

Novell iFolder[®]

2.1

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INSTALLATION AND
ADMINISTRATION GUIDE

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About This Guide

This guide describes how to install, configure, and manage Novell® iFolder® 2.1x.

The guide is intended for iFolder administrators and is divided into the following sections:

- ◆ Chapter 1, “Overview of iFolder,” on page 15
- ◆ Chapter 2, “Understanding the Novell iFolder Architecture,” on page 23
- ◆ Chapter 3, “Preparing to Install iFolder 2.1,” on page 27
- ◆ Chapter 4, “Installing iFolder 2.1 on NetWare,” on page 41
- ◆ Chapter 5, “Installing iFolder 2.1 on Windows 2000 Server,” on page 47
- ◆ Chapter 6, “Installing iFolder 2.1 on Red Hat Linux 8,” on page 57
- ◆ Chapter 7, “Installing iFolder 2.1.2 on Novell Nterprise Linux Services,” on page 65
- ◆ Chapter 8, “Installing iFolder 2.1.3 on Windows 2003 and Windows 2000 Server,” on page 67
- ◆ Chapter 9, “Installing iFolder 2.1.5 on OES for Linux,” on page 77
- ◆ Chapter 10, “Installing iFolder 2.1.6 on OES for Linux,” on page 85
- ◆ Chapter 11, “Installing iFolder 2.1.6 on SLES 9 Server,” on page 93
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- ◆ Chapter 13, “Installing iFolder 2.1.7 on OES for Linux,” on page 107
- ◆ Chapter 14, “Installing iFolder 2.1.7 on SLES 9 Server,” on page 115
- ◆ Chapter 15, “Installing iFolder 2.1.7 on Windows 2000 and Windows 2003 Server,” on page 119
- ◆ Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,” on page 129
- ◆ Chapter 17, “Managing iFolder User Accounts,” on page 147
- ◆ Chapter 18, “Managing User LDAP Servers,” on page 165
- ◆ Chapter 19, “Managing iFolder Servers,” on page 171
- ◆ Chapter 20, “Monitoring Your iFolder System,” on page 173
- ◆ Chapter 21, “Generating Reports for Your iFolder System,” on page 179
- ◆ Chapter 22, “Coexistence and Migration Issues,” on page 185
- ◆ Appendix A, “In-Depth Look at Authentication, Encryption, and Synchronization,” on page 193
- ◆ Appendix B, “Upgrading from iFolder Standard Edition to iFolder 2.1,” on page 195
- ◆ Appendix C, “Configuring iFolder on Novell Cluster Services,” on page 199
- ◆ Appendix D, “Interoperability Issues,” on page 215
- ◆ Appendix E, “Tips and Tricks for Optimizing iFolder,” on page 219
- ◆ Appendix F, “Frequently Asked Questions,” on page 221
- ◆ Appendix G, “Uninstalling iFolder 2.1 on a Red Hat Linux 8 Server,” on page 229
- ◆ Appendix H, “Product History of iFolder,” on page 231

Additional Documentation

For documentation on installing, configuring, and managing iFolder, see the following:

- ♦ [Online documentation for iFolder server and client](http://www.novell.com/documentation/lg/ifolder21/index.html) (<http://www.novell.com/documentation/lg/ifolder21/index.html>)
- ♦ [Novell iFolder Cool Solutions Web site](http://www.novell.com/coolsolutions/ifmag) (<http://www.novell.com/coolsolutions/ifmag>) for tips and tricks
- ♦ [Novell iFolder Support Knowledgebase Web site](http://support.novell.com) (<http://support.novell.com>) for emerging issues for iFolder server and client

Documentation Updates

For the most recent version of the *Novell iFolder 2.1 Installation and Administration Guide*, see the [Novell iFolder Documentation Web site](http://www.novell.com/documentation/lg/ifolder21/index.html) (<http://www.novell.com/documentation/lg/ifolder21/index.html>)

For emerging issues, see the [Novell iFolder 2.1 Readme Addendum \(Technical Information Document 10079972\)](http://support.novell.com/cgi-bin/search/searchtid.cgi?/10079972.htm) (<http://support.novell.com/cgi-bin/search/searchtid.cgi?/10079972.htm>).

Documentation Conventions

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

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When a single pathname can be written with a backslash for some platforms, or a forward slash for other platforms, the pathname is presented with a backslash. Users of platforms that require a forward slash, such as UNIX* should use forward slashes as required by the software

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 and enter your comments there.

Overview of iFolder

1

Novell® iFolder® 2.1 is a Net services software solution that lets mobile professionals access their local files from anywhere—online, offline, all the time—across multiple workstations and the Net. All the user needs is an active network or Internet connection and the iFolder client, a Web browser, or NetDrive.

For a user, iFolder is like having a single, virtual work folder accessible from any computer. It provides a simple, convenient, and secure way to access, back up, and synchronize files. Whether working on an office or home computer, on a disconnected notebook, or even at an Internet kiosk in an airport halfway around the world, user's files are instantly available.

When connected to the iFolder server, iFolder automatically backs up the work done on local files to an account on the iFolder server. Files are always protected and easily recovered in the event the local data is lost. And later, when the user moves on to a different location and a different computer, iFolder automatically synchronizes the files to reflect the work completed elsewhere—with no manual disk copies or file transfers required.

With iFolder, each user's work environment can revolve around the individual instead of a particular location or hardware configuration. Because the data travels transparently with the user, wherever in the world he or she needs to be, and resides concurrently in the user's iFolder account on the server, the user can be confident that the local data is current and safe. The user no longer needs to worry about e-mailing files, keeping track of multiple versions of files on different portable storage media, and dealing with complicated remote logins and temperamental VPN clients.

This overview describes the following information about iFolder:

- ♦ [Section 1.1, “Benefits of iFolder for the Enterprise,” on page 15](#)
- ♦ [Section 1.2, “Benefits of iFolder for Users,” on page 17](#)
- ♦ [Section 1.3, “Key Features of iFolder,” on page 18](#)
- ♦ [Section 1.4, “Novell NetDrive,” on page 20](#)
- ♦ [Section 1.5, “What's Next,” on page 20](#)

1.1 Benefits of iFolder for the Enterprise

Novell iFolder gives IT managers a secure, manageable, and easy-to-implement file management solution that makes every computer user in a company more productive by eliminating the hassles of creating, storing, and managing files across multiple devices and locations. Benefits of iFolder to the enterprise include the following:

- ♦ [“Seamless Data Access” on page 16](#)
- ♦ [“Data Safeguards and Data Recovery” on page 16](#)
- ♦ [“Reliable Data Security” on page 16](#)
- ♦ [“Productive Mobile Users” on page 16](#)
- ♦ [“Cross-Platform Support” on page 16](#)
- ♦ [“Simple Data and Account Management” on page 17](#)
- ♦ [“No Training Requirements” on page 17](#)

1.1.1 Seamless Data Access

Novell iFolder greatly simplifies the IT department's ability to keep users productive. It empowers users by enabling their data to follow them wherever they go.

The days of users e-mailing themselves project files so they can work on them from home are gone, along with the frustration associated with sorting through different versions of the same file on different machines. iFolder stores and synchronizes users' work in such a way that no matter what client or what location they log in from, their files are available and in the condition that they expect them to be.

1.1.2 Data Safeguards and Data Recovery

With Novell iFolder encryption, data stored on the server is secure not only from unauthorized access, but it also can be easily safeguarded from system crashes and disasters that can result in data loss. When a user saves a file locally, the iFolder client can automatically update data to the iFolder server, where it immediately becomes available for an organization's regular network backup operations.

iFolder makes it easier for IT managers to ensure that all of an organization's critical data is protected. iFolder also gives Internet Service Providers (ISPs) the ability to offer a user-trusted backup solution for their customers' critical business or personal data.

1.1.3 Reliable Data Security

With Novell iFolder encryption, stored data is secure from unauthorized network access. In the past, executives fearing unauthorized access to sensitive data have been hesitant to store some confidential documents on the network. iFolder eliminates this concern, encrypting all data before it moves it across the Internet and stores it on the Novell iFolder server, keeping it out of the hands of unauthorized users.

1.1.4 Productive Mobile Users

A Novell iFolder solution makes it significantly easier to support mobile users. VPN connections are no longer needed to deliver secure data access to mobile users. Users do not need to learn or perform any special procedures to access their files when working from home or on the road. iFolder does away with version inconsistency, making it simple for users to access the most up-to-date version of their documents from any connected desktop, laptop, Web browser, or handheld device.

In preparation to travel or work from home, users no longer need to copy essential data to their laptop from various desktop and network locations. The iFolder client can automatically update users' laptop and desktops with the most current versions of their files. Even if a user loses a laptop, all those files can still be accessed with any computer connected to the Internet.

1.1.5 Cross-Platform Support

The cross-platform capabilities of Novell iFolder enable it to easily mesh with any organization's Web infrastructure. The iFolder server integrates with either the Apache Web server on NetWare[®] and Linux* or the Microsoft* Internet Information Server (IIS) Web server on Windows* 2000 and Windows* 2003, enabling organizations to run iFolder on their preferred platforms. Additionally, the solution's Lightweight Directory Access Protocol (LDAP) support for user authentication allows

organizations to leverage Novell eDirectory on NetWare, Linux, and Windows 2000 servers, or Microsoft Active Directory* on Windows 2000 and Windows 2003 servers.

1.1.6 Large-Scale Deployment

One of the key features of iFolder is its ability to scale to a large and growing environment. You can install iFolder on multiple servers, allowing your iFolder environment to grow with your business.

There is no practical limit to the number of iFolder servers that you can have in your iFolder network—a single iFolder server handles up to 10,000 user accounts, depending on the amount of memory available. The servers appear as a single iFolder system for management and user access.

Because iFolder takes care of redirecting user authentication requests to the correct iFolder server, the login procedure is a seamless experience for the user. As your iFolder network grows, your management costs stay the same, because the management of all iFolder servers is centralized through the iFolder Management Console.

1.1.7 Simple Data and Account Management

Novell iFolder was designed to allow for easy setup and management by IT professionals. The iFolder server can be managed from any location, using a standard Web browser.

iFolder also frees IT departments from routine maintenance tasks with its automatic file updates, synchronization, and encryption. Also, because local files are automatically updated to the network, iFolder ensures that data is protected on both corporate and individual levels.

IT managers also have the option to manage Novell iFolder accounts, using the power of Novell eDirectory or Microsoft Active Directory (on Windows 2000 and Windows 2003 servers only).

1.1.8 No Training Requirements

IT personnel no longer need to condition or train users to perform special tasks to ensure the consistency of data stored on their laptop and on the network. With Novell iFolder, users simply store their files in the local iFolder directory on their PCs. Their files will be automatically updated to the iFolder server and any other workstations that they use. iFolder works seamlessly behind the scenes so users don't even need to know it's there.

1.2 Benefits of iFolder for Users

Working in multiple locations has traditionally meant that you had to conscientiously manage file versions, secure data transfer, and periodic data backups for multiple workstations. Novell iFolder is an easy way to make sure your files are secure, accessible, and up to date.

With iFolder, you always have convenient and secure access to the most recent version of your documents. All you need is an active network or Internet connection and the Novell iFolder client software or a Web browser.

Novell iFolder provides the following benefits:

- ◆ Guards against local data loss by automatically backing up your local files to the iFolder server and your multiple workstations.

- ◆ Transparently updates your files to the iFolder server and your multiple workstations with the iFolder client.
- ◆ Tracks and logs changes made while you work offline and synchronizes those changes when you go online.
- ◆ Provides access to your files on the iFolder server from any workstation without the iFolder client, using a Web browser.
- ◆ With encryption enabled, protects data as it travels across the wire and while stored on the iFolder server.
- ◆ Makes files on the iFolder server available for regularly scheduled data backup.

1.3 Key Features of iFolder

Key features of Novell iFolder 2.1.x include the following:

- ◆ Support for the following server operating systems:

Server Operating System	iFolder 2.1	iFolder 2.1.1 (Bundled with NetWare 6.5)	iFolder 2.1.2 (Bundled with NetWare 6.5 Support Pack 1)	iFolder 2.1.2 (Bundled with Novell Nterprise™ Linux Services)
NetWare 5.1 with Support Pack 5	Yes			
NetWare 6.0 with Support Pack 2	Yes			
Microsoft Windows 2000 Server with Service Pack 3 or later	Yes			
Red Hat* Linux 8	Yes			
NetWare 6.5 or later		Yes		
NetWare 6.5 Support Pack 1 or later			Yes	
Red Hat Enterprise Linux AS				Yes
Red Hat Enterprise Linux ES				Yes
SUSE® Linux Enterprise Server 8				Yes

Server Operating System	iFolder 2.1.3	iFolder 2.1.3 (Bundled with NetWare 6.5 Support Pack 2)	iFolder 2.1.5 (Bundled with SLES 9 Support Pack 1)	iFolder 2.1.5 (Bundled with NetWare 6.5 Support Pack 3)	iFolder 2.1.6 (Bundled with NetWare 6.5 Support Pack 4)	iFolder 2.1.7 (Bundled with NetWare 6.5 Support Pack 5)
Microsoft Windows 2000 and Windows 2003 Server	Yes					

Server Operating System	iFolder 2.1.3	iFolder 2.1.3 (Bundled with NetWare 6.5 Support Pack 2)	iFolder 2.1.5 (Bundled with SLES 9 Support Pack 1)	iFolder 2.1.5 (Bundled with NetWare 6.5 Support Pack 3)	iFolder 2.1.6 (Bundled with NetWare 6.5 Support Pack 4)	iFolder 2.1.7 (Bundled with NetWare 6.5 Support Pack 5)
NetWare 6.5 Support Pack 2 or later		Yes				
NetWare 6.5 Support Pack 3 or later				Yes		
NetWare 6.5 Support Pack 4					Yes	
NetWare 6.5 Support Pack 5						Yes
SUSE® Linux Enterprise Server 9			Yes			
SUSE® Linux Enterprise Server 9 Support Pack 2 (OES Support Pack 1)						Yes
SUSE® Linux Enterprise Server 9 Support Pack 3 (OES Support Pack 2)						Yes

- ◆ Support for the following LDAP systems:

Version of iFolder	Novell eDirectory	Microsoft Active Directory
iFolder 2.1	eDirectory 8.6.2 or later	Windows 2000 Server Service Pack 3 or later
iFolder 2.1.1	eDirectory 8.6.2 or later	No
iFolder 2.1.2	eDirectory 8.7.3 or later	No
iFolder 2.1.3	eDirectory 8.7.3 or later	Windows 2000 and Windows 2003 servers
iFolder 2.1.5	eDirectory 8.7.3 or later	No
iFolder 2.1.6	eDirectory 8.7.3 or later	Windows 2000 and Windows 2003 servers
iFolder 2.1.7	eDirectory 8.7.3 or later	No

- ◆ Large-scale deployment support with multiple iFolder servers acting as a single system.
- ◆ Report generator for administrators to view statistics on iFolder users and the iFolder system.
- ◆ Automatic upgrade from previous versions for NetWare and Windows 2000 installations in an eDirectory environment.
- ◆ Automatic synchronization of files by the iFolder client between the iFolder server and local workstations through a standard Internet connection.

- ◆ Windows Client supports, following workstation operating systems:
 - ◆ Windows 98SE
 - ◆ Windows 2000 Professional
 - ◆ Windows XP Home and Professional
- ◆ Linux Client supports, following workstation operating systems:
 - ◆ Novell Linux Desktop and later
 - ◆ SUSE 9.2 and 9.3
 - ◆ SUSE Linux Professional 10
- ◆ Web browser access to iFolder from any workstation without an iFolder client.
- ◆ Web browser access to iFolder from any handheld device without an iFolder client.
- ◆ Concurrent access to multiple iFolder accounts, using Novell NetDrive to map drives to the iFolder server.
- ◆ Thin-client support through Novell NetDrive for Citrix* Metaframe* servers, Windows 2000 Terminal Server, and ZENworks® OnDemand Services™.
- ◆ Proxy and authentication support in the iFolder client.
- ◆ File encryption across the wire and on the iFolder server to protect user data from unauthorized access.
- ◆ Management of iFolder server and accounts through a Web browser.
- ◆ Ability for administrators to recover a user's passphrase.
- ◆ Ability of end user to select the location of the local iFolder directory.

For information about key features of the iFolder client, see the *Novell iFolder 2.1 User Guide*.

1.4 Novell NetDrive

Novell NetDrive is a client software package that users can install on their Windows workstations. NetDrive allows a user to map a network drive to an iFolder server, using the iFolder protocol instead of the Novell Client™ or the iFolder client.

One advantage of NetDrive is that it allows a user to be logged in to multiple iFolder accounts from the same workstation and at the same time. NetDrive also synchronizes the iFolder data a user works with between a temporary local iFolder directory and the iFolder server while the user works with select files. When the user logs out of NetDrive, NetDrive completes the uploads in progress, if any, then deletes and purges the temporary local iFolder directory and all of the files in it. With NetDrive, the user does not need to manually upload and download files or delete files from the local workstation as is required with a Web browser-based interface.

For more information on how to install and use NetDrive on a user workstation, see the NetDrive documentation, located in the *Novell NetDrive 4.1 User Guide*.

1.5 What's Next

For a description of how iFolder works, see [Chapter 2, “Understanding the Novell iFolder Architecture,” on page 23](#).

For instructions on how to install and configure iFolder, begin with [Chapter 3, “Preparing to Install iFolder 2.1,”](#) on page 27.

Understanding the Novell iFolder Architecture

2

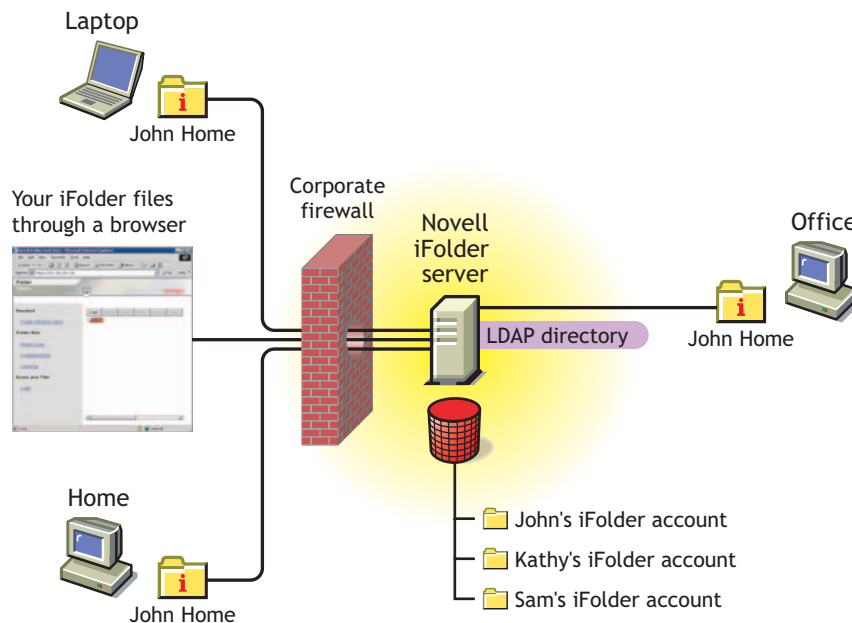
Novell® iFolder® 2.1 lets users manage files automatically. No matter where users choose to work, iFolder does all the file management for them. This means that even though users are working locally, all of their data is being securely uploaded and saved to the network. This data protection is automatic, secure, and transparent to users.

There are four pieces to Novell iFolder: the iFolder server software, the iFolder client software, the iFolder Java* applet (only for iFolder running on Windows 2000 and 2003 servers), and the Novell NetStorage. These pieces work together seamlessly to provide users with instant access to any iFolder files stored on their hard drives from anywhere in the world.

Figure 1 illustrates how the Novell iFolder server is accessed from different computers or locations. The iFolder server and storage component are central to the several access options.

For example, John authenticates to the iFolder server, using LDAPv3. John can access his iFolder data from home, work, or through a browser. When he works on a local computer, John is accessing his data locally. The iFolder server is responsible for making sure that all of John's computers have the latest version of his data. If he accesses his account through a browser, John is actually looking at the data that is stored on the iFolder server.

