct.

If you are using Secure Socket Layer (SSL) to establish a secure connection, you must specify the path and name of the certificate on the workstation. You should also check to make sure that the correct port number is specified.

- 7 (Conditional) If there are additional servers running LDAP, repeat [Step 5](#) and [Step 6](#) for each server.
- 8 (Optional) Start searching for users in a certain context.
  - 8a Select *Enable Context Search Scope*.
  - 8b Select the tree, then click *Properties*.

- 8c** Do one of the following:
- ♦ To enable a search in the specified context and any containers in that context, select *Search Context and Subtree*.
  - ♦ To enable a search in the specified context only, select *Search Context Only*.

- 8d** Type the distinguished context delimited by commas (standard LDAP format), then click **Add**.

For example: OU=TOKYO,O=DIGITALAIRLINE

---

**TIP:** The LDAP property page does not ensure that this context is correct. If users have problems logging in, check that you typed this information correctly.

---

- 8e** (Optional) Add multiple contexts to be searched by repeating **Step 8d** for each context. The servers and contexts are searched in order. You can set the order they are searched by selecting a server or context and then clicking *Up* or *Down* to move its position in the search list.

- 9** Click *OK*.

- 10** (Optional) Specify additional eDirectory trees to use by repeating **Step 4** through **Step 9** for each tree.

- 11** (Optional) Set the optional search and display parameters that LDAP Contextless login uses to search the eDirectory tree for users by clicking *Settings*.

For example, because users do not need to specify their context, you might want to disable the *Display Context* parameter so that the context is not displayed during login.



Select the parameter you want, then use the *Setting* drop-down menu to turn the parameter On or Off. A short description of each parameter is available in the *Description* field when you select the parameter.

---

**IMPORTANT:** If you set the *Cache Previous Search* parameter to On, any wildcard searches you perform will conflict with this cache. For example, if you search for “mabels” and A.N is resolved as the context and then you search for “mabels” in a B.N context, mabels.B.N would

never be resolved (even with wildcards) because mabels.A.N was resolved and cached first. You could clear the cache and allow mabels.B.N to resolve, but then mabels.A.N would not resolve.

The *Allow Wildcards in Searches* and *Cache Previous Search* parameters cannot be used together. If the *Allow Wildcards in Searches* parameter is On, the *Cache Previous Search* parameter is not used (even if you turn it on).

---

- 12 Click *OK* to effect the changes and close the property page.

### 7.9.3 Setting Up LDAP Contextless Login on Multiple Workstations

As with all property page settings, you can set these properties for multiple workstations both before and after installation. For more information, see [Section 5.1, “Setting Properties During Installation,”](#) on page 55 and [Section 5.3, “Setting Properties on Multiple Workstations after Installation,”](#) on page 56.

### 7.9.4 Logging In Using LDAP Contextless Login

When users log in to the network using LDAP Contextless Login, they must specify the necessary information based on the options you specified in the LDAP Contextless Login Settings Protocol page, the password, and the name of the tree running LDAP Services for eDirectory. The context information is added automatically to the Novell Login window when the username is found.

If you choose to allow wildcard searches, users can perform a wildcard search and the LDAP database lists all possible users that meet the wildcard search criteria.

# Printing to a Network Printer

# 8

Printer setup can be automated so that users' workstations attach to the network printers they use each time they log in to the network. Users can use the network printers without manually connecting to the printer every time they want to print.

After connecting to a network printer, users can select the printer from any application that they are using. See the application's documentation for information on using printers.

This section includes the following:

- ♦ [Section 8.1, “Attaching to a Network Printer,” on page 93](#)
- ♦ [Section 8.2, “Setting Up Point and Print,” on page 94](#)
- ♦ [Section 8.3, “Printing DBCS Characters from DOS in Windows,” on page 95](#)
- ♦ [Section 8.4, “Disabling NetWare Login Dialog Boxes Brought Up by the Print Provider,” on page 95](#)

## 8.1 Attaching to a Network Printer

A printer driver for each type of printer must be installed on the workstations.