Figure 2-1 Typical iFolder Deployment Scenario



For information on the different access methods to use when accessing iFolder data, see the *Novell iFolder 2.1 User Guide*.

For information about synchronization, see [Section 2.4, “Authentication and Synchronization,”](#) on [page 25](#).

2.1 Large-Scale Deployment

One of the key features of iFolder is its ability to scale to a large and growing environment. You can install iFolder on multiple servers, allowing your iFolder environment to grow with your business.

There is no practical limit to the number of iFolder servers that you can have in your iFolder network—a single iFolder server handles up to 10,000 user accounts. In turn, each of these servers together acts as one system.

Because iFolder takes care of redirecting user authentication requests to the correct iFolder server, the login procedure is a seamless experience for the end user. Plus, as your iFolder network grows, your management costs stay the same, because the management of all iFolder servers is centralized through the iFolder Management Console.

2.2 Web Servers and iFolder

The iFolder server software uses Apache as its default Web server for NetWare[®] and Linux server operating systems. On Windows 2000 and Windows 2003, iFolder uses the IIS Web server.

For NetWare servers with Apache-based solutions, when iFolder is active, it can run in the operating system space or in protected memory space. Because iFolder requires some configuration changes to Apache-specific files, we recommend that you install iFolder on a server that does not have other applications that rely on Apache.

If you *do* have other applications that use Apache, these applications might not work after you install iFolder. Check the port settings of the other applications to resolve any conflicts.

2.3 LDAP and iFolder

LDAP is a directory protocol that enables you to communicate with servers that use a directory service.

iFolder uses LDAP for user authentication. It uses Novell eDirectory[™] or Microsoft Active Directory (for Windows 2000 and Windows 2003) as a central location for all of its LDAP objects that are specific to iFolder.

You can have iFolder and LDAP running on the same server or on different servers, but they must exist in the same tree.

2.3.1 LDAP Directories

iFolder uses two different types of LDAP directories: the Global Settings LDAP directory and the User LDAP directory.

The Global Settings LDAP directory stores information about the iFolder system configuration and has iFolder Settings, iFolder Server, and LDAP Server objects. (For more information on these objects, see [“Logging In to the iFolder Management Console” on page 134.](#))

The User LDAP directory authenticates iFolder users and adds the iFolder Server Name and the Disk Quota attribute to User objects. You must enable User objects for iFolder services in the iFolder Management Console before users can create their iFolder accounts.

Regardless of how many iFolder servers you have, you have only one Global Setting LDAP. However, you can have up to eight User LDAP directories. Multiple LDAP directories benefit companies whose User objects are already divided into different LDAP directories.

For example, if you have an LDAP directory for all of your vendors, another for your full-time employees, and another for your temporary hires, you can set up three User LDAP directories in iFolder to handle the iFolder accounts for each directory. This way, you can maintain your current organization and group management. For information, see [“Managing User LDAP Servers” on page 165](#).

2.4 Authentication and Synchronization

When a user logs in, the iFolder client authenticates to the iFolder server by sending the encrypted username and password through an Internet connection to the iFolder server. The iFolder server uses this information to verify that the user exists, and then checks to see if the User object has been enabled in the iFolder Management Console to use iFolder.

After the User object has been enabled, a user's iFolder account must be initialized on the iFolder server before the user can begin using iFolder on the local workstation. An iFolder account is initialized the first time a user logs in to the iFolder server with the iFolder client or NetStorage or with the iFolder Java applet. After the user account is created, the administrator can manage the account via the iFolder Management Console.

After the first login, a user can begin to add files to the local iFolder directory and automatic synchronization begins. The iFolder client is always aware of any local activity and, based on the synchronization preferences chosen by you or the user, the iFolder client regularly asks the iFolder server for a download of any new data. After the iFolder server downloads the data, it uploads any updates from the iFolder local directory. When the user access the account from a different computer, the iFolder server first downloads any updates before uploading the iFolder client changes.

2.5 For More Information

For a more technical description of how iFolder works, see [Appendix A, “In-Depth Look at Authentication, Encryption, and Synchronization,” on page 193](#).

Preparing to Install iFolder 2.1

3

Before installing the standalone release of Novell® iFolder® 2.1 server software on your enterprise server, prepare your network resources. Make sure you understand your installation or upgrade scenario and meet the prerequisites for that scenario.

- ◆ [Section 3.1, “Installation Scenarios for iFolder 2.1,” on page 27](#)
- ◆ [Section 3.2, “Installation Scenarios for iFolder 2.1.x,” on page 28](#)
- ◆ [Section 3.3, “Upgrade Scenarios for iFolder,” on page 31](#)
- ◆ [Section 3.4, “Prerequisites for iFolder 2.1,” on page 32](#)
- ◆ [Section 3.5, “Prerequisites for iFolder 2.1.x,” on page 36](#)
- ◆ [Section 3.6, “Download Instructions for iFolder 2.1,” on page 37](#)
- ◆ [Section 3.7, “What’s Next,” on page 38](#)

3.1 Installation Scenarios for iFolder 2.1

The standalone version of Novell iFolder 2.1 server software supports the following server operating systems:

- ◆ Novell NetWare® 5.1 Support Pack 5 or later
- ◆ Novell NetWare 6.0 Support Pack 2 or later
- ◆ Windows 2000 Service Pack 3 or later
- ◆ Red Hat Linux 8

Novell iFolder requires that you have an LDAP server that is active, synchronized, and working properly. Your LDAP server must be in the same tree as your iFolder server. You can point to the LDAP master server or to a replica.

iFolder 2.1 supports Novell eDirectory™ for the supported versions of NetWare, Windows, and Linux. It extends the cross-platform interoperability to include support for Microsoft Active Directory for Windows 2000 Service Pack 3 or later server operating environments. Previous versions of iFolder were interoperable with only eDirectory.

Novell iFolder 2.1 supports four installation scenarios:

Server Operating System	Web Server	LDAP Server
NetWare	Apache 1.3.26 or 1.3.27	eDirectory
Windows 2000	IIS	eDirectory
Windows 2000	IIS	Active Directory
Red Hat Linux 8	Apache 2.0.43	eDirectory

3.2 Installation Scenarios for iFolder 2.1.x

Novell iFolder 2.1.1 and 2.1.2 are bundled versions of iFolder 2.1. The planning, prerequisites, and installation instructions are integrated into the installation sequence of the product in which iFolder is bundled.

The following installation scenarios exist for Novell iFolder 2.1.x.

- ◆ [Section 3.2.1, “Installing iFolder 2.1.1 with NetWare 6.5,” on page 28](#)
- ◆ [Section 3.2.2, “Installing iFolder 2.1.2 with NetWare 6.5 Support Pack 1,” on page 28](#)
- ◆ [Section 3.2.3, “Installing iFolder 2.1.2 with Novell Nterprise Linux Services,” on page 29](#)
- ◆ [Section 3.2.4, “Installing iFolder 2.1.3 with Windows 2003 Server,” on page 29](#)
- ◆ [Section 3.2.5, “Installing iFolder 2.1.5 with Open Enterprise Server,” on page 29](#)
- ◆ [Section 3.2.6, “Installing iFolder 2.1.6 with Open Enterprise Server Support Pack 1,” on page 30](#)
- ◆ [Section 3.2.7, “Installing iFolder 2.1.6 on SLES 9 Server,” on page 30](#)
- ◆ [Section 3.2.8, “Installing iFolder 2.1.6 with Windows 2000 and Windows 2003 Server,” on page 30](#)
- ◆ [Section 3.2.9, “Installing iFolder 2.1.7 with Open Enterprise Server Support Pack 2,” on page 31](#)

3.2.1 Installing iFolder 2.1.1 with NetWare 6.5

As bundled with NetWare 6.5, Novell iFolder 2.1.1 supports one basic installation scenario.

Server Operating System	Web Server	LDAP Server
NetWare 6.5	Apache 2.0.43	eDirectory 8.6.2 or later

The instructions in this guide do not apply when installing iFolder 2.1.1 with NetWare 6.5. Please follow the prerequisite and installation instructions provided in the *OES NetStorage Administration Guide for NetWare*.

For instructions on managing your iFolder 2.1.1 server, please refer to [Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,” on page 129](#).

3.2.2 Installing iFolder 2.1.2 with NetWare 6.5 Support Pack 1

As bundled with NetWare 6.5 Support Pack 1, Novell iFolder 2.1.2 supports one basic installation scenario.

Server Operating System	Web Server	LDAP Server
NetWare 6.5 Support Pack 1	Apache 2.0.43	eDirectory 8.7.3

The instructions in this guide do not apply when installing iFolder 2.1.2 with NetWare 6.5 Support Pack 1. Please follow the prerequisite and installation instructions provided in the *OES NetStorage Administration Guide for NetWare*.

For instructions on managing your iFolder 2.1.2 server, please refer to [Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,”](#) on page 129.

3.2.3 Installing iFolder 2.1.2 with Novell Nterprise Linux Services

As bundled with the Novell Nterprise™ Linux Services 1.0 and later, Novell iFolder 2.1.2 supports three basic installation scenarios.

Server Operating System	Web Server	LDAP Server
Red Hat Enterprise Linux AS 2.1	Apache 2.0.48	eDirectory 8.7.3
Red Hat Enterprise Linux ES 2.1	Apache 2.0.48	eDirectory 8.7.3
SUSE® Linux Enterprise Server 8	Apache 2.0.48	eDirectory 8.7.3

The instructions in this guide do not apply when installing iFolder 2.1.2 with Novell Nterprise Linux Services. Please follow the prerequisite and installation instructions provided in the [Novell Nterprise Linux Services Installation Guide](#).

For instructions on managing your iFolder 2.1.2 server, please refer to [Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,”](#) on page 129.

3.2.4 Installing iFolder 2.1.3 with Windows 2003 Server

Novell iFolder 2.1.3 supports two basic installation scenarios.

Server Operating System	Web Server	LDAP Server
Windows 2003 Server	IIS 6.0	eDirectory
Windows 2003 Server	IIS 6.0	Active Directory

Please follow the prerequisite and installation instructions provided in the [Chapter 8, “Installing iFolder 2.1.3 on Windows 2003 and Windows 2000 Server,”](#) on page 67.

For instructions on managing your iFolder 2.1.3 server, please refer to [Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,”](#) on page 129.

3.2.5 Installing iFolder 2.1.5 with Open Enterprise Server

As bundled with the Open Enterprise Server, Novell iFolder 2.1.5 supports two basic installation scenarios.

Server Operating System	Web Server	LDAP Server
NetWare 6.5 SP3	Apache 2.0.52	eDirectory 8.7.3
SuSE Linux Enterprise Server 9 SP1	Apache 2.0.49	eDirectory 8.7.3

Please follow the prerequisite and installation instructions provided in the [Chapter 4, “Installing iFolder 2.1 on NetWare,”](#) on page 41 and [Chapter 9, “Installing iFolder 2.1.5 on OES for Linux,”](#) on page 77.

For instructions on managing your iFolder 2.1.5 server, please refer to [Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,”](#) on page 129.

3.2.6 Installing iFolder 2.1.6 with Open Enterprise Server Support Pack 1

As bundled with the Open Enterprise Server, Novell iFolder 2.1.6 supports two basic installation scenarios.

Server Operating System	Web Server	LDAP Server
NetWare 6.5 SP3	Apache 2.0.52	eDirectory 8.7.3
SuSE Linux Enterprise Server 9 SP1	Apache 2.0.49	eDirectory 8.7.3

Please follow the prerequisite and installation instructions provided in the [Chapter 4, “Installing iFolder 2.1 on NetWare,”](#) on page 41 and [Chapter 10, “Installing iFolder 2.1.6 on OES for Linux,”](#) on page 85.

For instructions on managing your iFolder 2.1.6 server, please refer to [Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,”](#) on page 129.

3.2.7 Installing iFolder 2.1.6 on SLES 9 Server

Novell iFolder 2.1.6 supports the following installation scenario.

Server Operating System	Web Server	LDAP Server
SuSE Linux Enterprise Server 9 SP1	Apache 2.0.43	Novell eDirectory

Please follow the prerequisite and installation instructions provided in the [Chapter 11, “Installing iFolder 2.1.6 on SLES 9 Server,”](#) on page 93.

For instructions on managing your iFolder 2.1.6 server, please refer to [Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,”](#) on page 129.

3.2.8 Installing iFolder 2.1.6 with Windows 2000 and Windows 2003 Server

Novell iFolder 2.1.6 supports two basic installation scenarios.

Server Operating System	Web Server	LDAP Server
Windows 2000 Server	IIS 6.0	eDirectory

Server Operating System	Web Server	LDAP Server
Windows 2000 Server	IIS 6.0	Active Directory
Windows 2003 Server	IIS 6.0	eDirectory
Windows 2003 Server	IIS 6.0	Active Directory

Please follow the prerequisite and installation instructions provided in the [Chapter 12, “Installing iFolder 2.1.6 on Windows 2000 and Windows 2003 Server,”](#) on page 97.

For instructions on managing your iFolder 2.1.3 server, please refer to [Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,”](#) on page 129.

3.2.9 Installing iFolder 2.1.7 with Open Enterprise Server Support Pack 2

As bundled with the Open Enterprise Server, Novell iFolder 2.1.7 supports two basic installation scenarios.

Server Operating System	Web Server	LDAP Server
NetWare 6.5 SP5	Apache 2.0.52	eDirectory 8.7.3
SuSE Linux Enterprise Server 9 SP2	Apache 2.0.49	eDirectory 8.7.3

Please follow the prerequisite and installation instructions provided in the [Chapter 4, “Installing iFolder 2.1 on NetWare,”](#) on page 41 and [Chapter 13, “Installing iFolder 2.1.7 on OES for Linux,”](#) on page 107.

For instructions on managing your iFolder 2.1.7 server, please refer to [Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,”](#) on page 129.

3.3 Upgrade Scenarios for iFolder

Novell iFolder 2.1 supports automatic upgrades from previous versions of iFolder as noted in the table below. You can uninstall your current version of iFolder, then install iFolder 2.1 if you do not want to retain the current settings for the product. For Red Hat Linux, you must uninstall, then install iFolder 2.1; automatic upgrade is not supported.

Server Operating System and LDAP Service	Preexisting iFolder Version	Automatic Upgrade ¹ to iFolder	Uninstall + Install ¹ iFolder
NetWare with eDirectory	Standard Edition	2.1	2.1
	2.0 Professional Edition	2.1	2.1
	2.1	2.1.1 or 2.1.2	2.1.1 or 2.1.2
	2.1.1	2.1.2	2.1.2

Server Operating System and LDAP Service	Preexisting iFolder Version	Automatic Upgrade ¹ to iFolder	Uninstall + Install ¹ iFolder
	2.1.2	2.1.3	2.1.3
	2.1.3	2.1.5 or later	2.1.5
	2.1.5	2.1.6 or later	2.1.6
	2.1.6	2.1.7	2.1.7
Windows 2000 with eDirectory	Standard Edition	2.1	2.1
	2.0 Professional Edition	2.1	2.1
	2.1	2.1.3	2.1.3
	2.1.3	2.1.6	2.1.6
Windows 2000 with Active Directory	2.1.3	2.1.6	2.1.6
Windows 2003 with eDirectory	2.1.3	2.1.6	2.1.6
Windows 2003 with Active Directory	2.1.3	2.1.6	2.1.6
Windows NT 4 with eDirectory	Standard Edition	No	No
	2.0 Professional Edition	No	No
Red Hat Linux with eDirectory	2.0 Professional Edition	No	2.1
Red Hat Enterprise Linux AS with eDirectory	None	No	No
Red Hat Enterprise Linux ES with eDirectory	None	No	No
SUSE Linux Enterprise Server 8 with eDirectory	None	No	No
SUSE [®] Linux Enterprise Server 9 with eDirectory	2.1.6	No	No
OES Linux with eDirectory	2.1.5	2.1.6 or later	2.1.6 or later
	2.1.6	2.1.7	2.1.7
Solaris with eDirectory	2.0 Professional Edition	No	No

Update your platform to the supported versions of the operating system and LDAP service.

3.4 Prerequisites for iFolder 2.1

Before you install iFolder 2.1 on your enterprise server, make sure you meet the following prerequisites for your server platform:

- ◆ [“Prerequisites for All iFolder 2.1 Servers” on page 33](#)
- ◆ [“Prerequisites for NetWare Servers for iFolder 2.1” on page 33](#)

- ◆ “Prerequisites for Windows 2000 Servers for iFolder 2.1” on page 34
- ◆ “Prerequisites for Linux Servers for iFolder 2.1” on page 35

3.4.1 Prerequisites for All iFolder 2.1 Servers

Before you install Novell iFolder 2.1, make sure your server and enterprise network environment meet all of the following prerequisites. See [Section 3.1, “Installation Scenarios for iFolder 2.1,”](#) on page 27 for the server environment scenarios.

- ❑ Configure an enterprise server with the following components:
 - ◆ Minimum 450 MHz Intel* Pentium* II processor.
 - ◆ Minimum 512 MB RAM. Add more RAM if the server supports programs or services other than iFolder. Add more RAM according to how many concurrent connections you intend to support.
 - ◆ Storage capacity for server software (about 15 MB) plus the user data for all the users' iFolder accounts.
 As a guide, consider the expected number of users and the quota of storage allotted for each iFolder user account. Also, consider the likely growth associated with each of the parameters to anticipate future demand for storage.
 For example, if you have 500 users and allocate a disk quota of 200 MB to each user, you must provide at least 100 GB of storage for iFolder accounts. Of course, not all users will fill their quota immediately. You must assess your initial needs, then monitor and expand physical capacity as usage grows.
 - ◆ An active network or Internet connection with full two-way access to other computers on the network or Internet, or both, depending on your deployment
- ❑ Install your preferred server operating system, including current service packs and patches.
- ❑ Install and configure Apache Web Server or IIS Server software on your server. Get an SSL certificate and install it onto your iFolder server.
- ❑ Install and configure your Novell eDirectory or Microsoft Active Directory LDAP server, including current service packs and patches. Make sure that your LDAP server is active, synchronized, and working properly.
- ❑ Make sure the DNS name and IP address of the enterprise server you want to use as your iFolder server are listed on the DNS server. The IP address must be unique within your network environment.
- ❑ To extend the schema for your LDAP server, you must have the appropriate rights or credentials to the root of the tree where you plan to install the iFolder server in your network.

3.4.2 Prerequisites for NetWare Servers for iFolder 2.1

Before you install Novell iFolder 2.1, make sure your NetWare server and enterprise network environment meet all of the following prerequisites. See [“Prerequisites for All iFolder 2.1 Servers”](#) on page 33 for additional requirements.

- ❑ Install and configure NetWare 6.0 Support Pack 5, NetWare 6.5 Support Pack 5 on your iFolder server.
- ❑ Install Novell eDirectory 8.7.3 or later as your LDAP server. Make sure it is active, synchronized, and working properly.

Your LDAP server and iFolder server can reside on the same machine or different machines.

- ❑ Create a storage volume accessible from the NetWare server where you want to store the user data for the iFolder accounts.

It is standard practice to store user data on a volume other than the sys: volume on the NetWare server. Storage solutions can include any NSS volume options supported by NetWare, including direct attached storage and storage area networks.

- ❑ Install and configure a Windows 98SE or NT 4, 2000 Professional, or XP Professional workstation.

You will use the workstation to install the iFolder software on your NetWare server across an active network connection.

- ❑ Install IE 5.0 or later on your installation workstation.
- ❑ If the NetWare server where you will be installing iFolder is not configured to use the CIFS (Common Internet File Services) protocol, install the Novell Client™ on your installation workstation.

You can download a current version of the Novell Client at the [Novell Product Downloads Web site \(http://download.novell.com\)](http://download.novell.com).

- ❑ Install Apache Web Server 1.3.26 or 1.3.27.

With iFolder 2.1 for NetWare 5.1 Support Pack 5 and NetWare 6.0 Support Pack 2 servers, you must use Apache Web Server 1.3.26 or 1.3.27. If you use another version of Apache, iFolder does not work as designed.

A binary distribution of Apache Web Server 1.3.27 was made available with NetWare 6.0 Support Pack 2 on the *NetWare 6 Support Pack 2 Overlay CD*. These versions might already be installed on your NetWare 6.0 servers.

For NetWare 6.0 servers, upgrade to Support Pack 2, then reinstall the original Apache 1.3.27 binary distribution. Do not install iFolder on an upgraded version of Apache other than Apache 1.3.27.

For NetWare 5.1 Support Pack 5 servers, download NetWare 6.0 Support Pack 2 or the *NetWare 6.0 Support Pack 2 Overlay CD*, then extract the contents to a temporary location. Locate the Products/Novonyx/aapache.zip file, which contains the binary distribution of Apache Web Server 1.3.27, extract the contents of the aapache.zip file to a temporary directory, then copy the contents of the temporary directory to the sys:\apache directory on your NetWare 5.1 server.

3.4.3 Prerequisites for Windows 2000 Servers for iFolder 2.1

Before you install Novell iFolder 2.1, make sure your Windows 2000 server and enterprise network environment meet all of the following prerequisites. See “[Prerequisites for All iFolder 2.1 Servers](#)” on page 33 for additional requirements.

- ❑ Install Windows 2000 Service Pack 3, including all patches.
- ❑ Create a storage volume accessible from the Windows server where you want to store the user data for the iFolder accounts.

It is standard practice to store user data on a volume other than the system volume. Storage solutions can include any volume options supported by Windows, including direct attached storage and storage area networks.

- ❑ Install Novell eDirectory 8.6.2 or later or install Microsoft Active Directory (from Windows 2000 Server with Service Pack 3 or later) as your LDAP server. Make sure it is active, synchronized, and working properly.

Your LDAP server and your iFolder server can reside on the same machine or on different machines.

- ❑ If you use Active Directory as your LDAP server, you must meet these additional requirements:
 - ◆ In Active Directory environments, if you have shared schema domain controllers, all must be active and synchronized to enable the schema extension during the iFolder installation.
 - ◆ You must have the necessary rights to extend the Active Directory schema. During a Complete install, iFolder extends the schema. Alternately, you can run the install to extend the schema independently, using the Extend Schema Only option.
- ❑ Install and configure IIS Server on the iFolder server, including service packs and patches.
- ❑ Get an SSL certificate and install it onto your iFolder server, using one of these methods:
 - ◆ If you have your own certificate server, such as Novell Certificate Server, then you can get a certificate from your server.
 - ◆ You can go to a certificate vendor, such as Entrust* or VeriSign*, and purchase a certificate.

For more information on creating and installing SSL certificates:

- ◆ For IIS 4, refer to the [Microsoft Product Support Services Web site \(http://support.microsoft.com/kb/q228991/\)](http://support.microsoft.com/kb/q228991/)
 - ◆ For IIS 5, refer to the [Microsoft Product Support Services Web site \(http://support.microsoft.com/support/kb/articles/Q228/8/36.ASP\)](http://support.microsoft.com/support/kb/articles/Q228/8/36.ASP)
 - ◆ For IIS 6, refer to the [Microsoft TechNet Web site \(http://www.microsoft.com/technet/prodtechnol/WindowsServer2003/Library/IIS/89c7ef2f-f7d6-483c-8b08-ae0c6584dd4d.mspx\)](http://www.microsoft.com/technet/prodtechnol/WindowsServer2003/Library/IIS/89c7ef2f-f7d6-483c-8b08-ae0c6584dd4d.mspx)
- ❑ Install Internet Explorer (IE) 5.0 or later on your server.

3.4.4 Prerequisites for Linux Servers for iFolder 2.1

Before you install Novell iFolder 2.1, make sure your Linux server and enterprise network environment meet all of the following prerequisites. See “[Prerequisites for All iFolder 2.1 Servers](#)” on page 33 for additional requirements.

- ❑ Install and configure SLES 9 Support Pack 2 server on your iFolder server, including all service packs and patches.
- ❑ Create a storage volume accessible from the Linux server where you want to store the user data for the iFolder accounts.

It is standard practice to store user data on a volume other than the system volume. Storage solutions can include any volume options supported by SLES 9, including direct attached storage and storage area networks.

- ❑ Install Novell eDirectory as your LDAP server. Make sure it is active, synchronized, and working properly.

Your LDAP server and iFolder server can reside on the same machine.

- ❑ Install Apache Web Server 2.0.43 or later on your Linux server.

- ❑ If you plan to use SSL mode for iFolder, set up a self-signed root certificate so that Apache will run in SSL mode.
- ❑ Install Internet Explorer (IE) 5.0 or later on the Windows workstation that you will use for iFolder server administration.

3.5 Prerequisites for iFolder 2.1.x

For prerequisite and installation instructions for iFolder 2.1.x server, see the installation guide of the product in which iFolder is bundled. Use the table below to determine which installation guide applies to your version of iFolder 2.1.x.

If You Have This Version of iFolder	Bundled with This Product	Then Refer To
iFolder 2.1.1	NetWare 6.5	<i>NetWare 6.5 Overview and Installation Guide</i>
iFolder 2.1.2	NetWare 6.5 Support Pack 1	<i>NetWare 6.5 Overview and Installation Guide</i>
iFolder 2.1.2	Novell Nterprise™ Linux Services	<i>Novell Nterprise Linux Services Installation Guide</i>
iFolder 2.1.2	Novell Nterprise Linux Services Support Pack 1	<i>Novell Nterprise Linux Services Installation Guide</i>
iFolder 2.1.3	NetWare 6.5 Support Pack 2	<i>NetWare 6.5 Overview and Installation Guide</i>
iFolder 2.1.5	NetWare 6.5 Support Pack 3 (OES for NetWare)	<i>NetWare 6.5 Overview and Installation Guide</i>
iFolder 2.1.5	OES for Linux	OES for Linux (http://www.novell.com/documentation/oes/index.html?page=/documentation/oes/install_linux/data/btejmd5.html#btejmd5)
iFolder 2.1.6	NetWare 6.5 Support Pack 4 (OES Support Pack 1 for NetWare)	OES for NetWare (http://www.novell.com/documentation/oes/index.html?page=/documentation/oes/install-nw/data/hz8pck9v.html#bktitle)
iFolder 2.1.6	OES Support Pack 1 for Linux	OES for Linux (http://www.novell.com/documentation/oes/index.html?page=/documentation/oes/install_linux/data/btejmd5.html#btejmd5)
iFolder 2.1.7	NetWare 6.5 Support Pack 5 (OES Support Pack 2 for NetWare)	OES for Linux (http://www.novell.com/documentation/oes/index.html?page=/documentation/oes/install_linux/data/btejmd5.html#btejmd5)

If You Have This Version of iFolder	Bundled with This Product	Then Refer To
iFolder 2.1.7	OES Support Pack 2 for Linux	OES for Linux (http://www.novell.com/documentation/oes/index.html?page=/documentation/oes/install_linux/data/btejmd5.html#btejmd5)

3.6 Download Instructions for iFolder 2.1

After you meet all the general prerequisites and server-specific prerequisites for your preferred server configuration, you are ready to download the Novell iFolder 2.1 server installation program and your preferred LDAP server software.

- ♦ “[Downloading Novell iFolder 2.1](#)” on page 37
- ♦ “[Downloading Novell eDirectory or Microsoft Active Directory](#)” on page 37

3.6.1 Downloading Novell iFolder 2.1

- 1 Download Novell iFolder 2.1 at the [Novell Product Downloads Web site](http://download.novell.com) (<http://download.novell.com>).
- 2 Review the readme.txt file in the product.

Remember the location of the downloaded program installation file; you will need it when you are ready to install iFolder server.

If you purchased NetWare 6.5, iFolder 2.1.1 is available on the *NetWare 6.5 CD 2 (Products)*. iFolder 2.1.2 is available in the NetWare 6.5 Support Pack 1 build.

If you purchased Novell Nterprise Linux Services, iFolder 2.1.2 is available in the NNLS download file.

3.6.2 Downloading Novell eDirectory or Microsoft Active Directory

Novell iFolder requires that you have an LDAP server that is active, synchronized, and working properly. iFolder is compatible with eDirectory and Active Directory in the configurations discussed in [Section 3.1, “Installation Scenarios for iFolder 2.1,”](#) on page 27.

Novell eDirectory

Novell iFolder 2.1 requires Novell eDirectory 8.6.2 or later.

To get copy of eDirectory:

- 1 Download eDirectory at the [Novell Download Web site](http://download.novell.com) (<http://download.novell.com>).
- 2 Review the readme.txt file in the product.
- 3 Obtain your license file from www.novell.com/products/edirectory/customer_license.htm (http://www.novell.com/products/edirectory/customer_license.htm).

Active Directory

For Windows 2000 servers, iFolder 2.1 is compatible with both eDirectory and Microsoft Active Directory. If you want to use iFolder with Active Directory, the Active Directory software is a component of Windows 2000 Service Pack 3 or later server software.

For information about Active Directory, see the [Microsoft Web site \(http://www.microsoft.com\)](http://www.microsoft.com).

3.7 What's Next

Choose one of the possible installation or upgrade scenarios, then use the table below to determine where next to go to install iFolder:

To Install This Version of iFolder	On This Server Operating System	Do This
iFolder 2.1	NetWare 5.1 Support Pack 5 or later or NetWare 6.0 Support Pack 2 or later with Novell eDirectory	For standalone servers, see Chapter 4, "Installing iFolder 2.1 on NetWare," on page 41. For NetWare clusters, see Section C.3, "Configuring an iFolder Server Cluster on NetWare 5.1 and 6.0," on page 201 in Configuring iFolder on Novell Cluster Services .
	Windows 2000 Service Pack 3 or later with Novell eDirectory	Section 5.2, "Installing iFolder on Windows/IIS/eDirectory," on page 47
	Windows 2000 Service Pack 3 or later with Microsoft Active Directory	Section 5.3, "Installing iFolder on Windows/IIS/Active Directory," on page 51
iFolder 2.1.1 or 2.1.2	Red Hat Linux 8 with Novell eDirectory	Chapter 6, "Installing iFolder 2.1 on Red Hat Linux 8," on page 57
	NetWare 6.5 or later with Novell eDirectory	For NetWare servers, see the NetWare 6.5 Overview and Installation Guide . For NetWare clusters, see Section C.4, "Configuring an iFolder Server Cluster on NetWare 6.5 and Later," on page 203 in Configuring iFolder on Novell Cluster Services .
iFolder 2.1.2	All Enterprise Linux server operating systems supported by Novell Nterprise Linux Services 1.0 and later	Novell Nterprise Linux Services Installation Guide

To Install This Version of iFolder	On This Server Operating System	Do This
iFolder 2.1.3	NetWare 6.5 or later with Novell eDirectory	For NetWare servers, see the <i>NetWare 6.5 Overview and Installation Guide</i> . For NetWare clusters, see Section C.4, “Configuring an iFolder Server Cluster on NetWare 6.5 and Later,” on page 203 in <i>Configuring iFolder on Novell Cluster Services</i> .
	Windows 2000 Service Pack 3 or later with Novell eDirectory	Chapter 8, “Installing iFolder 2.1.3 on Windows 2003 and Windows 2000 Server,” on page 67
	Windows 2000 Service Pack 3 or later with Microsoft Active Directory	Chapter 8, “Installing iFolder 2.1.3 on Windows 2003 and Windows 2000 Server,” on page 67
	Windows 2003 server with Novell eDirectory or Microsoft Active Directory	Chapter 8, “Installing iFolder 2.1.3 on Windows 2003 and Windows 2000 Server,” on page 67
	Red Hat Linux 8 with Novell eDirectory	Chapter 6, “Installing iFolder 2.1 on Red Hat Linux 8,” on page 57
iFolder 2.1.5	NetWare 6.5 or later with Novell eDirectory	For NetWare servers, see the <i>NetWare 6.5 Overview and Installation Guide</i> . For NetWare clusters, see Section C.4, “Configuring an iFolder Server Cluster on NetWare 6.5 and Later,” on page 203 in <i>Configuring iFolder on Novell Cluster Services</i> .
	SLES 9 with Novell eDirectory	Chapter 10, “Installing iFolder 2.1.6 on OES for Linux,” on page 85
iFolder 2.1.6	NetWare 6.5 or later with Novell eDirectory	For NetWare servers, see the <i>NetWare 6.5 Overview and Installation Guide</i> . For NetWare clusters, see Section C.4, “Configuring an iFolder Server Cluster on NetWare 6.5 and Later,” on page 203 in <i>Configuring iFolder on Novell Cluster Services</i> .
	SLES 9 with Novell eDirectory	Chapter 10, “Installing iFolder 2.1.6 on OES for Linux,” on page 85
iFolder 2.1.7	NetWare 6.5 or later with Novell eDirectory	For NetWare servers, see the <i>NetWare 6.5 Overview and Installation Guide</i> . For NetWare clusters, see Section C.4, “Configuring an iFolder Server Cluster on NetWare 6.5 and Later,” on page 203 in <i>Configuring iFolder on Novell Cluster Services</i> .
	SLES 9 with Novell eDirectory	Chapter 13, “Installing iFolder 2.1.7 on OES for Linux,” on page 107

Upgrading from iFolder 2.0 Professional Edition to iFolder 2.1

Upgrading from iFolder 2.0 Professional Edition to iFolder 2.1 is a straightforward process. If you meet the prerequisites for this upgrade path as outlined in [Section 3.3, “Upgrade Scenarios for iFolder,” on page 31](#), use the preceding table to determine where to go for installation instructions.

Upgrading from iFolder Standard Edition to iFolder 2.1

Upgrading from iFolder Standard Edition to iFolder 2.1 requires special considerations before you upgrade. If you meet the prerequisites for this upgrade path as outlined in [Section 3.3, “Upgrade Scenarios for iFolder,” on page 31](#), follow the instructions in [“Upgrading from iFolder Standard Edition to iFolder 2.1” on page 195](#).

Installing iFolder 2.1 on NetWare

4

This section describes the how to install the standalone version of Novell® iFolder® 2.1 server software, using the following configuration:

Server Operating System	Web Server	LDAP Server
NetWare®	Apache	Novell eDirectory™

NOTE: The instructions in this section do not apply when installing iFolder 2.1.x, as bundled with Novell NetWare 6.5 and later. Please follow the prerequisite and installation instructions provided in the *NetWare 6.5 Overview and Installation Guide*.

For a description of known issues related to installation, see the *Novell 2.1 Readme*.

The following topics are discussed:

- ◆ [Section 4.1, “Confirming Prerequisites,” on page 41](#)
- ◆ [Section 4.2, “Installing iFolder Server,” on page 41](#)
- ◆ [Section 4.2.1, “Post-Installation,” on page 46](#)
- ◆ [Section 4.3, “What’s Next,” on page 46](#)

4.1 Confirming Prerequisites

Before you install Novell iFolder 2.1, make sure you have met the following prerequisites and download requirements:

- ◆ For general iFolder server prerequisites, see [“Prerequisites for All iFolder 2.1 Servers” on page 33](#).
- ◆ For prerequisites specific to NetWare, see [“Prerequisites for NetWare Servers for iFolder 2.1” on page 33](#).
- ◆ For instructions for downloading Novell iFolder 2.1, see [Section 3.6, “Download Instructions for iFolder 2.1,” on page 37](#)

4.2 Installing iFolder Server

After you have met all the prerequisites for installing iFolder on NetWare, you are ready to install Novell iFolder 2.1.

- 1 On your installation workstation, map a drive to the sys: volume on the destination server where you want to install the iFolder server. Map the drive, using one of these methods:
 - ◆ If you use CIFS on the destination NetWare server, map a drive, using Windows Explorer.
 - ◆ If you do not use CIFS on the destination NetWare server, map a drive, using the Novell Client™.

Remember this drive letter; you need it in [Step 6 on page 42](#) to enter as the installation drive path.

- 2 On your NetWare server, you must bring the Apache Web site down to install, upgrade, repair, or uninstall the iFolder server.

For Apache 1.3.26 and 1.3.27, enter the following command from the NetWare command prompt:

```
nvxadmdn.ncf
```

- 3 To start the installation, go to the temporary directory on your workstation where you saved the installation program, then double-click the installation program icon.

The iFolder Installation Wizard opens on the desktop of your installation workstation.

- 4 Do one of the following:

- ♦ **New Installation of iFolder 2.1:** Continue or Cancel the installation.

If you click Continue, proceed to [Step 5 on page 42](#).

If you click Cancel, the installation program exits and iFolder server is not installed. You can restart the install at a later time.

- ♦ **Upgrade Installation or Repair of iFolder 2.1:** If you are installing iFolder 2.1 on an existing iFolder server, the Installation Wizard automatically detects it. Proceed to [Step 10 on page 44](#).

- 5 For new iFolder 2.1 installations, read the End User License Agreement, then do one of the following:

- ♦ Agree (click Yes)

The installation program proceeds.

- ♦ Disagree (click No)

The installation program exits and the iFolder server is not installed. You can restart the installation at a later time.

- 6 Specify the directory on the destination NetWare server where you want iFolder server to be installed. Browse to select the drive letter that you mapped in [Step 1 on page 41](#).

- 7 Configure the global settings for the eDirectory LDAP server that your iFolder server uses, then click Next.

- ♦ **LDAP hostname or IP:** Enter the DNS name (such as ldap1.your-domain-name.com) or IP address (such as 192.168.1.1) of the server that acts as your LDAP server.

This might be the same server that you are configuring as your iFolder server.

IMPORTANT: If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

- ♦ **Port:** Select the port type, based your security needs, for data exchanges between your LDAP server and your iFolder server.

Select one of the following methods:

- ♦ **Clear Text:** Specify any valid TCP port number to use for Clear Text exchanges. By default, Port 389 is used for Clear Text.

Use Clear Text if you want to use LDAP without SSL encryption or if your LDAP server does not support SSL. Clear Text is also a good choice if iFolder and LDAP

are running on the same server. Because no communication or data is being transferred across network connections, no encryption is necessary.

If you use Clear Text, the LDAP Group object must be able to allow clear text passwords. To verify this, launch ConsoleOne[®], locate the context where your server resides, right-click the LDAP Group object, click Parameters, and make sure the Allow Clear Text Passwords check box is checked.

- ♦ **SSL:** Specify any valid TCP port number to use for SSL exchanges. By default, Port 636 is used for SSL.

Select SSL if you want to use SSL exchanges to provide your network with encryption and security when data is transferred across network connections.

To use a non-standard secure port (other than 636), you must provide the LDAP server Root certificate file to the iFolder server after the installation is complete.

For more information, refer to [Section 4.2.1, “Post-Installation,” on page 46](#)

- ♦ **LDAP Context Where iFolder Admin User Is Located:** Enter the LDAP context where you iFolder Admin User objects are located. For example, o=all.

If you are entering more than one context, separate them with semicolons and with no spaces. For example,

```
o=all;o=novell
```

Do not include spaces between delimiters in the context. For example,

```
o=novell;ou=users,o=novell
```

- 8 Configure the iFolder settings for the NetWare server that will be your iFolder server, then click next.

- ♦ **iFolder Server Host Name or IP:** Enter the DNS name (such as nif1.your-domain-name.com) or the IP address (such as 192.168.1.1) to use for your iFolder server.

IMPORTANT: If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

If you are planning to create a Novell cluster server, use the DNS name here. For information, see [Step 1 on page 203](#).

To specify a port, append the IP address of the server with a colon followed by the port number. For example, 192.168.1.1:80.

- ♦ **iFolder Admin Names:** Specify the default user ID for the iFolder administrator for this iFolder server. For example,

```
admin
```

The iFolder Admin Names are the users who have permission to manage the iFolder server, using the iFolder Management Console. You can assign more than one user ID to be an iFolder administrator. If you have multiple user IDs, separate them with semicolons and with no spaces. For example,

```
admin;jsmith;acatt
```

IMPORTANT: All of the users identified here must exist in the context identified in [Step 7 on page 42](#).

- ♦ **Local iFolder User Database Path:** Specify the path to the directory on the iFolder server where user data for all the iFolder accounts will be stored. For example,

sys:\iFolder or *nif-user:\iFolder*, where *sys:* or *nif-user:* is the name of the preexisting volume and *iFolder* is the location of iFolder user data.