Users can set up network printing on a workstation by specifying the name of the printer in any of the following programs:

- ♦ Novell® iPrint (<http://www.novell.com/documentation/oes2/print-services.html#print-services>)
- ♦ Windows Add Printer Wizard
- ♦ Novell Capture Printer Port

The following can automate printer connections so that the computer connects to network printers each time a user log in:

- ♦ NetWare® Login Script
- ♦ Restore Connections
- ♦ Login Script

### 8.1.1 Setting Up Network Printing through the Windows Add Printer Wizard

- 1 Click *Start > Settings > Printers*.
- 2 Double-click *Add Printer* and follow the onscreen instructions.
- 3 When prompted, click *Network Printer Server* and select a printer you want to use from the Shared Printers box.
  - ♦ For NetWare 4 or later networks, double-click *Novell Directory Services* and find the context for the printer. Then select a Printer object from the list.
  - ♦ For NetWare 3 and bindery networks, double-click *NetWare Servers*. Then double-click the name of the server that supports the queues you want to use and select the queue.

- 4 (Conditional) If a dialog box prompts you to install a driver for the printer, click *OK* and install it.
  - 4a Select the name of the printer from the *Driver* box, then click *OK*.
  - 4b Type the path to the printer driver, then click *OK*.
- 5 Run an application and select the network printer when you print.

## 8.1.2 Specifying Capture Settings with Windows Printing

Windows does not require captured printer ports to print to a network printer. Windows can use print devices that are associated with network printers. This allows applications to print directly to a network printer.

- ♦ The *CAPTURE* utility does not affect Windows printer devices.
- ♦ Captures are global. If you capture a printer port, the port is available for network printing from anywhere in Windows.

Use the Capture Settings dialog box to specify printer settings for print captures created with Windows. This can be useful if you want to use a DOS or Windows 3.x application that relies on print captures and you can't put the capture in a login script.

To access the Capture Setting dialog box:

- 1 Right-click the Red N icon on the status bar.
- 2 Click *Novell Capture Printer Port*.
- 3 Type the correct information in the dialog box.
- 4 Click *Settings*.

These settings apply only to printer ports that are captured from Windows. Printer ports that are captured in a login script or from the command line do not use these settings.

These settings do not apply to printers that appear in the Windows Printers folder.

Changing the printer settings for a specific captured printer port does not change the default printer settings.

## 8.2 Setting Up Point and Print

- 1 Locate printer driver files from the Windows operating system CD-ROM or the Windows printer driver files supplied by the printer's manufacturer.
- 2 Log in as Admin or as a user with Admin-equivalent rights for the printer or print queue.
- 3 Select a printer or print queue in the Windows Explorer or Network Neighborhood.
- 4 Click *File > Properties > Setup Point and Print*.
- 5 Specify the path for the printer driver files.

You must be logged in to the tree or server where the path is located. You must also have sufficient rights for the specified directory to copy the files there. Users need Read and File Scan rights for the specified directory.

- 6 Click *Select Printer Model*.
- 7 Select the manufacturer of the printer.

8 Select the model of the printer.

9 Click *OK*.

The printer driver files are copied to the path specified in [Step 5](#).

10 Click *OK* again.

## 8.3 Printing DBCS Characters from DOS in Windows

In Windows, the default command window runs as a 32-bit process. In order to use the existing DOS printer driver for DOS-intrinsic commands, you must use a 16-bit command window.

This allows DOS-intrinsic commands such as `COPY` and `TYPE` to use the print driver.

The following instructions explain how to set up Windows to support this. These instructions also set up the Windows system to support the printer driver for DOS applications.

1 Edit the `autoexec.nt` file, found in the `%systemroot%\system32` directory, adding the DOS printer driver for your specific printer after the following line:

```
%SYSTEMROOT%\SYSTEM32\VLMSUP.EXE
```

Make sure that you copy the printer driver to the path you specify in the `autoexec.nt` file.

2 Save a copy of the `Windows\system32\config.nt` file with another filename, such as `config.prt`.

3 Edit the new config file, adding the `DOSONLY` command to the file.

4 Continue the setup process using the instructions for your specific version of Windows.

4a Create a shortcut to the `command.com` program, found in the `Windows\system32` directory.

4b Right-click the shortcut icon, then click *Properties*.

4c On the Program property page, click *Windows* and type the paths for the config and autoexec files that you created in [Step 1](#) and [Step 2](#).

4d Double-click the shortcut icon.

A DOS window opens.

Only DOS applications can be run from this window, but anything that is printed is rendered by the printer driver that you installed. Any DOS commands that affect the print driver must be specified in this window. DOS applications can be started by any method.

## 8.4 Disabling NetWare Login Dialog Boxes Brought Up by the Print Provider

If users log in to a workstation but do not log in to NetWare and they have NetWare printers installed, they are prompted to log in to NetWare once by the QMS print provider and once by the NDPS<sup>®</sup> print provider. These login dialog boxes can be disabled if desired.

Windows has two registry setting options for disabling login dialog boxes:

- ◆ HKLM\SOFTWARE\Novell\Print\Delay Login\Delay Login=1

The print provider tells Windows that the printer is a NetWare printer even though the user is not authenticated. Then, the provider waits for an action that requires authentication is detected before displaying a login dialog box.

- ◆ HKLM\SOFTWARE\Novell\Print\Never Login\Never Login=1

The print provider never displays the Novell Login dialog box, and print jobs sent prior to authentication fail. A message similar to the following is displayed:

```
Error writing to \\TREE\QUE.context: A write fault occurred on the network. Do
you wish to retry or cancel the job?
```

# Uninstalling the Novell Client

# 9

This section explains how to uninstall the Novell® Client™ for Windows.

- ♦ [Section 9.1, “Uninstalling the Novell Client,” on page 97](#)
- ♦ [Section 9.2, “Uninstalling Network Components Using Update Agent or ACU,” on page 97](#)
- ♦ [Section 9.3, “Uninstalling Network Components During an Upgrade,” on page 98](#)

## 9.1 Uninstalling the Novell Client

- ♦ [Section 9.1.1, “Windows XP,” on page 97](#)
- ♦ [Section 9.1.2, “Windows 2000,” on page 97](#)

### 9.1.1 Windows XP

- 1 Click *Start > Control Panel > Add or Remove Programs*.
- 2 Select *Novell Client for Windows* in the list of currently installed programs, then click *Change/Remove*.

The Novell Client software is removed. However, some files might stay on the workstation until it is rebooted.

- 3 Reboot your workstation.

### 9.1.2 Windows 2000

- 1 Click *Start > Settings > Control Panel*.
- 2 Double-click *Network Connections*.
- 3 Right-click any network connection (for example, right-click *Local Area Connection*), then click *Properties*.
- 4 On the *General* tab, select *Novell Client for Windows*, then click *Uninstall*.
- 5 Click *Yes* when asked if you are sure you want to uninstall Novell Client for Windows.
- 6 If you are asked if you want to remove the NMA Client, click *Yes*.
- 7 Reboot your workstation.

## 9.2 Uninstalling Network Components Using Update Agent or ACU

You can uninstall network components from Novell Client software by using either the Update Agent (if it has been configured) or the Automatic Client Upgrade (ACU). This lets you uninstall components that are no longer in use in your network.

- 1 (Conditional) If you are using the Update Agent to uninstall network components, ensure that it has been configured.

Update Agent needs to be configured during a software installation or upgrade. You can enable Update Agent using ACU or you can enable it locally on each workstation. See [“Enabling the Novell Client Update Agent by Using ACU Without Installing Novell Client Software” on page 41](#) or see [“Enabling the Novell Client Update Agent on a Local Workstation” on page 41](#).

- 2 Modify the `acu.ini` file so that the components you want to uninstall are set to Yes in the [UNINSTALL] section of the `.ini` file.

See [“Modifying the ACU Configuration File” on page 42](#) for more information.

- 3 Run Update Agent or run ACU from the login script.

See [“Installing and Upgrading the Novell Client on Multiple Workstations” on page 21](#).

The components are uninstalled.