The default location is *sys:\iFolder* because a *sys:* volume is the only NSS volume known to exist prior to the definition of your storage architecture solution for the NetWare server. By using a separate volume for user data, you can avoid filling up your *sys:* volume.

The iFolder installation creates a directory on an existing volume, but it does not create a new volume. You must create the alternate volume prior to installing iFolder. Otherwise, the installation will fail.

Do one of the following:

- ◆ Specify the preexisting volume other than *sys:* and the directory where you want to store user data. For example, *nif-user:\iFolder*, where *nif-user* is the name of the preexisting volume and *iFolder* is the location of iFolder user data.
- ◆ Specify the default location of *sys:\iFolder* for now. If desired, you can change the location later by editing the value in the `Apache\iFolderServer\httpd_ifolder_nw.conf` file.

- 9** Review the settings you provided in the previous steps. To return to previous pages and change the settings, click Back and repeat the steps, as necessary.

When you are done, click Next, then go to [Step 11 on page 45](#).

- 10** If a version of iFolder already exists on the server as identified in [Step 4 on page 42](#), you can upgrade, repair, or uninstall that version.

Do one of the following:

- ◆ **Upgrade to iFolder 2.1:** Click Upgrade/Repair, then do one of the following:
 - ◆ **Upgrade from iFolder Standard Edition:** The iFolder Installation Wizard requests that you confirm the upgrade to iFolder 2.1.

IMPORTANT: You might need to follow a manual upgrade process if you have a large number of users who have extended characters in their passphrases. You must also follow special precautions if you decide to concurrently use both iFolder 1.x and iFolder 2.1 systems. For information, see [Appendix B, “Upgrading from iFolder Standard Edition to iFolder 2.1,” on page 195](#).

To accept, click Yes. The installation continues and uses the current settings of your iFolder 1.x server as the default settings for iFolder 2.1. iFolder notifies you when the upgrade installation is complete. User data remains untouched.

In iFolder 2.1, the iFolder policies are stored in the iFolderSettings object in eDirectory™ instead of the `ifolder.xml` file. After the upgrade process completes, manually remove the `ifolder.xml` file from the iFolder data directory. By default, this location is *sys:\ifolder\ifolder.xml*. Replace *sys:\ifolder* with the actual path to your iFolder data directory.

- ◆ **Upgrade from iFolder 2.0 Professional Edition:** The iFolder Installation Wizard requests that you confirm the upgrade to iFolder 2.1.

To accept, click Yes. The installation continues and uses the current settings of your iFolder 2.0 server as the default settings for iFolder 2.1. iFolder notifies you when the upgrade installation is complete. User data remains untouched.

- ◆ **Decline the Upgrade:** To decline, click No. Your iFolder server is not upgraded.

- ♦ **Repair iFolder 2.1:** The iFolder Installation Wizard requests that you confirm the repair of iFolder 2.1.

To accept, click Yes. The reinstall continues and uses the current settings of your iFolder 2.1 server as the default settings. iFolder notifies you when the repair installation is complete. User data remains untouched.

To decline, click No. Your iFolder 2.1 server is not repaired.

- ♦ **Uninstall iFolder 2.1:** Click Uninstall. The iFolder Installation Wizard requests that you confirm the uninstall.

To accept, click Yes. The iFolder uninstall process stops the iFolder server and removes all iFolder files and settings. iFolder notifies you when the uninstall is complete. User data remains on the server; you must remove it manually.

To decline, click No. iFolder will not be uninstalled.

11 To exit the Installation Wizard, click Finish.

12 After the software is installed or upgraded on your NetWare server, you must bring the Apache Web site down and up again to make the changes permanent.

For Apache Web Server 1.3.26 and 1.3.27, at the command prompt, enter

```
nvxadmdn.ncf
```

Allow enough time for the Web server to shut down gracefully, then at the command prompt, enter

```
nvxadmup.ncf
```

After the server restarts, iFolder is active on your system.

If this is a new installation of iFolder, continue to [Step 13 on page 45](#). If this is an upgrade, your upgrade is successfully completed.

13 If this is a new installation, you must extend the eDirectory schema before you can use the iFolder server.

13a To open the iFolder Management Console, do one of the following:

- ♦ Select the Administer iFolder option on the last window of the iFolder installation process.
- ♦ From a Web browser on your installation workstation, go to the iFolder Management Console, click File > Open, then enter the following URL:

```
https://nif1.your-domain-name.com/iFolderServer/Admin
```

IMPORTANT: This URL is case sensitive.

Replace *nif1.your-domain-name.com* with the actual DNS name or IP address of your iFolder server.

13b Log in to the Global Settings page.

On successful login, iFolder extends the eDirectory schema. This can take several seconds, so expect a 10- to 30-second delay in the response.

When the browser opens to the Global Settings General Information page, the installation is complete.

4.2.1 Post-Installation

To connect over non-standard secure port, copy the LDAP trusted root certificate (rootcert.der file) from your LDAP server to a directory on your iFolder server. For example, in NetWare, copy the rootcert.der file from LDAP server's sys:\public directory to a directory on the iFolder server.

- 1 In iFolder server, go to sys:\apache2\ifolder\server and open the httpd_ifolder_nw.conf file.
- 2 In the httpd_ifolder_nw.conf file, locate the “LdapRootCert” directive, uncomment it, and then add the location including certificate file name as its value.
- 3 Restart the iFolder server.

NOTE: If you enter a value for LdapRootCert directive, the iFolder server considers any LDAP port (apart from 389) as a secure port.

4.3 What's Next

Follow the instructions for configuring and managing your iFolder server in the [Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,”](#) on page 129. You must enable iFolder services for a user before the user can initialize an iFolder account.

After you provision a user's account for iFolder services, to initialize the iFolder account, a user must login to the iFolder server, using the iFolder client or NetStorage or NetDrive.

IMPORTANT: If your global client polices include any enforced or hidden settings, the users must log in with the iFolder client to initialize their iFolder user accounts.

To install the iFolder client on workstations, follow the instructions in the [iFolder 2.1 Quick Start](#) and the [Novell iFolder 2.1 User Guide](#), available on the [Novell iFolder online documentation Web site](http://www.novell.com/documentation/lg/ifolder21/index.html) (<http://www.novell.com/documentation/lg/ifolder21/index.html>).

To install iFolder on additional servers, follow the instructions in [Section 16.3, “Configuring iFolder on Additional Servers,”](#) on page 143.

For more information about known issues for iFolder servers and workstations, see the [Novell 2.1 Readme](#).

Installing iFolder 2.1 on Windows 2000 Server

5

This section describes how to install the standalone version of Novell® iFolder® 2.1 server software on Microsoft Windows 2000 Service Pack 3, using the following configurations:

Server Operating System	Web Server	LDAP Server
Windows 2000	IIS	Novell eDirectory™
Windows 2000	IIS	Active Directory

For a description of known issues related to installation, see the *Novell 2.1 Readme*.

See the following sections for installation and configuration information:

- ♦ [Section 5.1, “Confirming Prerequisites,” on page 47](#)
- ♦ [Section 5.2, “Installing iFolder on Windows/IIS/eDirectory,” on page 47](#)
- ♦ [Section 5.3, “Installing iFolder on Windows/IIS/Active Directory,” on page 51](#)
- ♦ [Section 4.3, “What’s Next,” on page 46](#)

5.1 Confirming Prerequisites

Before you install Novell iFolder, make sure you have met the following prerequisites and download requirements:

- ♦ For general iFolder server prerequisites, see [“Prerequisites for All iFolder 2.1 Servers” on page 33](#).
- ♦ For prerequisites particular to Windows 2000 server, see [“Prerequisites for Windows 2000 Servers for iFolder 2.1” on page 34](#).
- ♦ For instructions for downloading the Novell iFolder 2.1 installation program, see [Section 3.6, “Download Instructions for iFolder 2.1,” on page 37](#).

5.2 Installing iFolder on Windows/IIS/eDirectory

This section describes how to install Novell iFolder, using the following configuration:

Server Operating System	Web Server	LDAP Server
Windows 2000	IIS	Novell eDirectory

After you have met the prerequisites for this configuration, you are ready to install iFolder.

- 1 If you plan to use LDAP over SSL, locate a self-signed root certificate (rootcert.der) for your iFolder server.

You can export a self-signed root certificate from your certificate server. For information, see your Windows 2000 Server documentation or visit the [Microsoft Web site \(http://www.microsoft.com\)](http://www.microsoft.com).

Save the rootcert.der file to a location on the iFolder server or to a floppy disk. For example, a:\rootcert.der. Remember this location; you need it in [Step 8 on page 48](#).

- 2 If your IIS server is not currently running, start your IIS server.
- 3 To start the installation, go to the temporary directory where you saved the installation program, then double-click the installation program icon.
- 4 The iFolder Installation Wizard opens on your desktop. Do one of the following:
 - ♦ **New Installation of iFolder 2.1:** Select to either Continue or Cancel the installation.
If you click Continue, proceed to [Step 5 on page 48](#).
If you click Cancel, the installation program exits and the iFolder server is not installed. You can restart the installation at a later time.
 - ♦ **Upgrade Installation or Repair of iFolder 2.1:** If you are installing iFolder 2.1 on an existing iFolder server, the Installation Wizard automatically detects it. Proceed to [Step 11 on page 50](#).
- 5 For new iFolder 2.1 installations, read the End User License Agreement, then do one of the following:
 - ♦ Agree (click Yes)
The installation program proceeds.
 - ♦ Disagree (click No)
The installation program exits and the iFolder server is not installed. You can restart the installation at a later time.
- 6 To select Novell eDirectory as your LDAP server, click eDirectory.

TIP: If you have an Active Directory LDAP server and want to install the iFolder server on a Windows 2000 server, follow the installation procedures in [Section 5.3, “Installing iFolder on Windows/IIS/Active Directory,” on page 51](#).

- 7 Specify the directory on the destination server where you want iFolder server to be installed. Browse to select the drive letter that you mapped in [Step 1 on page 47](#).
- 8 Configure the global settings for the eDirectory LDAP server that your iFolder server uses, then click Next.
 - ♦ **LDAP Host Name or IP:** Specify the DNS name (such as *ldap1.your-domain-name.com*) or IP address (such as *192.168.1.1*) of the server that acts as your LDAP server. Replace *ldap1.your-domain-name.com* or *192.168.1.1* with the actual DNS name or IP address of your LDAP server.

This can be the same server that you are configuring as your iFolder server.

IMPORTANT: If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

- ♦ **Port:** Select the port type, based your security needs, for data exchanges between your LDAP server and your iFolder server.

Select one of the following methods:

- ♦ **Clear Text:** Specify any valid TCP port number to use for Clear Text exchanges. By default, Port 389 is used for Clear Text.

Use Clear Text if you want to use LDAP without SSL encryption or if your LDAP server does not support SSL. Clear Text is also a good choice if iFolder and LDAP are running on the same server. Because no communication or data is being transferred across network connections, no encryption is necessary.

- ♦ **SSL:** Specify any valid TCP port number to use for SSL exchanges. By default, Port 636 is used for SSL.

Use SSL if you want to use SSL exchanges to provide your network with encryption and security when data is transferred across network connections.

- ♦ **Root Certificate Path:** If you selected the SSL option, provide the full directory path to your self-signed root certificate you created or identified in [Step 1 on page 47](#).

For example, type `a:\rootcert.der` if you exported the certificate to a floppy disk.

- ♦ **LDAP Context Where iFolder Admin User Is Located:** Specify the LDAP context. For example, `o=all`.

9 Configure the iFolder settings for the Windows 2000 server that will be your iFolder server, then click Next.

- ♦ **iFolder Server Host Name or IP:** Specify the DNS name (such as `nif1.your-domain-name.com`) or the IP address (such as `192.168.1.1`) to use for your iFolder server.

IMPORTANT: If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

- ♦ **iFolder Admin Names:** Specify the default user ID for the iFolder administrator for this iFolder server. For example, `admin`.

The iFolder Admin Names are the users who have permission to manage the iFolder server. You can assign multiple users to be iFolder administrators. For multiple Admin Names, separate them with semicolons and with no spaces. For example,

```
administrator;jsmith;acatt
```

IMPORTANT: All of the users identified here must exist in the context identified in [Step 8 on page 48](#).

- ♦ **Local iFolder User Database Path:** Specify the path on the iFolder server where user data for all the iFolder accounts will be stored. For example, `e:\iFolder`, where `e:` is the preexisting volume and `iFolder` is the directory. If desired, you can edit the value later in the Windows Registry.

IMPORTANT: The volume you specify must already exist on the Windows server. The iFolder installation program does not create it for you.

10 Review the settings you provided in the previous steps. To return to previous pages and change the settings, click Back and repeat the steps, as necessary.

When you are done, click Next.

11 If a version of iFolder already exists on the server as identified in [Step 4 on page 48](#), do one of the following:

- ◆ **Upgrade to iFolder 2.1:** Click Upgrade/Repair, then do one of the following:

- ◆ **Upgrade from iFolder Standard Edition:** The iFolder Installation Wizard requests that you confirm the upgrade to iFolder 2.1.

To accept, click Yes. The installation continues and uses the current settings of your iFolder 1.x server as the default settings for iFolder 2.1. iFolder notifies you when the upgrade installation is complete. User data remains untouched.

IMPORTANT: You might need to follow a manual upgrade process if you have a large number of users who have extended characters in their passphrases. You must also follow special precautions if you decide to concurrently use both iFolder 1.0x and iFolder 2.1 systems. For information, see [Appendix B, “Upgrading from iFolder Standard Edition to iFolder 2.1,” on page 195](#).

To decline, click No. Your iFolder server is not upgraded.

- ◆ **Upgrade from iFolder 2.0 Professional Edition:** The iFolder Installation Wizard requests that you confirm the upgrade to iFolder 2.1.

To accept, click Yes. The installation continues and uses the current settings of your iFolder 2.0 server as the default settings for iFolder 2.1. iFolder notifies you when the upgrade installation is complete. User data remains untouched.

To decline, click No. Your iFolder server is not upgraded.

- ◆ **Repair iFolder 2.1:** Click Upgrade/Repair. The iFolder Installation Wizard requests that you confirm the repair of iFolder 2.1.

To accept, click Yes. The reinstall continues and uses the current settings of your iFolder 2.1 server as the default settings. iFolder notifies you when the repair installation is complete. User data remains untouched.

To decline, click No. Your iFolder 2.1 server is not repaired.

- ◆ **Uninstall iFolder 2.1:** Click Uninstall. The iFolder Installation Wizard requests that you confirm the uninstall.

To accept, click Yes. The iFolder uninstall process stops the iFolder server and removes all iFolder files and settings. iFolder notifies you when the uninstall is complete. User data remains on the server; you must remove it manually.

To decline, click No. iFolder is not uninstalled.

12 To exit the Installation Wizard, click Finish.

13 Extend the eDirectory schema.

13a Open the iFolder Management Console.

Do one of the following:

- ◆ Select the Administer iFolder option on the last window of the iFolder installation.
- ◆ From a Web browser on your installation workstation, go to the iFolder Management Console by clicking File > Open, then entering the following URL:

`https://nif1.your-domain-name.com/iFolderServer/Admin`

IMPORTANT: This address is case sensitive.

Replace *nifl.your-domain-name.com* with the actual DNS name or IP address of your iFolder server.

13b Click the Global Settings icon.

13c Log in to the Global Settings page as the Admin user with schema extension privileges.

On successful login, iFolder extends the eDirectory schema. This can take several seconds, so expect a 10- to 30-second delay in the response. When the browser opens to the Global Settings page, the installation is complete.

5.3 Installing iFolder on Windows/IIS/Active Directory

This section describes how to install Novell iFolder, using the following configuration:

Server Operating System	Web Server	LDAP Server
Windows 2000	IIS	Active Directory

After you have met all the prerequisites for this configuration, you are ready to install Novell iFolder 2.1.

- 1** If you plan to use LDAP over SSL, locate a self-signed root certificate (rootcert.der) for your iFolder server.

You can export a self-signed root certificate from your certificate server. For information, see your Windows 2000 Server documentation or visit the [Microsoft Web site \(http://www.microsoft.com\)](http://www.microsoft.com).

Save the rootcert.der file to a location on the iFolder server or to a floppy disk. For example, a:\rootcert.der. Remember this location; you need it in [Step 9 on page 52](#).

- 2** If your IIS server is not currently running, start your IIS server.
- 3** To start the installation, go to the temporary directory where you saved the installation program, then double-click the installation program icon.
- 4** The iFolder Installation Wizard opens on your desktop. Do one of the following:
 - ♦ **New Installation of iFolder 2.1:** Continue or Cancel the installation.
If you click Continue, proceed to [Step 5 on page 51](#).
If you click Cancel, the installation program exits and iFolder server is not installed. You can restart the install at a later time.
 - ♦ **Repair of iFolder 2.1:** If you are installing iFolder 2.1 to repair an existing iFolder server, the Installation Wizard automatically detects it. Proceed to [Step 13 on page 54](#).
- 5** For new iFolder 2.1 installations, read the End User License Agreement, then do one of the following:
 - ♦ Agree (click Yes)
The installation program proceeds.
 - ♦ Disagree (click No)
The installation program exits and the iFolder server is not installed. You can restart the installation at a later time.

- 6 To select Microsoft Active Directory as your LDAP server, click Active Directory.

NOTE: If you have an eDirectory LDAP server and want to install the iFolder server software on a Windows 2000 server, follow the installation procedures in [Section 5.2, “Installing iFolder on Windows/IIS/eDirectory,”](#) on page 47.

- 7 Select to extend the Active Directory schema, install iFolder, or both by selecting one of the following options:
- ♦ **Complete Install:** Install the iFolder server and extend the Active Directory schema.
This option requires that you have the necessary credentials as the iFolder administrator and as the schema administrator.
 - ♦ **Install iFolder Server Only:** Install the iFolder server.
Before you install iFolder server, you must extend the schema. Run the iFolder installation program with the appropriate schema administrator credentials and follow the Extend Directory Schema Only path.
 - ♦ **Extend Directory Schema Only:** Extend the Active Directory schema for an LDAP server.
This option only extends the schema. It does not install the iFolder server software to your iFolder server. Before you can use the iFolder server, you must repeat the installation with the appropriate iFolder administrator credentials to follow the Install iFolder Server Only path.
If a secondary Active Directory LDAP server exists outside the forest where the primary Active Directory LDAP server is installed, you must run the iFolder installation program again and select this option to extend the schema for the secondary Active Directory LDAP server.
- 8 If you chose the Complete Install or Extend Directory Schema Only options in [Step 7 on page 52](#), verify your credentials to extend your Active Directory schema by specifying your schema administrator Distinguished Name and Password.
- ♦ **Distinguished Name:** Type the full context, using commas with no spaces as delimiters. For example, type `cn=administrator,cn=users,dc=your-domain-name,dc=com`.
 - ♦ **Password:** Type your schema administrator password in this case-sensitive field.
- 9 Configure the global settings for your Active Directory LDAP server that your iFolder server uses, then click Next.
- ♦ **LDAP Host Name:** Specify the DNS name (such as `ldap1.your-domain-name.com`) of the server that acts as your LDAP server.
Replace `ldap1.your-domain-name.com` with the actual DNS name of your LDAP server.
This might be the same server that you are configuring as your iFolder server.
-
- IMPORTANT:** The DNS name you use must already exist as an entry on your DNS server and point to the IP address of the destination server.
-
- ♦ **Port:** Select the port type, based your security needs, for data exchanges between your LDAP server and your iFolder server.
Select one of the following methods:
 - ♦ **Clear Text:** Specify any valid TCP port number to use for Clear Text exchanges. By default, Port 389 is used for Clear Text.

Use Clear Text if you want to use LDAP without SSL encryption or if your LDAP server does not support SSL. Clear Text is also a good choice if iFolder and LDAP are running on the same server. Because no communication or data is being transferred across network connections, no encryption is necessary.

- ♦ **SSL:** Specify any valid TCP port number to use for SSL exchanges. By default, Port 636 is used for SSL.

Use SSL if you want to use SSL exchanges to provide your network with encryption and security when data is transferred across network connections.

- ♦ **LDAP Context Where iFolder Admin User Is Located:** Specify the LDAP context. For example, `cn=administrator,cn=users,dc=your-domain-name,dc=com`.

IMPORTANT: Make sure the first context in the list is the one that the iFolder administrator is in.

10 Configure the iFolder settings for your iFolder server, then click Next.

- ♦ **iFolder Server Host Name or IP:** Enter the DNS name (such as `nif1.your-domain-name.com`) or the IP address (such as `192.168.1.1`) to use for your iFolder server.

IMPORTANT: If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

- ♦ **iFolder Admin Names:** Specify the default user ID for the iFolder administrator for this iFolder server. For example, `administrator`.

The iFolder Admin Names are the users who have permission to manage the iFolder server, using the iFolder Management Console. You can assign more than one user ID to be an iFolder administrator.

IMPORTANT: All of the users identified here must exist in the context identified in [Step 9 on page 52](#).

If you have multiple user IDs, separate them with semicolons and with no spaces. For example,

```
administrator;jsmith;acatt
```

- ♦ **Local iFolder User Database Path:** Specify the path on the iFolder server where user data for all the iFolder accounts will be stored. For example, `e:\iFolder`, where `e:` is the volume and `iFolder` is the directory. You can edit the value later, if desired, in the Windows Registry.

IMPORTANT: The volume you specify must already exist on the Windows server. The iFolder installation program will not create it for you dynamically.

- ♦ **Install on Which IIS Web Site?:** If there are multiple Web sites on your server, select where you want to install iFolder.

11 Review the settings you entered in the previous steps. To return to previous pages and change the settings, click Back and repeat the steps, as necessary.

When you are done, click Next.

12 Log in to Global Settings in the iFolder Management Console to finalize the installation.

12a Open the iFolder Management Console.

Do one of the following:

- ♦ Select the Administer iFolder option on the last window of the iFolder installation process.
- ♦ From a Web browser on your installation workstation, go to the iFolder Management Console, click File > Open, then enter the following URL:

```
https://nif1.your-domain-name.com/iFolderServer/Admin
```

IMPORTANT: This address is case sensitive.

Replace *nif1.your-domain-name.com* with the actual DNS name or IP address of your iFolder server.

12b Click Global Settings, then log in.

When the browser opens to the Global Settings page, the installation is complete.

13 If a version of iFolder 2.1 already exists on the server as identified in [Step 4 on page 51](#), do one of the following:

- ♦ **Repair iFolder 2.1:** Click Upgrade/Repair. The iFolder Installation Wizard requests that you confirm the repair of iFolder 2.1.

To accept, click Yes. The reinstall continues and uses the current settings of your iFolder 2.1 server as the default settings. iFolder notifies you when the repair installation is complete. User data remains untouched.

To decline, click No. Your iFolder 2.1 server is not repaired.

- ♦ **Uninstall iFolder 2.1:** Click Uninstall. The iFolder Installation Wizard requests that you confirm the uninstall of iFolder 2.1.

To accept, click Yes. The iFolder uninstall process stops the iFolder server and removes all iFolder files and settings. iFolder notifies you when the uninstall is complete.

IMPORTANT: User data remains on the server; you must remove it manually. The extensions of the Active Directory schema also remain.

To decline, click No. iFolder 2.1 is not uninstalled.

- ♦ **Extend Directory Schema Only:** Click Extend Directory Schema Only.

Use this option to extend the schema for secondary or additional Active Directory LDAP servers that exist outside the forest where the primary Active Directory LDAP server is installed.

To enter your schema administrator credentials, see [Step 8 on page 52](#).

To enter the information about your secondary LDAP server, see [Step 9 on page 52](#).

14 To exit the Installation Wizard, click Finish.

5.4 What's Next

Follow the instructions for configuring and managing your iFolder server in the [Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,”](#) on page 129.

After you provision a user's account for iFolder services, a user must initialize the account by logging in to the iFolder server, using the iFolder client, the iFolder Java applet available on the iFolder Web site, or NetDrive to initialize an individual iFolder account.

IMPORTANT: If your global client policies include any enforced or hidden settings, the users must log in with the iFolder client to initialize their iFolder user accounts.

To install the iFolder client on your workstations, follow the instructions in the *iFolder 2.1 Quick Start* and the *Novell iFolder 2.1 User Guide*, available on the [Novell iFolder online documentation Web site \(http://www.novell.com/documentation/lg/ifolder21/index.html\)](http://www.novell.com/documentation/lg/ifolder21/index.html).

To install iFolder on additional servers, follow the instructions in [Section 16.3, “Configuring iFolder on Additional Servers,”](#) on page 143.

For more information about known issues for iFolder servers and workstations, see the *Novell 2.1 Readme*.

For a description of known issues related to installation, see the *Novell 2.1 Readme*.

Installing iFolder 2.1 on Red Hat Linux 8

6

This section describes the how to install the standalone version of Novell® iFolder® 2.1 server, using the following configuration:

Server Operating System	Web Server	LDAP Server
Red Hat Linux 8	Apache 2.0.43	Novell eDirectory™

NOTE: The instructions in this section do not apply when installing iFolder 2.1.2, as bundled with Novell Nterprise™ Linux Services. Please follow the prerequisite and installation instructions provided in the *Novell Nterprise Linux Services Installation Guide*.

For a description of known issues related to installation, see the *Novell 2.1 Readme*.

The following topics are discussed:

- ♦ [Section 6.1, “Installing Apache 2.0.43 on Red Hat Linux 8,” on page 57](#)
- ♦ [Section 6.2, “Confirming Prerequisites,” on page 58](#)
- ♦ [Section 6.3, “Installing iFolder Server, Using a GUI,” on page 58](#)
- ♦ [Section 6.4, “Installing iFolder Server, Using a Console,” on page 61](#)
- ♦ [Section 6.5, “What's Next,” on page 63](#)

6.1 Installing Apache 2.0.43 on Red Hat Linux 8

The iFolder 2.1 installation program `ifolder2.1-linux.tgz` includes a binary distribution of Apache Web Server 2.0.43.

- 1 If Apache Web Server is installed on your Red Hat Linux 8 server, uninstall it by removing the related program files. For example, at the command prompt enter

```
rm -rf /usr/local/apachex
```

where *apachex* is the directory that contains Apache program files.

- 2 Go to the directory where you downloaded the installation program `ifolder2.1-linux.tgz`.

For example, at the command prompt, enter

```
cd <path to download location>
```

- 3 To unpack the compressed TAR file, at the command prompt, enter

```
tar -zxvf ifolder2.1-linux.tgz
```

This creates the following directories and files:

- ♦ `ifolder2.1-linux/`
 - ♦ `ifolder2.1-install-linux`

- ♦ ifolder2.1-linux/apache2-linux/
 - ♦ gencerts.sh
 - ♦ httpd-2.0.43-i686-pc-linux-gnu.readme
 - ♦ httpd-2.0.43-i686-pc-linux-gnu.tar.gz
- 4** To unpack the Apache software, at the server prompt, enter
- ```
cd ifolder2.1-linux/apache2-linux/
tar zxfv httpd-2.0.43-i686-pc-linux-gnu.tar.gz
```
- 5** To install Apache 2.0.43, at the command prompt, enter
- ```
cd httpd-2.0.43
./install-bindist.sh
```
- This installs Apache 2.0.43 in /usr/local/apache2.
- 6** Edit the /usr/local/apache2/conf/httpd.conf file to add the following line at the end of the file:
- ```
include /usr/local/ifolder/Server/httpd_ifolder_unix.conf
```
- The httpd\_ifolder\_unix.conf file contains the iFolder server settings.
- 7** Start Apache by doing one of the following:
- ♦ For clear text, at the command prompt, enter
 

```
/usr/local/apache2/bin/apachectl start
```
  - ♦ For SSL, at the command prompt, enter
 

```
/usr/local/apache2/bin/apachectl startssl
```

## 6.2 Confirming Prerequisites

Before you install Novell iFolder 2.1, make sure you have met the following prerequisites and download requirements:

- For general iFolder server prerequisites, see [“Prerequisites for All iFolder 2.1 Servers” on page 33](#).
- For prerequisites particular to Linux, see [“Prerequisites for Linux Servers for iFolder 2.1” on page 35](#).
- For instructions for downloading Novell iFolder 2.1, see [Section 3.6, “Download Instructions for iFolder 2.1,” on page 37](#)

## 6.3 Installing iFolder Server, Using a GUI

After you have met all the prerequisites for this configuration, you are ready to install Novell iFolder 2.1 on your Linux server. This procedure is for a GUI install. For a console install, see [Section 6.4, “Installing iFolder Server, Using a Console,” on page 61](#).

- 1** Go to the directory where you saved the installation program ifolder2.1-linux.tgz.
- 2** To unpack the compressed TAR file, enter the following line at the command prompt:
 

```
tar -zxvf ifolder2.1-linux.tgz
```

 This creates the following directories and files:
  - ♦ ifolder2.1-linux/
    - ♦ ifolder2.1-install-linux

- ♦ ifolder2.1-linux/apache2-linux/
  - ♦ gencerts.sh
  - ♦ httpd-2.0.43-i686-pc-linux-gnu.readme
  - ♦ httpd-2.0.43-i686-pc-linux-gnu.tar.gz

**3** To begin the iFolder installation, go to the /root/ifolder2.1-linux directory, then enter the following lines at the command prompt:

```
cd /root/ifolder2.1-linux
./ifolder2.1-install-linux
```

This launches a GUI install process.

**4** Read the End User License Agreement, then click one of the following:

- ♦ **Accept**  
Click Next. The installation process proceeds.
- ♦ **Do not accept**  
Click Exit. The installation program exits and the iFolder server is not installed. You can restart the installation at a later time.

**5** Specify the directory location where you want to install iFolder, then click Next. The default path and directory is /usr/local/iFolder.

**6** Configure the global settings for your eDirectory LDAP server that your iFolder server uses.

- ♦ **LDAP Host Name or IP:** Specify the DNS name (such as ldap1.your-domain-name.com) or IP address (such as 192.168.1.1) of the server that acts as your LDAP server.

For Linux, this is the same server that you are configuring as your iFolder server.

---

**IMPORTANT:** If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

---

- ♦ **Port:** Select the port type, based your security needs, for data exchanges between your LDAP server and your iFolder server.

Select one of the following methods:

- ♦ **Clear Text:** Specify any valid TCP port number to use for Clear Text exchanges. By default, Port 389 is used for Clear Text.  
Use Clear Text if you want to use LDAP without SSL encryption or if your LDAP server does not support SSL. Clear Text is also a good choice if iFolder and LDAP are running on the same server. Because no communication or data is being transferred across network connections, no encryption is necessary.
- ♦ **SSL:** Specify any valid TCP port number to use for SSL exchanges. By default, Port 636 is used for SSL.  
Use SSL if you want to use SSL exchanges to provide your network with encryption and security when data is transferred across network connections.
- ♦ **LDAP Context Where iFolder Admin User Is Located:** Specify the LDAP context. For example, o=all.

7 Configure the iFolder settings for your iFolder server, then click Next.

- ♦ **iFolder Server Host Name or IP:** Specify the DNS name (such as `nif1.your-domain-name.com`) or the IP address (such as `192.168.1.1`) to use for your iFolder server.

---

**IMPORTANT:** If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

---

- ♦ **iFolder Admin Names:** Specify the default user ID for the iFolder administrator for this iFolder server. For example, `admin`.

The iFolder Admin Names are the users who have permission to manage the iFolder server. You can assign more than one user ID to be an iFolder administrator.

---

**IMPORTANT:** All of the users identified here must exist in the context identified in [Step 6 on page 59](#).

---

If you have multiple user IDs, separate them with semicolons and with no spaces. For example,

```
admin;jsmith;acatt
```

- ♦ **Local iFolder User Database Path:** Specify the path on the iFolder server where user data for all the iFolder accounts will be stored. For example, `usr/local/ifolderdata`. If desired, you can edit this value later in the `usr/local/iFolderServer/httpd_ifolder_unix.conf` file.

---

**IMPORTANT:** If you specify another volume name, that volume must already exist on the Linux server. The iFolder installation program will not create it for you.

---

8 Review the settings you entered in the previous steps. To return to previous pages and change the settings, click Back and repeat the steps, as necessary.

When you are satisfied with your settings, click Done.

9 After the software is installed on your Linux server, you must start the Apache Web server to make the changes permanent.

Do one of the following, depending on whether you selected a Clear Text port or SSL port for your iFolder server settings:

- ♦ **Clear Text:** Enter the following from the Linux command prompt:

```
ulimit -n 2048
/usr/local/apache2/bin/apachectl start
```

- ♦ **SSL:** Enter the following lines from the Linux command prompt:

```
ulimit -n 2048
/usr/local/apache2/bin/apachectl startssl
```

10 Extend the eDirectory schema.

**10a** Open the iFolder Management Console.

Do one of the following:

- ♦ Select the Administer iFolder option on the last window of the iFolder installation.
- ♦ From a Web browser on your installation workstation, go to the iFolder Management Console, click File > Open, then enter the following URL:

```
https://nif1.your-domain-name.com/iFolderServer/Admin
```

---

**IMPORTANT:** This address is case sensitive.

---

Replace *nifl.your-domain-name.com* with the actual DNS name or IP address of your iFolder server.

**10b** Click the Global Settings icon.

**10c** Log in to the Global Settings page as the Admin user.

On successful login, iFolder extends the eDirectory schema. This can take several seconds, so expect a 10- to 30-second delay in the response.

When the browser opens to the Global Settings page, the installation is complete.

## 6.4 Installing iFolder Server, Using a Console

After you have met all the prerequisites for this configuration, you are ready to install Novell iFolder 2.1 on your Linux server. This procedure is for a console install. For a GUI install, see [Section 6.3, “Installing iFolder Server, Using a GUI,”](#) on page 58.

**1** Go to the directory where you saved the installation program `ifolder2.1-linux.tgz`.

**2** To unpack the compressed TAR file, enter the following line at the command prompt:

```
tar -zxvf ifolder2.1-linux.tgz
```

This creates the following directories and files:

- ♦ `ifolder2.1-linux/`
  - ♦ `ifolder2.1-install-linux`
- ♦ `ifolder2.1-linux/apache2-linux/`
  - ♦ `gencerts.sh`
  - ♦ `httpd-2.0.43-i686-pc-linux-gnu.readme`
  - ♦ `httpd-2.0.43-i686-pc-linux-gnu.tar.gz`

**3** To begin the iFolder installation, go to the `/root/ifolder2.1-linux` directory, then enter these lines at the command prompt:

```
cd /root/ifolder2.1-linux
./ifolder2.1-install-linux -i console
```

This launches a console install process.

**4** Read the End User License Agreement, select one of the following, then press Enter:

- ♦ Accept

Proceed to [Step 5 on page 59](#).

- ♦ Do not accept

The installation program exits and the iFolder server is not installed. You can restart the install at a later time.

**5** Specify the directory location where you want to install iFolder, then press Enter. The default path and directory is `/usr/local/ifolder`.

**6** Complete the Web Server Information for your iFolder server.

**6a** Specify the iFolder server hostname or IP address, then press Enter.

Type the DNS name (such as nifl.your-domain-name.com) or the IP address (such as 192.168.1.1) to use for your iFolder server.

---

**IMPORTANT:** If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

---

- 6b** Specify the HTTP and HTTPS ports to use for your iFolder server, then press Enter.
- 7** Specify the global LDAP Settings for your eDirectory LDAP server.

- 7a** Specify the LDAP hostname or IP address of your LDAP server, then press Enter.
- Type the DNS name (such as ldap1.your-domain-name.com) or IP address (such as 192.168.1.1) of the server that acts as your LDAP server.
- For Linux, this is the same server that you are configuring as your iFolder server.

---

**IMPORTANT:** If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

---

- 7b** Specify the LDAP port type, based on your security needs, for data exchanges between the iFolder server and LDAP server, then press Enter.

Select one of the following methods:

- ♦ **Clear Text:** Specify any valid TCP port number to use for Clear Text exchanges. By default, Port 389 is used for Clear Text.

Use Clear Text if you want to use LDAP without SSL encryption or if your LDAP server does not support SSL. Clear Text is also a good choice if iFolder and LDAP are running on the same server. Because no communication or data is being transferred across network connections, no encryption is necessary.

- ♦ **SSL:** Specify any valid TCP port number to use for SSL exchanges. By default, Port 636 is used for SSL.

Use SSL if you want to use SSL exchanges to provide your network with encryption and security when data is transferred across network connections

- 7c** If you selected SSL as your LDAP setting in **Step 7b**, specify the location (full path and directory) of your self-signed root certificate, then press Enter.

- 7d** Specify the LDAP context where the iFolder Admin user is located, then press Enter.
- For example, o=all.

- 8** Specify the iFolder Settings for your iFolder server.

- 8a** Type your Local iFolder User Database Path, then press Enter.

This is the path on the iFolder server where user data for all the iFolder accounts will be stored. For example, usr/local/ifolderdata.

---

**IMPORTANT:** If you specify another volume name, that volume must already exist on the Linux server. The iFolder installation program will not create it for you.

---

- 8b** Specify iFolder Admin Names, then press Enter.

Type the default user ID for the iFolder administrator for this iFolder server. For example, admin.

The iFolder Admin Names are the users who have permission to manage the iFolder server. You can assign more than one user ID to be an iFolder administrator.

---

**IMPORTANT:** All of the users identified here must exist in the context identified in [Step 7d on page 62](#).

---

If you have multiple user IDs, separate them with semicolons and with no spaces. For example,

```
admin;jsmith;acatt
```

- 9** After the software is installed on your Linux server, you must start the Apache Web server to make the changes permanent.

Do one of the following, depending on whether you selected a Clear Text port or SSL port for your iFolder server settings:

- ♦ **Clear Text:** Enter these commands from the Linux command prompt:

```
ulimit -n 2048
/usr/local/apache2/bin/apachectl start
```

- ♦ **SSL:** Enter these commands from the Linux command prompt:

```
ulimit -n 2048
/usr/local/apache2/bin/apachectl startssl
```

- 10** Extend the eDirectory schema.

- 10a** Open the iFolder Management Console.

Do one of the following:

- ♦ Select the Administer iFolder option in the last window of the iFolder installation process.
- ♦ From a Web browser on your installation workstation, go to the iFolder Management Console, click File > Open, then enter the following URL:

```
https://nif1.your-domain-name.com/iFolderServer/Admin
```

---

**IMPORTANT:** This address is case sensitive.

---

Replace *nif1.your-domain-name.com* with the actual DNS name or IP address of your iFolder server.

- 10b** Click the Global Settings icon.

- 10c** Log in to the Global Settings page as the Admin user.

On successful login, iFolder extends the eDirectory schema. This can take several seconds, so expect a 10- to 30-second delay in the response.

When the browser opens to the Global Settings General Information page, the installation is complete.

## 6.5 What's Next

Follow the instructions for configuring and managing your iFolder server in [Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,” on page 129](#).

After you provision a user's account for iFolder services, to initialize an iFolder account, a user must log in to the iFolder server, using the iFolder client, the iFolder Web site Login (not the PDA Login), or NetDrive.

---

**IMPORTANT:** If your global client policies include any enforced or hidden settings, the users must log in with the iFolder client to initialize their iFolder user accounts.

---

To install the iFolder client on your workstations, follow the instructions in the *iFolder 2.1 Quick Start* and the *Novell iFolder 2.1 User Guide*, available on the [Novell iFolder online documentation Web site \(http://www.novell.com/documentation/lg/ifolder21/index.html\)](http://www.novell.com/documentation/lg/ifolder21/index.html).

To install iFolder on additional servers, follow the instructions in [Section 16.3, “Configuring iFolder on Additional Servers,”](#) on page 143.

For more information about known issues for iFolder servers and workstations, see the *Novell 2.1 Readme*.



# Installing iFolder 2.1.2 on Novell Nterprise Linux Services

# 7

For instructions on installing Novell® iFolder® 2.1.2 on Novell Nterprise™ Linux™ Services, please follow the prerequisites and installation instructions provided in the *Novell Nterprise Linux Services Installation Guide*.