## 9.3 Uninstalling Network Components During an Upgrade

If you are planning to upgrade to the next version of the Novell Client for Windows and you currently have one or more optional components installed that you want to have uninstalled, you can accomplish both tasks at the same time. For example, if you currently have Novell Distributed Print Services™ installed on a workstation and you want to uninstall it so that you can later install Novell iPrint, you can perform the uninstall of Novell Distributed Print Services while you are installing the next version of the Novell Client for Windows.

There are two methods you can use to uninstall components during the upgrade process:

- ♦ Modify the ACU configuration file (`acu.ini`) to uninstall components before the upgrade of the Novell Client
- ♦ Create a configuration (`unattend`) file in NCIMAN and select components to be uninstalled.

### Using ACU

- 1 Modify the [Uninstall] section of the `acu.ini` file and select YES for all components you want to uninstall.

See [“Modifying the ACU Configuration File” on page 42](#).

- 2 Install the Novell Client using one of the network or Web-based installation methods.

See [Chapter 4, “Installing and Upgrading the Novell Client on Multiple Workstations,” on page 21](#).

### Using NCIMAN

- 1 Create a configuration (`unattend`) file using `nciman.exe`.

See [“Creating the Configuration File \(Unattend File\)” on page 47](#).

- 2 From the Installation group, select the components you want to remove.

- 3 On the component’s property page, select *Remove This Component* for each component you want uninstalled.

- 4 Save the configuration (`unattend`) file.

- 5 Run Update Agent or run ACU from the login script and specify this configuration (`unattend`) file.

See [“Installing and Upgrading the Novell Client on Multiple Workstations”](#) on page 21.

The client software is installed and the unwanted components are removed.



# Troubleshooting Issues

# A

This appendix provides troubleshooting information for the following known issues related to the Novell® Client™ for Windows:

- ♦ [Section A.1, “Installation,” on page 101](#)
- ♦ [Section A.2, “Login Restrictions Set for IPX/SPX Prevent User from Logging In,” on page 102](#)
- ♦ [Section A.3, “Login Script,” on page 102](#)
- ♦ [Section A.4, “Printing Issues,” on page 104](#)
- ♦ [Section A.5, “Software Compatibility Issues,” on page 104](#)

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**TIP:** If you do not find a solution to your issue here, check the Novell Client Readme or the [Novell Support Web site \(http://support.novell.com\)](http://support.novell.com).

---

## A.1 Installation

- ♦ [Section A.1.1, “IPX Compatibility Mode and the IPX Internal Network Number,” on page 101](#)
- ♦ [Section A.1.2, “Novell Client Cannot Install If the Local Area Connection Page Is Open,” on page 101](#)
- ♦ [Section A.1.3, “Uninstall Novell Client First When Upgrading the Windows Operating System,” on page 101](#)
- ♦ [Section A.1.4, “NDPS Update Required on NetWare 5.1,” on page 102](#)
- ♦ [Section A.1.5, “Password Issues,” on page 102](#)

### A.1.1 IPX Compatibility Mode and the IPX Internal Network Number

Workstations using IPX™ Compatibility Mode cannot have an IPX internal network number configured. If you have configured an IPX internal network number on your workstation and you plan to install the Novell IP Client with IPX Compatibility Mode, then remove the IPX internal network number before installing the client.

### A.1.2 Novell Client Cannot Install If the Local Area Connection Page Is Open

The Novell Client cannot be installed on Windows XP if the Local Area Connection Properties Page is open. Close this page before running the Novell Client install.

### A.1.3 Uninstall Novell Client First When Upgrading the Windows Operating System

If you are upgrading your Windows operating system on workstations that already have the Novell Client installed, you must first uninstall the Novell Client to ensure a clean upgrade.

On Windows XP, you can install the client software from the network on workstations running the Microsoft Client Service for NetWare®. Run the install by logging in to the server using bindery emulation.