As bundled with Nterprise Linux Services and later, iFolder 2.1.2 supports the following server configurations:

| Server Operating Systems         | Web Server               | LDAP Server              |
|----------------------------------|--------------------------|--------------------------|
| Red Hat Enterprise Linux AS 2.1  | Apache Web Server 2.0.48 | Novell eDirectory™ 8.7.3 |
| Red Hat Enterprise Linux ES 2.1  |                          |                          |
| SUSE Linux Enterprise Server 8.0 |                          |                          |

For a description of known issues related to installation, see the *Novell 2.1 Readme*.

## 7.1 What's Next

Follow the instructions for configuring and managing your iFolder server in [Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,”](#) on page 129.

After you provision a user's account for iFolder services, to initialize an iFolder account, a user must log in to the iFolder server, using the iFolder client, the iFolder Web site Login, or NetDrive.

**IMPORTANT:** If your global client polices include any enforced or hidden settings, the users must log in with the iFolder client to initialize their iFolder user accounts.

To install the iFolder client on your workstations, follow the instructions in the *iFolder 2.1 Quick Start* and the *Novell iFolder 2.1 User Guide*, available on the [Novell iFolder online documentation Web site \(http://www.novell.com/documentation/lg/ifolder21/index.html\)](http://www.novell.com/documentation/lg/ifolder21/index.html).

To install iFolder on additional servers, follow the instructions in [Section 16.3, “Configuring iFolder on Additional Servers,”](#) on page 143.

For more information about known issues for iFolder servers and workstations, see the *Novell 2.1 Readme*.



# Installing iFolder 2.1.3 on Windows 2003 and Windows 2000 Server

This section describes how to install the standalone version of Novell® iFolder® 2.1.3 server software on Microsoft Windows 2003, using the following configurations:

| Server Operating System | Web Server | LDAP Server                             |
|-------------------------|------------|-----------------------------------------|
| Windows 2003            | IIS 6.0    | Novell eDirectory™ and Active Directory |
| Windows 2000            | IIS 6.0    | Novell eDirectory™ and Active Directory |

For more information about known issues for iFolder servers and workstations, see the [Novell 2.1 Readme](#).

See the following sections for installation and configuration information:

- ♦ [Confirming Prerequisites \(page 67\)](#)
- ♦ [Installing iFolder on Windows/IIS/eDirectory \(page 67\)](#)
- ♦ [Installing iFolder on Windows/IIS/eDirectory \(page 67\)](#)
- ♦ [What's Next \(page 46\)](#)

## 8.1 Confirming Prerequisites

Before you install Novell iFolder, make sure you have met the following prerequisites and download requirements:

- Windows 2003 server
- IIS 6.0
- For general iFolder server prerequisites, see [“Prerequisites for All iFolder 2.1 Servers” on page 33](#).
- For instructions for downloading the Novell iFolder 2.1 installation program, see [Section 3.6, “Download Instructions for iFolder 2.1,” on page 37](#).

## 8.2 Installing iFolder on Windows/IIS/eDirectory

This section describes how to install Novell iFolder, using the following configuration:

| Server Operating System | Web Server | LDAP Server       |
|-------------------------|------------|-------------------|
| Windows 2003            | IIS        | Novell eDirectory |

After you have met the prerequisites for this configuration, you are ready to install iFolder.

- 1 If you plan to use LDAP over SSL, locate a self-signed root certificate (rootcert.der) for your iFolder server.

You can export a self-signed root certificate from your certificate server. For information, see the Windows 2003 Server documentation or visit the [Microsoft Web site \(http://www.microsoft.com\)](http://www.microsoft.com).

Save the rootcert.der file to a location on the iFolder server or to a floppy disk. For example, a:\rootcert.der. Remember this location; you need it in [Step 8](#).

- 2 If the IIS server is not currently running, start it.
- 3 To start the installation, go to the temporary directory where you saved the installation program, then double-click the installation program icon.
- 4 The iFolder Installation Wizard opens on your desktop. Do one of the following:
  - ♦ **New Installation of iFolder 2.1:** Select to either Continue or Cancel the installation. If you click Continue, proceed to [Step 5](#). If you click Cancel, the installation program exits and the iFolder server is not installed. You can restart the installation at a later time.
  - ♦ **Upgrade Installation or Repair of iFolder 2.1:** If you are installing iFolder 2.1 on an existing iFolder server, the Installation Wizard automatically detects it. Proceed to [Step 11 on page 70](#).
- 5 For new iFolder 2.1 installations, read the End User License Agreement, then do one of the following:
  - ♦ Agree (click Yes)  
The installation program proceeds.
  - ♦ Disagree (click No)  
The installation program exits and the iFolder server is not installed. You can restart the installation at a later time.
- 6 To select Novell eDirectory as your LDAP server, click eDirectory.

---

**TIP:** If you have an Active Directory LDAP server and want to install the iFolder server on a Windows 2003 server, follow the installation procedures in [Section 8.3, “Installing iFolder on Windows/IIS/Active Directory,” on page 71](#).

---

- 7 Specify the directory on the destination server where you want iFolder server to be installed. Browse to select the drive letter that you mapped in [Step 1](#).
- 8 Configure the global settings for the eDirectory LDAP server that your iFolder server uses, then click Next.
  - ♦ **LDAP Host Name or IP:** Specify the DNS name (such as *ldap1.your-domain-name.com*) or IP address (such as *192.168.1.1*) of the server that acts as your LDAP server. Replace *ldap1.your-domain-name.com* or *192.168.1.1* with the actual DNS name or IP address of your LDAP server.

This can be the same server that you are configuring as your iFolder server.

---

**IMPORTANT:** If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

---

- ♦ **Port:** Select the port type, based on your security needs, for data exchanges between your LDAP server and your iFolder server.

Select one of the following methods:

- ♦ **Clear Text:** Specify any valid TCP port number to use for Clear Text exchanges. By default, Port 389 is used for Clear Text.

Use Clear Text if you want to use LDAP without SSL encryption or if your LDAP server does not support SSL. Clear Text is also a good choice if iFolder and LDAP are running on the same server. Because no communication or data is being transferred across network connections, no encryption is necessary.

- ♦ **SSL:** Specify any valid TCP port number to use for SSL exchanges. By default, Port 636 is used for SSL.

Use SSL if you want to use SSL exchanges to provide your network with encryption and security when data is transferred across network connections.

- ♦ **Root Certificate Path:** If you selected the SSL option, provide the full directory path to your self-signed root certificate you created or identified in [Step 1 on page 68](#).

For example, type `a:\rootcert.der` if you exported the certificate to a floppy disk.

- ♦ **LDAP Context Where iFolder Admin User Is Located:** Specify the LDAP context. For example, `o=all`.

**9** Configure the iFolder settings for the Windows 2003 server that will be your iFolder server, then click Next.

- ♦ **iFolder Server Host Name or IP:** Specify the DNS name (such as `nif1.your-domain-name.com`) or the IP address (such as `192.168.1.1`) to use for your iFolder server.

---

**IMPORTANT:** If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

---

- ♦ **iFolder Admin Names:** Specify the default user ID for the iFolder administrator for this iFolder server. For example, `admin`.

The iFolder Admin Names are the users who have permission to manage the iFolder server. You can assign multiple users to be iFolder administrators. For multiple Admin Names, separate them with semicolons and with no spaces. For example,

```
administrator;jsmith;acatt
```

---

**IMPORTANT:** All of the users identified here must have admin privileges and must exist in the context identified in [Step 8 on page 68](#).

---

- ♦ **Local iFolder User Database Path:** Specify the path on the iFolder server where user data for all the iFolder accounts will be stored. For example, `e:\iFolder`, where `e:` is the preexisting volume and `iFolder` is the directory. If desired, you can edit the value later in the Windows Registry.

---

**IMPORTANT:** The volume you specify must already exist on the Windows server. The iFolder installation program does not create it for you.

---

- ♦ **Install on Which IIS Web Site?:** If there are multiple Web sites on your server, select where you want to install iFolder.

**10** Review the settings you provided in the previous steps. To return to previous pages and change the settings, click Back and repeat the steps, as necessary.

When you are done, click Next.

- 11** If a version of iFolder already exists on the server as identified in [Step 4 on page 68](#), do one of the following:

- ◆ **Upgrade to iFolder 2.1:** Click Upgrade/Repair, then do one of the following:

- ◆ **Upgrade from iFolder Standard Edition:** The iFolder Installation Wizard requests that you confirm the upgrade to iFolder 2.1.

To accept, click Yes. The installation continues and uses the current settings of your iFolder 1.x server as the default settings for iFolder 2.1. iFolder notifies you when the upgrade installation is complete. User data remains untouched.

---

**IMPORTANT:** You might need to follow a manual upgrade process if you have a large number of users who have extended characters in their passphrases. You must also follow special precautions if you decide to concurrently use both iFolder 1.0x and iFolder 2.1 systems. For information, see [Appendix B, “Upgrading from iFolder Standard Edition to iFolder 2.1,” on page 195](#).

---

To decline, click No. Your iFolder server is not upgraded.

- ◆ **Upgrade from iFolder 2.0 Professional Edition:** The iFolder Installation Wizard requests that you confirm the upgrade to iFolder 2.1.

To accept, click Yes. The installation continues and uses the current settings of your iFolder 2.0 server as the default settings for iFolder 2.1. iFolder notifies you when the upgrade installation is complete. User data remains untouched.

To decline, click No. Your iFolder server is not upgraded.

- ◆ **Repair iFolder 2.1:** Click Upgrade/Repair. The iFolder Installation Wizard requests that you confirm the repair of iFolder 2.1.

To accept, click Yes. The reinstall continues and uses the current settings of your iFolder 2.1 server as the default settings. iFolder notifies you when the repair installation is complete. User data remains untouched.

To decline, click No. Your iFolder 2.1 server is not repaired.

- ◆ **Uninstall iFolder 2.1:** Click Uninstall. The iFolder Installation Wizard requests that you confirm the uninstall.

To accept, click Yes. The iFolder uninstall process stops the iFolder services and removes all iFolder files and settings. iFolder notifies you when the uninstall is complete. User data remains on the server; you must remove it manually.

To decline, click No. iFolder is not uninstalled.

- 12** To exit the Installation Wizard, click Finish.

- 13** Extend the eDirectory schema.

- 13a** Open the iFolder Management Console.

Do one of the following:

- ◆ Select the Administer iFolder option on the last window of the iFolder installation.
- ◆ From a Web browser on your installation workstation, go to the iFolder Management Console by clicking File > Open, then entering the following URL:

`https://nif1.your-domain-name.com/iFolderServer/Admin`

---

**IMPORTANT:** This address is case sensitive.

---

Replace *nifl.your-domain-name.com* with the actual DNS name or IP address of your iFolder server.

**13b** Click the Global Settings icon.

**13c** Log in to the Global Settings page as the Admin user with schema extension privileges.

On successful login, iFolder extends the eDirectory schema. This can take several seconds, so expect a 10- to 30-second delay in the response. When the browser opens to the Global Settings page, the installation is complete.

## 8.3 Installing iFolder on Windows/IIS/Active Directory

This section describes how to install Novell iFolder, using the following configuration:

| Server Operating System | Web Server | LDAP Server      |
|-------------------------|------------|------------------|
| Windows 2003            | IIS        | Active Directory |

After you have met all the prerequisites for this configuration, you are ready to install Novell iFolder 2.1.

- 1 If the IIS server is not currently running, start it.
- 2 To start the installation, go to the temporary directory where you saved the installation program, then double-click the installation program icon.
- 3 The iFolder Installation Wizard opens on your desktop. Do one of the following:
  - ♦ **New Installation of iFolder 2.1:** Continue or Cancel the installation.  
If you click Continue, proceed to [Step 4 on page 71](#).  
If you click Cancel, the installation program exits and iFolder server is not installed. You can restart the install at a later time.
  - ♦ **Repair of iFolder 2.1:** If you are installing iFolder 2.1 to repair an existing iFolder server, the Installation Wizard automatically detects it. Proceed to [Step 12 on page 74](#).
- 4 For new iFolder 2.1 installations, read the End User License Agreement, then do one of the following:
  - ♦ Agree (click Yes)  
The installation program proceeds.
  - ♦ Disagree (click No)  
The installation program exits and the iFolder server is not installed. You can restart the installation at a later time.
- 5 To select Microsoft Active Directory as your LDAP server, click Active Directory.

---

**NOTE:** If you have an eDirectory LDAP server and want to install the iFolder server software on a Windows 2003 server, follow the installation procedures in [Section 8.2, “Installing iFolder on Windows/IIS/eDirectory,” on page 67](#).

---

- 6 Select to extend the Active Directory schema, install iFolder, or both by selecting one of the following options:
  - ♦ **Complete Install:** Install the iFolder server and extend the Active Directory schema.

This option requires that you have the necessary credentials as the iFolder administrator and as the schema administrator.

- ♦ **Install iFolder Server Only:** Install the iFolder server.

Before you install iFolder server, you must extend the schema. Run the iFolder installation program with the appropriate schema administrator credentials and follow the Extend Directory Schema Only path.

- ♦ **Extend Directory Schema Only:** Extend the Active Directory schema for an LDAP server.

This option only extends the schema. It does not install the iFolder server software to your iFolder server. Before you can use the iFolder server, you must repeat the installation with the appropriate iFolder administrator credentials to follow the Install iFolder Server Only path.

If a secondary Active Directory LDAP server exists outside the forest where the primary Active Directory LDAP server is installed, you must run the iFolder installation program again and select this option to extend the schema for the secondary Active Directory LDAP server.

- 7 If you chose the Complete Install or Extend Directory Schema Only options in [Step 6 on page 71](#), verify your credentials to extend your Active Directory schema by specifying your schema administrator Distinguished Name and Password.

- ♦ **Distinguished Name:** Type the full context, using commas with no spaces as delimiters. For example, type `cn=administrator,cn=users,dc=your-domain-name,dc=com`.
- ♦ **Password:** Type your schema administrator password in this case-sensitive field.

- 8 Configure the global settings for your Active Directory LDAP server that your iFolder server uses, then click Next.

- ♦ **LDAP Host Name:** Specify the DNS name (such as *ldap1.your-domain-name.com*) of the server that acts as your LDAP server.

Replace *ldap1.your-domain-name.com* with the actual DNS name of your LDAP server.

This might be the same server that you are configuring as your iFolder server.

---

**IMPORTANT:** The DNS name you use must already exist as an entry on your DNS server and point to the IP address of the destination server.

---

- ♦ **Port:** Select the port type, based on your security needs, for data exchanges between your LDAP server and your iFolder server.

Select one of the following methods:

- ♦ **Clear Text:** Specify any valid TCP port number to use for Clear Text exchanges. By default, Port 389 is used for Clear Text.

Use Clear Text if you want to use LDAP without SSL encryption or if your LDAP server does not support SSL. Clear Text is also a good choice if iFolder and LDAP are running on the same server. Because no communication or data is being transferred across network connections, no encryption is necessary.

- ♦ **SSL:** Specify any valid TCP port number to use for SSL exchanges. By default, Port 636 is used for SSL.

Use SSL if you want to use SSL exchanges to provide your network with encryption and security when data is transferred across network connections.



In Active Directory, LDAP over SSL is not enabled by default. If you select 636 as the LDAP port during installation, ensure that LDAP over SSL is enabled and the server is listening on the port. Otherwise the schema extension will fail.

- ♦ **LDAP Context Where iFolder Admin User Is Located:** Specify the LDAP context. For example, `cn=administrator,cn=users,dc=your-domain-name,dc=com`.

---

**IMPORTANT:** Make sure the first context in the list is the one that the iFolder administrator is in.

---

**9** Configure the iFolder settings for your iFolder server, then click Next.

- ♦ **iFolder Server Host Name or IP:** Enter the DNS name (such as `nif1.your-domain-name.com`) or the IP address (such as `192.168.1.1`) to use for your iFolder server.

---

**IMPORTANT:** If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

---

- ♦ **iFolder Admin Names:** Specify the default user ID for the iFolder administrator for this iFolder server. For example, `administrator`.

The iFolder Admin Names are the users who have permission to manage the iFolder server, using the iFolder Management Console. You can assign more than one user ID to be an iFolder administrator.

---

**IMPORTANT:** All of the users identified here must exist in the context identified in [Step 8 on page 72](#).

---

If you have multiple user IDs, separate them with semicolons and with no spaces. For example,

```
administrator;jsmith;acatt
```

- ♦ **Local iFolder User Database Path:** Specify the path on the iFolder server where user data for all the iFolder accounts will be stored. For example, `e:\iFolder`, where `e:` is the volume and `iFolder` is the directory. You can edit the value later, if desired, in the Windows Registry.

---

**IMPORTANT:** The volume you specify must already exist on the Windows server. The iFolder installation program will not create it for you dynamically.

---

- ♦ **Install on Which IIS Web Site?:** If there are multiple Web sites on your server, select where you want to install iFolder.

**10** Review the settings you entered in the previous steps. To return to previous pages and change the settings, click Back and repeat the steps, as necessary.

When you are done, click Next.

**11** Log in to Global Settings in the iFolder Management Console to finalize the installation.

**11a** Open the iFolder Management Console.

Do one of the following:

- ♦ Select the Administer iFolder option on the last window of the iFolder installation process.
- ♦ From a Web browser on your installation workstation, go to the iFolder Management Console, click File > Open, then enter the following URL:

```
https://nif1.your-domain-name.com/iFolderServer/Admin
```

---

**IMPORTANT:** This address is case sensitive.

---

Replace *nifl.your-domain-name.com* with the actual DNS name or IP address of your iFolder server.

**11b** Click Global Settings, then log in.

When the browser opens to the Global Settings page, the installation is complete.

**12** If a version of iFolder 2.1 already exists on the server as identified in [Step 3 on page 71](#), do one of the following:

- ♦ **Repair iFolder 2.1:** Click Upgrade/Repair. The iFolder Installation Wizard requests that you confirm the repair of iFolder 2.1.

To accept, click Yes. The reinstall continues and uses the current settings of your iFolder 2.1 server as the default settings. iFolder notifies you when the repair installation is complete. User data remains untouched.

To decline, click No. Your iFolder 2.1 server is not repaired.

- ♦ **Uninstall iFolder 2.1:** Click Uninstall. The iFolder Installation Wizard requests that you confirm the uninstall of iFolder 2.1.

To accept, click Yes. The iFolder uninstall process stops the iFolder server and removes all iFolder files and settings. iFolder notifies you when the uninstall is complete.

---

**IMPORTANT:** User data remains on the server; you must remove it manually. The extensions of the Active Directory schema also remain.

---

To decline, click No. iFolder 2.1 is not uninstalled.

- ♦ **Extend Directory Schema Only:** Click Extend Directory Schema Only.

Use this option to extend the schema for secondary or additional Active Directory LDAP servers that exist outside the forest where the primary Active Directory LDAP server is installed.

To enter your schema administrator credentials, see [Step 8 on page 52](#).

To enter the information about your secondary LDAP server, see [Step 9 on page 52](#).

**13** To exit the Installation Wizard, click Finish.

### 8.3.1 Post-Install Procedures

IIS 5.x has a wildcard MIME mapping that permits IIS to serve any file regardless of its extension. IIS 6.0 does not include this wildcard character MIME mapping and does not serve any type of extension that is not defined at the MimeMap node in the IIS metabase.

For more information, see the [Microsoft\\* Support Web Site \(http://support.microsoft.com/default.aspx?scid=kb;en-us;326965\)](http://support.microsoft.com/default.aspx?scid=kb;en-us;326965).

After installing iFolder on IIS 6.0, you must include the MIME mapping to allow it to serve .dat files. To do this:

- 1** Open the IIS Microsoft Management Console (MMC), right-click the update virtual directory, and then click Properties.
- 2** Select the HTTP Headers tab > click MIME Types.
- 3** Click New > In the Extension box, enable wildcard mapping by entering the following:

.\*

4 In the MIME Type box, enter the following:

`application/octet-stream`

5 Apply the new settings, and then restart the World Wide Web Publishing Service.

The update directory now serves files with any file extension.

## 8.4 What's Next

Follow the instructions for configuring and managing your iFolder server in the [Chapter 16, "Using the iFolder Management Console to Configure Your iFolder System,"](#) on page 129.

After you provision a user's account for iFolder services, a user must initialize the account by logging in to the iFolder server, using the iFolder client, the iFolder Java applet available on the iFolder Web site, or NetDrive to initialize an individual iFolder account.

---

**IMPORTANT:** If your global client policies include any enforced or hidden settings, the users must log in with the iFolder client to initialize their iFolder user accounts.

---

To install the iFolder client on your workstations, follow the instructions in the *iFolder 2.1 Quick Start* and the *Novell iFolder 2.1 User Guide*, available on the [Novell iFolder online documentation Web site \(http://www.novell.com/documentation/lg/ifolder21/index.html\)](http://www.novell.com/documentation/lg/ifolder21/index.html).

To install iFolder on additional servers, follow the instructions in [Section 16.3, "Configuring iFolder on Additional Servers,"](#) on page 143.



# Installing iFolder 2.1.5 on OES for Linux

# 9

This section describes how to install Novell® iFolder® 2.1.5 server in Standalone and Coexistent modes using the following configuration:

| Server Operating System | Web Server    | LDAP Server       |
|-------------------------|---------------|-------------------|
| SLES 9 SP1              | Apache 2.0.43 | Novell eDirectory |

iFolder 2.1.5 server can now be installed in two modes:

- ♦ **Standalone Mode:** In this mode, no Apache instances run except for iFolder. iFolder runs on the wildcard address: 80 / 443.
- ♦ **Coexistent Mode:** In this mode, the iFolder worker thread instance and other Apache instances can coexist. iFolder needs to run as a separate instance on a specific IP address (different from the primary address of the local machine). This new address must have a DNS name, and should be reachable from the iFolder clients.

For a description of known issues related to installation, see the [Novell 2.1 Readme](#).

Following topics are discussed in this chapter:

- ♦ [Section 9.1, “Confirming Prerequisites,” on page 77](#)
- ♦ [Section 9.2, “Pre-Install Guidelines,” on page 78](#)
- ♦ [Section 9.3, “Configuring the iFolder 2.x Server Using OES YaST Install,” on page 78](#)
- ♦ [Section 9.4, “Manual Configuration of the iFolder 2.x Server for OES,” on page 79](#)
- ♦ [Section 9.5, “Configuring iFolder Server on Machine with Multiple NICs,” on page 80](#)
- ♦ [Section 9.6, “Configuring iFolder on an NSS Volume,” on page 81](#)
- ♦ [Section 9.7, “Uninstalling iFolder Server,” on page 82](#)
- ♦ [Section 9.8, “Accessing iFolder in Coexistent Mode,” on page 83](#)
- ♦ [Section 9.9, “Accessing iFolder in Standalone Mode,” on page 83](#)
- ♦ [Section 9.10, “Post Install Verification and Troubleshooting,” on page 83](#)
- ♦ [Section 9.11, “What's Next,” on page 83](#)

## 9.1 Confirming Prerequisites

Before installing Novell iFolder 2.1.5, ensure that you have met the following prerequisites and download requirements:

- For general iFolder server prerequisites, see [“Prerequisites for All iFolder 2.1 Servers” on page 33](#).
- For prerequisites specific to Linux, see [Section 3.5, “Prerequisites for iFolder 2.1.x,” on page 36](#).

- Ensure that the install, and upgrade of following dependent products is complete:
  - ◆ Apache
  - ◆ LDAP
  - ◆ eDirectory™

## 9.2 Pre-Install Guidelines

The following guidelines are not mandatory. These guidelines are required for the administrator to ensure that the iFolder configuration files are backed up and are consistent.

- ◆ If iFolder server is installed in Coexistent mode, then iFolder install modifies the Apache configuration to redistribute the address configurations. We recommend that you backup the `/etc/apache2/listen.conf` file before installing iFolder 2.x server in case the administrator needs to revert back to the previous configuration after uninstalling iFolder.
- ◆ iFolder `specific_address` binding creates a new IP address for the system. This is identified as the interface `"ethn:ifdr"` (where *n* is the interface number on which the iFolder `specific_address` is added)

Before the install, ensure that the iFolder-specific IP address was not previously configured through `ifconfig`. If the IP address is already configured, then delete it by `ifconfig ethn:ifdr down` for the current session. The specific iFolder server entries are available in `/etc/sysconfig/network/ifcfg-eth-id-"MAC ADDRESS"` file. Delete all the lines containing the substring `"ifdr"`. A duplication of entries is usually seen when the initial installation of iFolder is incomplete and then iFolder is reinstalled.

## 9.3 Configuring the iFolder 2.x Server Using OES YaST Install

- 1 Open YaST.
- 2 Click NetWork Services > iFolder 2.x
  - 2a On the iFolder 2.x LDAP Server Configuration screen, select the Local System or Remote System option for the LDAP server, and then enter the following details:

|                          |                                                |
|--------------------------|------------------------------------------------|
| Directory Server Address | Type the IP address of the LDAP server.        |
| Admin name with context  | Type the admin credentials of the LDAP server. |
| Admin password           | Type the admin password of the LDAP server.    |
| Port Number              | Enter the port number of the LDAP server       |

Click Next.

- 2b On the iFolder 2.x configuration screen, select from the following two options:
  - ◆ **iFolder 2 will be the only Web Application on this Server (Standalone Mode)**  
If you select this option, the primary IP address of the server is used as iFolder 2.x server's IP address.  
This option is disabled if any of the following web applications are selected:  
- Novell iManager

- Novell eGuide
- Novell NetStorage
- Novell QuickFinder™
- Novell Virtual Office
- Novell iPrint

♦ **(default) iFolder 2 and Other Web Applications Run on this Server (Coexistent Mode)**

If you select this option, then iFolder modifies the Apache2 listen.conf file to remove the wildcard binding to ports and replaces it with a specific IP address.

Enter the following details:

---

|                                   |                                                                                                                                                                                                                                                                                                   |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| iFolder 2.x server IP address     | Specify a second IP address (different from the primary address of the local machine) for the iFolder server. iFolder listens on ports 80 and 443 of the secondary IP address.                                                                                                                    |
| iFolder 2.x server netmask        | Specify the netmask for the iFolder 2.x server IP address. This netmask value should be the same as that of the primary interface IP address which was the default address available before installation. This ensures that the new address can be reached through the primary address interface. |
| iFolder 2.x server DNS hostname   | Specify the DNS name for the iFolder 2.x server IP address.                                                                                                                                                                                                                                       |
| iFolder 2.x server user data path | Specify the path for the iFolder user accounts directory.                                                                                                                                                                                                                                         |

---

Click Next.

**2c** On the iFolder 2.x configuration screen, add iFolder 2.x admin users.

**2d** Click Next.

This completes the iFolder 2.x configuration.

**3** If iFolder is configured in Coexistent mode, configure the NetStorage component to use second IP address for iFolder, as specified in Coexistent mode in Step 2b.

## 9.4 Manual Configuration of the iFolder 2.x Server for OES

**1** Run `/opt/novell/ifolder/bin/ifolder_config.sh` at the shell prompt. The user is prompted to enter the following details:

---

|                    |                                                                    |
|--------------------|--------------------------------------------------------------------|
| LDAP Host          | Type the DNS name for the LDAP server.                             |
| LDAP SSL Port      | Specify the LDAP SSL Port                                          |
| LDAP Users Context | Specify the LDAP context where the iFolder Admin user is located.  |
| LDAP Admin DN      | Type the DN of the LDAP admin                                      |
| Admin Password     | Type the admin password of the LDAP server                         |
| Admin Users        | Specify the users who have permission to manage the iFolder server |

---

|                               |                                                                                                                                                                                                                                      |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| iFolder 2.x server IP Address | Specify the IP address of the iFolder 2.x server. To install in Standalone mode, enter 0.0.0.0 as the IP address. To install in Coexistent mode, enter a valid IP address (different from the primary address of the local machine). |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

The following user inputs are required only if the user enters a valid IP address for iFolder 2.x server IP address field.

- ◆ iFolder 2.x server netmask: Type the netmask for the iFolder 2.x server.
  - ◆ iFolder 2.x DNS name: Type the DNS name for the iFolder 2.x server.
- 2** After configuration is complete, and if you are not running iFolder 2.x as a standalone server, then you need to restart Apache2 (by running `/etc /init.d/apache2 restart`) before starting iFolder 2.x server.

To load the iFolder 2.x server, run `/etc/init.d/novell-ifolder start`

## 9.5 Configuring iFolder Server on Machine with Multiple NICs

iFolder server is configured on a machine that has multiple NICs using the following installations:

- ◆ [During OES Installation](#)
- ◆ [Post Installation](#)

### 9.5.1 During OES Installation

iFolder can be configured in two ways:

- ◆ [Configuring iFolder with a New IP Address Other than the Existing NIC Card's IP Addresses](#)
- ◆ [Configuring iFolder with the IP Addresses of the Existing NICs](#)

#### Configuring iFolder with a New IP Address Other than the Existing NIC Card's IP Addresses

On the iFolder Server Configuration screen, enter the following details:

- 1** Admin credentials: On the LDAP Server Configuration screen, Click Next.
- 2** iFolder 2.x Server IP Address: Type a new IP address, other than the IP addresses of the existing NIC cards.
- 3** iFolder 2.x Server Subnet mask: Specify the subnet mask of the respective IP address.
- 4** iFolder 2.x Server DNS name: Specify the DNS name of the iFolder server's IP address.
- 5** Click Next
- 6** On the iFolder 2.x configuration screen, click Next.

This completes the configuration of the iFolder server.

#### Configuring iFolder with the IP Addresses of the Existing NICs

- 1** Configure the NICs with their respective IP addresses and the host name of the first NIC card.

For example, a server configured with three NIC cards:



eth0 - <IP Address of NIC card 1> <host1.domain1.com>

eth1 - <IP Address of NIC card 2> <host1.domain1.com>

eth2 - <IP Address of NIC card 3> <host1.domain1.com>

In the above example, host1.domain1.com is the common host name for all the NIC cards.

---

**NOTE:** Check the /etc/hosts file for the short host name. The short host name should be aliased to the first NIC card entry only.

---

**2** Configure the iFolder server as follows:

**2a** Admin credentials: On the Admin Credentials screen, click Next.

**2b** iFolder 2.x Server IP Address: Specify an IP address of the existing NIC cards, other than the IP address of the NIC card configured with DNS host name.

**2c** iFolder 2.x Server Subnet mask: Type the subnet mask of the respective IP address.

**2d** iFolder 2.x Server DNS name: Type the DNS name of the iFolder server's IP address and click next.

**2e** On the iFolder 2.x Configuration screen, click next.

This completes the configuration of the iFolder server.

## 9.5.2 Post Installation

- ♦ To configure iFolder with a new IP address, refer to [Configuring iFolder with a New IP Address Other than the Existing NIC Card's IP Addresses](#)
- ♦ To view the list of multiple interfaces, click Application Menu > YaST > Network Devices > Network Card
- ♦ To configure iFolder with the IP address of the existing NIC card, refer to [Configuring iFolder with the IP Addresses of the Existing NICs](#)

---

**IMPORTANT:** IP addresses of the Linux server and iFolder server must be DNS enabled.

---

## 9.6 Configuring iFolder on an NSS Volume

iFolder 2.x can be configured to use the NSS volumes only in case of post installation. Depending on the type of LDAP server use either of the following methods:

- ♦ [Section 9.6.1, "Local LDAP," on page 81](#)
- ♦ [Section 9.6.2, "Remote LDAP," on page 82](#)

### 9.6.1 Local LDAP

If you select the local LDAP host option while configuring iFolder 2.x, you need to perform the following steps:

- 1** Run the following command at the shell prompt:

```
rights -f <full path of the ifolder data directory on NSS
volume> -r all trustee novlifdr.<local eDir admin
context>.<local eDir tree name>
```

For example:

```
rights -f /media/nss/NSSVOL1/ifolderdata -r all trustee
novlifdr.novell.MYTREE
```

where /media/nss/NSSVOL1/ifolderdata is the path of the iFolder data directory on NSS volume NSSVOL1, novell is the local eDirectory admin context, and MYTREE is the local eDirectory tree name

This command grants the iFolder instance of Apache rights to the iFolder data directory on NSS volume.

- 2 Run the following command to restart the iFolder 2.x server:

```
/etc/init.d/novell-ifolder restart
```

## 9.6.2 Remote LDAP

If you select the remote LDAP host option while configuring iFolder 2.x, you need to perform the following steps:

- 1 Run the following command at the shell prompt:

```
rights -f <path to ifolder data directory on NSS volume> -r all
trustee novlifdr.<eDir admin context>.<eDir tree name>
```

where all references to eDirectory refer to the eDirectory tree used for NSS configuration.

For example:

```
rights -f /media/nss/NSSVOL1/ifolderdata -r all trustee
novlifdr.novell.MYTREE
```

where /media/nss/NSSVOL1/ifolderdata is the path of the iFolder data directory on NSS volume NSSVOL1, novell is the eDirectory admin context, and MYTREE is the eDir tree name of the tree used for NSS configuration for the server on which iFolder is installed.

This command grants the iFolder instance of Apache rights to the iFolder data directory on NSS volume.

- 2 Run the following command to restart the iFolder 2.x server:

```
/etc/init.d/novell-ifolder restart
```

## 9.7 Uninstalling iFolder Server

- 1 Run the command to stop iFolder server:

```
/etc/init.d/novell-ifolder stop
```

- 2 Remove the ifolder daemon from the kernel daemon set by issuing the following command:

```
/sbin/insserv -r /etc/init.d/novell-ifolder
```

- 3 If the iFolder server was installed in Coexistent mode, restore the Apache2 configuration file backed up during install, then restart Apache.
- 4 Run `rpm -e novell-ifolder` to remove the package.

## 9.8 Accessing iFolder in Coexistent Mode

In Coexistent mode, primary IP address of the local machine is used to access NetStorage and secondary IP address (IP address specified for iFolder 2.x server during iFolder configuration) to access iFolder server.

For example, to access the Admin Console:

```
https://<secondary_ifolder_ip_address>/iFolderServer/Admin
```

To access the iFolder page:

```
http://<secondary_ifolder_ip_address>/iFolder
```

## 9.9 Accessing iFolder in Standalone Mode

In Standalone mode, the Login link on the main iFolder page will not work as NetStorage is not installed on the local machine. However, NetStorage can be installed on a separate server and configured to point to the Standalone iFolder server.

Then the user can use `https://<ip address of netstorage server >/NetStorage` to access NetStorage.

## 9.10 Post Install Verification and Troubleshooting

- ♦ To ensure that the listeners are correctly distributed, use the following command:

```
netstat -an | grep -v unix | grep ":80 "
```

If iFolder is installed in Standalone mode, then you see that the iFolder instance runs on 0.0.0.0:80, the default Apache2 instance should be terminated. If iFolder is installed in Coexistent mode, then the iFolder worker thread runs on `specific_address:80` and Apache will be on `other_addresses:80`.

- ♦ Verify the new address binding using `ifconfig`. You will now see a new interface, `ethX:ifdr`, where `X` refers to a number in range 0 to `n-1` and `n` refers to number of network interfaces.
- ♦ If iFolder installation does not bring up the iFolder server, then you can restart the daemon with the following command:

```
/etc/init.d/novell-ifolder restart
```

## 9.11 What's Next

Follow the instructions for configuring and managing your iFolder server in [Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,”](#) on page 129.

After you provision a user's account for iFolder services, to initialize an iFolder account, a user must log in to the iFolder server using the iFolder client, the iFolder Web site Login (not the PDA Login), or NetDrive.

---

**IMPORTANT:** If your global client policies include any enforced or hidden settings, users must log in with the iFolder client to initialize their iFolder user accounts.

---

To install the iFolder client on your workstations, follow the instructions in the *iFolder 2.1 Quick Start* and the *Novell iFolder 2.1 User Guide*, available on the [Novell iFolder online documentation Web site \(http://www.novell.com/documentation/lg/ifolder21/index.html\)](http://www.novell.com/documentation/lg/ifolder21/index.html).

To install iFolder on additional servers, follow the instructions in [Section 16.3, “Configuring iFolder on Additional Servers,”](#) on page 143.

For more information about known issues for iFolder servers and workstations, see the Readme available at [Novell iFolder documentation Web site \(http://www.novell.com/documentation/ifolder21/index.html\)](http://www.novell.com/documentation/ifolder21/index.html)2.1.5

# Installing iFolder 2.1.6 on OES for Linux

# 10

This section describes how to install Novell® iFolder® 2.1.6 server in Standalone and Coexistent modes using the following configuration:

| Server Operating System | Web Server    | LDAP Server       |
|-------------------------|---------------|-------------------|
| SLES 9 SP1              | Apache 2.0.43 | Novell eDirectory |

iFolder 2.1.6 server can now be installed in two modes:

- ♦ **Standalone Mode:** In this mode, no Apache instances run except for iFolder. iFolder runs on the wildcard address: 80 / 443.
- ♦ **Coexistent Mode:** In this mode, the iFolder worker thread instance and other Apache instances can coexist. iFolder needs to run as a separate instance on a specific IP address (different from the primary address of the local machine). This new address must have a DNS name, and should be reachable from the iFolder clients.

For a description of known issues related to installation, see the *Novell 2.1 Readme*.

Following topics are discussed in this chapter:

- ♦ [Section 10.1, “Confirming Prerequisites,” on page 85](#)
- ♦ [Section 10.2, “Pre-Install Guidelines,” on page 86](#)
- ♦ [Section 10.3, “Configuring the iFolder 2.x Server Using OES YaST Install,” on page 86](#)
- ♦ [Section 10.4, “Manual Configuration of the iFolder 2.x Server for OES,” on page 88](#)
- ♦ [Section 10.5, “Configuring iFolder Server on Machine with Multiple NICs,” on page 88](#)
- ♦ [Section 10.6, “Configuring iFolder on an NSS Volume,” on page 90](#)
- ♦ [Section 10.7, “Uninstalling iFolder Server,” on page 91](#)
- ♦ [Section 10.8, “Accessing iFolder in Coexistent Mode,” on page 91](#)
- ♦ [Section 10.9, “Accessing iFolder in Standalone Mode,” on page 91](#)
- ♦ [Section 10.10, “Post Install Verification and Troubleshooting,” on page 92](#)
- ♦ [Section 10.11, “What's Next,” on page 92](#)

## 10.1 Confirming Prerequisites

Before installing Novell iFolder 2.1.6, ensure that you have met the following prerequisites and download requirements:

- ❑ For general iFolder server prerequisites, see [“Prerequisites for All iFolder 2.1 Servers” on page 33](#).
- ❑ For prerequisites specific to Linux, see [Section 3.5, “Prerequisites for iFolder 2.1.x,” on page 36](#).

- Ensure that the install, and upgrade of following dependent products is complete:
  - ◆ Apache
  - ◆ LDAP
  - ◆ eDirectory™

## 10.2 Pre-Install Guidelines

The following guidelines are not mandatory. These guidelines are required for the administrator to ensure that the iFolder configuration files are backed up and are consistent.

- ◆ If iFolder server is installed in Coexistent mode, then iFolder install modifies the Apache configuration to redistribute the address configurations. We recommend that you backup the `/etc/apache2/listen.conf` file before installing iFolder 2.x server in case the administrator needs to revert back to the previous configuration after uninstalling iFolder.
- ◆ iFolder `specific_address` binding creates a new IP address for the system. This is identified as the interface `"ethn:ifdr"` (where *n* is the interface number on which the iFolder `specific_address` is added)

Before the install, ensure that the iFolder-specific IP address was not previously configured through `ifconfig`. If the IP address is already configured, then delete it by `ifconfig ethn:ifdr down` for the current session. The specific iFolder server entries are available in `/etc/sysconfig/network/ifcfg-eth-id-"MAC ADDRESS"` file. Delete all the lines containing the substring `"ifdr"`. A duplication of entries is usually seen when the initial installation of iFolder is incomplete and then iFolder is reinstalled.