### **A.1.4 NDPS Update Required on NetWare 5.1**

An update to NDPS® is required to solve a client hang. Install the dprpcnlm.nlm file, dated 22 Nov 2000 or later. This update is included in NetWare 5.1 Support Pack 3. Refer to [TID 10062546 \(http://support.novell.com/cgi-bin/search/searchtid.cgi?/10062546.htm\)](http://support.novell.com/cgi-bin/search/searchtid.cgi?/10062546.htm).

### **A.1.5 Password Issues**

We recommend that administrators configure Windows workstations to not use any of the Microsoft password restrictions available in User Manager. Novell Client for Windows works best if password restrictions are left up to eDirectory™.

For more information on Novell's Universal Password and advanced password management, see [Section 6.2, “Managing Passwords,” on page 60.](#)

## **A.2 Login Restrictions Set for IPX/SPX Prevent User from Logging In**

Login restrictions are set for IPX/SPX™ and the node address. When the administrative workstation is reset, the new client files are automatically updated and the reboot prompt is displayed. After restarting, the workstations that are placed in the restriction list as being able to log in as admin and that now have the new client cannot log in and no administration of the server can be done.

This is a problem with preferring the IP protocol. The allowed addresses assigned in eDirectory are IPX addresses. If the server is bound to IP, the clients are designed to prefer this protocol by default. The result is that the client is attempting to log in to the server using IP but the address is restricted to allow only IPX addresses, causing an authentication failure. This is because the IP address is not stored in eDirectory.

To avoid the problem, do not bind IP to the server until static IP addresses have been assigned. Or, change your protocol preference to IPX.

## **A.3 Login Script**

- ♦ [Section A.3.1, “CAPTURE Execution in a Login Script,” on page 102](#)
- ♦ [Section A.3.2, “Login Script Command SET\\_TIME ON/OFF Error if a User Does Not Have Administrator Rights,” on page 103](#)
- ♦ [Section A.3.3, “Map.exe Utility,” on page 103](#)
- ♦ [Section A.3.4, “Drive Mappings Automatically Root Mapped,” on page 103](#)

### **A.3.1 CAPTURE Execution in a Login Script**

If you use a login script that contains an external CAPTURE command using `capture.exe`, the screen might go blank with a blinking cursor in the upper left corner. The capture eventually executes and the screen returns to normal.

This happens if Windows is set to “full screen” when the `CAPTURE` command is executed from the login script. Although the system might be working correctly, a slow server performing the capture with a blank screen might make it appear otherwise.

To correct this problem:

- 1 Double-click *My Computer*, then click *Control Panel > MS-DOS Console*.
- 2 In the Console Windows Properties dialog box, click the *Options* tab.
- 3 From the Display Options group, click *Window*.

### A.3.2 Login Script Command `SET_TIME ON/OFF` Error if a User Does Not Have Administrator Rights

Novell Client for Windows *Properties > Advanced Settings* contains a *Set Station Time* property. When this setting is On, and the logged-in user has administrator rights, the workstation time is synchronized with the network during GINA Login. The login script `SET_TIME` command has no effect on time synchronization, because the time is being synchronized before the script command is processed. When the setting is Off, the `SET_TIME ON` script command has an effect when scripts are run, and the workstation time is synchronized with the network.

If the logged-in user does not have administrator rights on the workstation, an error is displayed when the login script runs and the time is not synchronized.

### A.3.3 Map.exe Utility

The `map.exe` utility might function improperly if the computer's DOS environment size is too small. If you encounter problems while running `map.exe`, increase the DOS environment size by adding or editing the `SHELL=` line in the `Windows\system32\config.nt` file. For example:

```
SHELL=%SYSTEMROOT%\SYSTEM32\COMMAND.COM /E:2048
```

`Map.exe` was not designed as a Windows executable and, therefore, does not recognize drives mapped to NT servers as network drives. Consequently, the `MAP` command does not list NT network drives. The Windows NT `NET USE` command can be used to correctly connect and list network drives for both NetWare and NT servers.

### A.3.4 Drive Mappings Automatically Root Mapped

In Windows, all drive mappings made using the NetWare Login are root mapped. Because of this, programs cannot access directories above the directory that the drive is mapped to. This feature affects only `MAP` commands performed in a login script. After Windows has been started, Windows allows you to map only to the root.

You can turn off the default by adding `SET MAPROOTOFF="1"` as the first line in the login script. This globally forces all workstations using the login script to not map root drives.

Or, you can perform the following procedure on a local workstation:

- 1 Right-click *My Computer*.
- 2 Click *Properties > Advanced > Environment*.

- 3 Click *New* to create a new variable.
- 4 Type `MAPROOTOFF` as a variable.
- 5 Set the value of the `MAPROOTOFF` variable to 1.
- 6 Click *OK > OK*.

## A.4 Printing Issues

You might experience difficulties printing through NDPS if your network connection is dropped and later auto-reconnects. You could receive the following error messages:

```
Error writing to <printer>: Space to store the file waiting to be printed is not available on the server.
```

```
A write fault occurred while printing.
```

To resolve this problem, you must download and install NetWare 5 Support Pack 2 or later. Then complete the following:

- 1 At the server console, load `ndpsm.nlm` to load NDPS Manager on the server.
- 2 From the NDPS Manager main menu, select *Printer Agent List*.
- 3 Select a Printer Agent.
- 4 After the Printer Agent information is displayed, click *Configuration: (See Form)*.
- 5 From the configuration screen, change the Security Level from High to Medium.

## A.5 Software Compatibility Issues

Novell Client for Windows coexists with the Microsoft SMB Client. The Microsoft SMB Client utilizes NetBIOS, which increases the utilization of your network.

If you want to prevent the Microsoft SMB Client from communicating over NetBIOS, modify your workstation configuration by unbinding the workstation and server from NetBIOS on the Network Properties page.

# Documentation Updates

# B

The *Novell® Client™ for Windows Administration Guide* has been updated with the following information on the following dates:

- ♦ Section B.1, “April 29, 2009,” on page 105
- ♦ Section B.2, “October 14 2008,” on page 105
- ♦ Section B.3, “September 2008 (SP5),” on page 105
- ♦ Section B.4, “June 2, 2008 (SP4),” on page 105
- ♦ Section B.5, “July 17, 2007 (SP4),” on page 106
- ♦ Section B.6, “October 25, 2006 (SP3),” on page 106
- ♦ Section B.7, “December 23, 2005 (SP2),” on page 106
- ♦ Section B.8, “August 19, 2005 (SP1),” on page 106

## B.1 April 29, 2009

Location	Change
Various	Updated outdated references to SP4 to indicate SP5.

## B.2 October 14 2008

Location	Change
Section 7.7, “Logging In to the Network,” on page 84	Clarified that the legacy NetWare 16-bit DOS utilities are not recommended for managing login.

## B.3 September 2008 (SP5)

Location	Change
Title Page	The title page design is updated in the PDF version of this guide.

## B.4 June 2, 2008 (SP4)

Location	Change
“Configuring Challenge/Response Settings” on page 65	Added information about hiding responses to challenge questions.

## B.5 July 17, 2007 (SP4)

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Location	Change
Section 7.5, "Configuring 802.1X Authentication," on page 79	This section was added.

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## B.6 October 25, 2006 (SP3)

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Location	Change
Section 9.1, "Uninstalling the Novell Client," on page 97	Updated the section with separate instructions for Windows XP and Windows 2000.
Section 4.3.4, "Distributing setupip.exe," on page 36	Added information on how <code>setupip.exe</code> determines what language version of the Novell Client to install.

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## B.7 December 23, 2005 (SP2)

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Location	Change
Entire guide	Page design reformatted to comply with revised Novell documentation standards.
Section 6.2.2, "Displaying Password Requirements for End Users," on page 62	Updated section to reflect changes made in the Novell Client for Windows 4.91 SP2.
Section 6.3, "Using Forgotten Password Self-Service," on page 63	Updated section to reflect changes made in the Novell Client for Windows 4.91 SP2.

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## B.8 August 19, 2005 (SP1)

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Location	Change
Section 6.2, "Managing Passwords," on page 60	Reorganized the section.
Section 6.3.1, "Using the "Did You Forget Your Password?" Link," on page 64	This section was added.

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