## 10.3 Configuring the iFolder 2.x Server Using OES YaST Install

- 1 Open YaST.
- 2 Click NetWork Services > iFolder.
  - 2a On the iFolder 2.x LDAP Server Configuration screen, select the Local System or Remote System option for the LDAP server, and then enter the following details:

|                          |                                                |
|--------------------------|------------------------------------------------|
| Directory Server Address | Type the IP address of the LDAP server.        |
| Admin name with context  | Type the admin credentials of the LDAP server. |
| Admin password           | Type the admin password of the LDAP server.    |
| Port Number              | Enter the port number of the LDAP server       |

- ◆ Click Next
- ◆ If the IP address provided cannot be resolved to a DNS name, then YaST displays an error message indicating the same. To resolve, ensure that the LDAP server is configured to use `SSL CertificateIP`.

Otherwise, ensure that the LDAP server is configured to use `SSL CertificateDNS`.

**To enable Server Certificate:**

In ConsoleOne,

- ◆ Right-click the Ldap Server object > Properties
- ◆ Click SSL/TLS Configuration tab.
- ◆ Verify or change the value of Server Certificate.

**2b** On the iFolder 2.x configuration screen, select from the following two options:

- ◆ **iFolder 2 will be the only Web Application on this Server (Standalone Mode)**

If you select this option, the primary IP address of the server is used as iFolder 2.x server's IP address.

This option is disabled if any of the following web applications are selected:

- Novell iManager
- Novell eGuide
- Novell NetStorage
- Novell QuickFinder™
- Novell Virtual Office
- Novell iPrint

- ◆ **(default) iFolder 2 and Other Web Applications Run on this Server (Coexistent Mode)**

If you select this option, then iFolder modifies the Apache2 listen.conf file to remove the wildcard binding to ports and replaces it with a specific IP address.

Enter the following details:

---

|                                   |                                                                                                                                                                                                                                                                                                   |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| iFolder 2.x server IP address     | Specify a second IP address (different from the primary address of the local machine) for the iFolder server. iFolder listens on ports 80 and 443 of the secondary IP address.                                                                                                                    |
| iFolder 2.x server netmask        | Specify the netmask for the iFolder 2.x server IP address. This netmask value should be the same as that of the primary interface IP address which was the default address available before installation. This ensures that the new address can be reached through the primary address interface. |
| iFolder 2.x server DNS hostname   | Specify the DNS name for the iFolder 2.x server IP address.                                                                                                                                                                                                                                       |
| iFolder 2.x server user data path | Specify the path for the iFolder user accounts directory.                                                                                                                                                                                                                                         |

---

Click Next.

**2c** On the iFolder 2.x configuration screen, add iFolder 2.x admin users.

**2d** Click Next.

This completes the iFolder 2.x configuration.

**3** If iFolder is configured in Coexistent mode, configure the NetStorage component to use second IP address for iFolder, as specified in Coexistent mode in Step 2b.

## 10.4 Manual Configuration of the iFolder 2.x Server for OES

- 1 Run `/opt/novell/ifolder/bin/ifolder_config.sh` at the shell prompt. This requires the user to input the following:

---

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LDAP Host                     | Enter the DNS name of the LDAP server if the LDAP server is configured to use <code>SSL CertificateDNS</code> .<br><br>Or, enter the IP address of the LDAP server if the LDAP server is configured to use <code>SSL CertificateIP</code> .<br><br><b>To enable Server Certificate:</b><br><br>In ConsoleOne, right-click the Ldap Server object > Properties. Click SSL/TLS Configuration tab and verify or change the value of Server Certificate. |
| LDAP SSL Port                 | Specify the LDAP SSL Port                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LDAP Users Context            | Specify the LDAP context where the iFolder Admin user is located.                                                                                                                                                                                                                                                                                                                                                                                    |
| LDAP Admin DN                 | Type the DN of the LDAP admin                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Admin Password                | Type the admin password of the LDAP server                                                                                                                                                                                                                                                                                                                                                                                                           |
| Admin Users                   | Specify the users who have permission to manage the iFolder server                                                                                                                                                                                                                                                                                                                                                                                   |
| iFolder 2.x server IP Address | Specify the IP address of the iFolder 2.x server. To install in Standalone mode, enter 0.0.0.0 as the IP address. To install in Coexistent mode, enter a valid IP address (different from the primary address of the local machine).                                                                                                                                                                                                                 |

---

The following user inputs are required only if the user enters a valid IP address for iFolder 2.x server IP address field.

- ♦ iFolder 2.x server netmask: Type the netmask for the iFolder 2.x server.
  - ♦ iFolder 2.x DNS name: Type the DNS name for the iFolder 2.x server.
- 2 After configuration is complete, and if you are not running iFolder 2.x as a standalone server, then you need to restart Apache2 (by running `/etc/init.d/apache2 restart`) before starting iFolder 2.x server.

To load the iFolder 2.x server, run `/etc/init.d/novell-ifolder start`

## 10.5 Configuring iFolder Server on Machine with Multiple NICs

iFolder server is configured on a machine that has multiple NICs using the following installations:

- ♦ **During OES Installation**
- ♦ **Post Installation**



## 10.5.1 During OES Installation

iFolder can be configured in two ways:

- ◆ **Configuring iFolder with a New IP Address Other than the Existing NIC Card's IP Addresses**
- ◆ **Configuring iFolder with the IP Addresses of the Existing NICs**

### **Configuring iFolder with a New IP Address Other than the Existing NIC Card's IP Addresses**

On the iFolder Server Configuration screen, enter the following details:

- 1** Admin credentials: On the LDAP Server Configuration screen, Click Next.
- 2** iFolder 2.x Server IP Address: Type a new IP address, other than the IP addresses of the existing NIC cards.
- 3** iFolder 2.x Server Subnet mask: Specify the subnet mask of the respective IP address.
- 4** iFolder 2.x Server DNS name: Specify the DNS name of the iFolder server's IP address.
- 5** Click Next
- 6** On the iFolder 2.x configuration screen, click Next.

This completes the configuration of the iFolder server.

### **Configuring iFolder with the IP Addresses of the Existing NICs**

- 1** Configure the NICs with their respective IP addresses and the host name of the first NIC card.

For example, a server configured with three NIC cards:

eth0 - <IP Address of NIC card 1> <host1.domain1.com>

eth1 - <IP Address of NIC card 2> <host1.domain1.com>

eth2 - <IP Address of NIC card 3> <host1.domain1.com>

In the above example, host1.domain1.com is the common host name for all the NIC cards.

---

**NOTE:** Check the /etc/hosts file for the short host name. The short host name should be aliased to the first NIC card entry only.

---

- 2** Configure the iFolder server as follows:
  - 2a** Admin credentials: On the Admin Credentials screen, click Next.
  - 2b** iFolder 2.x Server IP Address: Specify an IP address of the existing NIC cards, other than the IP address of the NIC card configured with DNS host name.
  - 2c** iFolder 2.x Server Subnet mask: Type the subnet mask of the respective IP address.
  - 2d** iFolder 2.x Server DNS name: Type the DNS name of the iFolder server's IP address and click next.
  - 2e** On the iFolder 2.x Configuration screen, click next.

This completes the configuration of the iFolder server.

## 10.5.2 Post Installation

- To configure iFolder with a new IP address, refer to [Configuring iFolder with a New IP Address Other than the Existing NIC Card's IP Addresses](#)
- To view the list of multiple interfaces, click Application Menu > YaST > Network Devices > Network Card
- To configure iFolder with the IP address of the existing NIC card, refer to [Configuring iFolder with the IP Addresses of the Existing NICs](#)

---

**IMPORTANT:** IP addresses of the Linux server and iFolder server must be DNS enabled.

---

## 10.6 Configuring iFolder on an NSS Volume

iFolder 2.x can be configured to use the NSS volumes only in the case of post installation. iFolder sever is configured on NSS volume using the following installations:

### 10.6.1 Using Local LDAP

If you select the local LDAP host option while configuring iFolder 2.x, you need to perform the following steps:

- 1 Run the following command at the shell prompt:

```
rights -f <full path of the ifolder data directory on NSS volume> -r all trustee novlifdr.<local eDir admin context>.<local edir tree name>
```

For example:

```
rights -f /media/nss/NSSVOL1/ifolderdata -r all trustee novlifdr.novell.MYTREE
```

where /media/nss/NSSVOL1/ifolderdata is the path of the iFolder data directory on NSS volume NSSVOL1, novell is the local eDirectory admin context, and MYTREE is the local eDirectory tree name

This command grants the iFolder instance of Apache rights to the iFolder data directory on NSS volume.

- 2 Run the following command to restart the iFolder 2.x server:

```
/etc/init.d/novell-ifolder restart
```

### 10.6.2 Using Remote LDAP

If you select the remote LDAP host option while configuring iFolder 2.x, you need to perform the following steps:

- 1 Run the following command at the shell prompt:

```
rights -f <path to ifolder data directory on NSS volume> -r all trustee novlifdr.<eDir admin context>.<eDir tree name>
```

where all references to eDirectory refer to the eDirectory tree used for NSS configuration.

For example:

```
rights -f /media/nss/NSSVOL1/ifolderdata -r all trustee
novlifdr.novell.MYTREE
```

where /media/nss/NSSVOL1/ifolderdata is the path of the iFolder data directory on NSS volume NSSVOL1, novell is the eDirectory admin context, and MYTREE is the eDir tree name of the tree used for NSS configuration for the server on which iFolder is installed.

This command grants the iFolder instance of Apache rights to the iFolder data directory on NSS volume.

- 2 Run the following command to restart the iFolder 2.x server:

```
/etc/init.d/novell-ifolder restart
```

## 10.7 Uninstalling iFolder Server

- 1 Run the command to stop iFolder server:

```
/etc/init.d/novell-ifolder stop
```

- 2 Remove the ifolder daemon from the kernel daemon set by issuing the following command:

```
/sbin/insserv -r /etc/init.d/novell-ifolder
```

- 3 If the iFolder server was installed in Coexistent mode, restore the Apache2 configuration file backed up during install, then restart Apache.
- 4 Run `rpm -e novell-ifolder` to remove the package.

## 10.8 Accessing iFolder in Coexistent Mode

If iFolder 2.x server was installed in Coexistent mode, access NetStorage using the primary IP address of the server and access iFolder using the secondary IP address (the one provided in the iFolder 2.x server IP address field during the iFolder configuration).

For example, to access the Admin Console:

```
https://<secondary_ifolder_ip_address>/iFolderServer/Admin
```

To access the iFolder page:

```
http://<secondary_ifolder_ip_address>/iFolder
```

## 10.9 Accessing iFolder in Standalone Mode

If iFolder is installed in Standalone mode, NetStorage cannot run on the same machine. The Login link on the main iFolder page will not work because NetStorage is not installed on the local machine. However, NetStorage can be installed on a separate server and can be configured to point to the Standalone iFolder server.

Then the user can use `https://<ip address of netstorage server >/NetStorage` to access NetStorage.

## 10.10 Post Install Verification and Troubleshooting

- ♦ To ensure that the listeners are correctly distributed, use the following command:

```
netstat -an | grep -v unix | grep ":80 "
```

If iFolder is installed in Standalone mode, then you see that the iFolder instance runs on 0.0.0.0:80, the default Apache2 instance should be terminated. If iFolder is installed in Coexistent mode, then the iFolder worker thread runs on `specific_address:80` and Apache will be on `other_addresses:80`.

- ♦ Verify the new address binding using `ifconfig`. You will now see a new interface, `ethX:ifdr`, where `X` refers to a number in range 0 to `n-1` and `n` refers to number of network interfaces.
- ♦ If iFolder installation does not bring up the iFolder server, then you can restart the daemon with the following command:

```
/etc/init.d/novell-ifolder restart
```

## 10.11 What's Next

Follow the instructions for configuring and managing your iFolder server in [Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,”](#) on page 129.

After you provision a user's account for iFolder services, to initialize an iFolder account, a user must log in to the iFolder server using the iFolder client, the iFolder Web site Login (not the PDA Login), or NetDrive.

---

**IMPORTANT:** If your global client policies include any enforced or hidden settings, users must log in with the iFolder client to initialize their iFolder user accounts.

---

To install the iFolder client on your workstations, follow the instructions in the *iFolder 2.1 Quick Start* and the *Novell iFolder 2.1 User Guide*, available on the [Novell iFolder online documentation Web site](http://www.novell.com/documentation/lg/ifolder21/index.html) (<http://www.novell.com/documentation/lg/ifolder21/index.html>).

To install iFolder on additional servers, follow the instructions in [Section 16.3, “Configuring iFolder on Additional Servers,”](#) on page 143.

For more information about known issues for iFolder servers and workstations, see the Readme available at [Novell iFolder documentation Web site](http://www.novell.com/documentation/ifolder21/index.html) (<http://www.novell.com/documentation/ifolder21/index.html>)

# Installing iFolder 2.1.6 on SLES 9 Server

# 11

This section describes how to install Novell® iFolder® 2.1.6 server on SLES 9 Server

| Server Operating System | Web Server    | LDAP Server       |
|-------------------------|---------------|-------------------|
| SLES 9 SP1              | Apache 2.0.43 | Novell eDirectory |

- ♦ [Section 11.1, “Pre-Install Guidelines,” on page 93](#)
- ♦ [Section 11.2, “Installing iFolder 2.1.6 on SLES 9 Server,” on page 93](#)
- ♦ [Section 11.3, “Manually Uninstalling iFolder on SLES,” on page 94](#)
- ♦ [Section 11.4, “Post- Uninstallation Guidelines,” on page 95](#)

## 11.1 Pre-Install Guidelines

The following guidelines are not mandatory. These guidelines are required for the administrator to ensure that the iFolder configuration files are backed up and are consistent.

- ♦ If iFolder server is installed in Coexistent mode, then iFolder install modifies the Apache configuration to redistribute the address configurations. We recommend that you backup the `/etc/apache2/listen.conf` file before installing iFolder 2.x server in case the administrator needs to revert back to the previous configuration after uninstalling iFolder.
- ♦ iFolder specific\_address binding creates a new IP address for the system. This is identified as the interface `"ethn:ifdr"` (where *n* is the interface number on which the iFolder specific\_address is added)

Before the install, ensure that the iFolder-specific IP address was not previously configured through `ifconfig`. If the IP address is already configured, then delete it by `ifconfig ethn:ifdr down` for the current session. The specific iFolder server entries are available in `/etc/sysconfig/network/ifcfg-eth-id-"MAC ADDRESS"` file. Delete all the lines containing the substring `"ifdr"`. A duplication of entries is usually seen when the initial installation of iFolder is incomplete and then iFolder is reinstalled.

## 11.2 Installing iFolder 2.1.6 on SLES 9 Server

- 1 Install Apache2 worker rpm:
  - 1a Open Yast2.
  - 1b Select Install and Remove Software
  - 1c Search for `apache2-worker`
  - 1d Check `apache2-worker` for installation.
  - 1e Click Accept to install `apache2-worker`  
This installs Apache-2 worker on your system.
- 2 Install LDAP libraries for C:

- 2a** Download the latest linux tarball (such as *libraryname.tar.gz*) from [Novell Developer Kit Web site \(http://developer.novell.com/ndk/cldap.htm\)](http://developer.novell.com/ndk/cldap.htm) in /opt.  
For example, novell-cldap-devel-2005.03.29-1linux.tar.gz
- 2b** Run `tar -zxvf novell-cldap-devel-2005.03.29-1linux.tar.gz` in /opt.
- 3** Run `export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/opt/cldap_2005.03.29/lib` command to add libldapsdk.so and libldapssl.so to LD\_LIBRARY\_PATH.
- 4** Install iFolder server 2.1.6:  
Run `rpm -ivh --nodeps novell-ifolder-2.1.6-20050808_1852.i586.rpm`
- 5** Run `/opt/novell/ifolder/bin/ifolder_config.sh` for configuring iFolder server.

This requires you to input the following values:

- ◆ LDAP Host: Type the DNS name for the LDAP server.
- ◆ LDAP SSL Port: Specify the LDAP SSL Port.
- ◆ LDAP Users Context: Specify the LDAP context where the iFolder Admin user is located.
- ◆ LDAP Admin DN: Type the DN of the LDAP admin.
- ◆ Admin Password: Type the admin password of the LDAP server.
- ◆ Admin Users: Specify the users who have permission to manage the iFolder server.
- ◆ iFolder 2.x server IP Address: Specify the IP address of the iFolder 2.x server.  
To install in Standalone mode, enter 0.0.0.0 as the IP address.  
To install in Coexistent mode, enter a valid IP address (different from the primary address of the local machine).

Enter the following user inputs if the user enters a valid IP address for iFolder 2.x server IP address field.

- ◆ iFolder 2.x server netmask: Type the netmask for the iFolder 2.x server.
  - ◆ iFolder 2.x DNS name: Type the DNS name for the iFolder 2.x server.
- 6** After configuration is complete, and if you are not running iFolder 2.x as a standalone server, then you need to restart Apache2 (by running `/etc/init.d/apache2 restart`) before starting iFolder 2.x server.

To load the iFolder 2.x server, run `/etc/init.d/novell-ifolder start`

For more information, see the [Novell iFolder 2.1 Administration guide \(http://www.novell.com/documentation/ifolder21/index.html?page=/documentation/ifolder21/admin/data/a2iii88.html#bktitle\)](http://www.novell.com/documentation/ifolder21/index.html?page=/documentation/ifolder21/admin/data/a2iii88.html#bktitle)

## 11.3 Manually Uninstalling iFolder on SLES

- 1** Stop iFolder server by giving the following command:  
`/etc/init.d/novell-ifolder stop`
- 2** Remove the ifolder daemon from kernel daemon set by giving the following command:  
`/sbin/insserv -r /etc/init.d/novell-ifolder`

- 3 Restore the Apache2 configuration file backed up during install and then restart Apache.
- 4 Run `rpm -e novell-ifolder` to remove package.

## 11.4 Post- Uninstallation Guidelines

Incase you had installed iFolder in Coexistence mode complete the following steps:

- ♦ iFolder `specific_address` binding creates a new IP address for the system. This is identified as the interface "`ethn:ifdr`" (where *n* is the interface number on which the iFolder `specific_address` is added). Delete it by running `ifconfig ethn:ifdr down` command at the shell prompt.

The specific iFolder server entries are available in `/etc/sysconfig/network/ifcfg-eth-id-"MAC ADDRESS"` file. Delete all the lines containing the substring "ifdr".

Restart the network by running `/etc/init.d/network restart`





# Installing iFolder 2.1.6 on Windows 2000 and Windows 2003 Server

# 12

This section describes how to install the standalone version of Novell® iFolder® 2.1.6 server software on Microsoft Windows 2000 and Windows 2003 server, using the following configurations:

| Server Operating System | Web Server | LDAP Server                             |
|-------------------------|------------|-----------------------------------------|
| Windows 2000            | IIS 6.0    | Novell eDirectory™ and Active Directory |
| Windows 2003            | IIS 6.0    | Novell eDirectory™ and Active Directory |

For more information about known issues for iFolder servers and workstations, see the [Novell 2.1 Readme](#).

See the following sections for installation and configuration information:

- [Section 12.1, “Prerequisites for Windows 2000/ Windows 2003 Servers,” on page 97](#)
- [Section 12.2, “Installing iFolder on Windows/IIS/eDirectory,” on page 98](#)
- [Section 12.3, “Installing iFolder on Windows/IIS/Active Directory,” on page 102](#)

**NOTE:** Unless specifically mentioned the installation steps will be same for WIndows 2000 and WIndows 2003 Server.

## 12.1 Prerequisites for Windows 2000/ Windows 2003 Servers

Before you install Novell iFolder 2.1.6, make sure your Windows server and enterprise network environment meet all of the following prerequisites.

- Install Windows 2000 Server SP4 or Windows 2003 (Standard or Enterprise).
- Create a storage volume accessible from the Windows server where you want to store the user data for the iFolder accounts.

It is standard practice to store user data on a volume other than the system volume. Storage solutions can include any volume options supported by Windows, including direct attached storage and storage area networks.

- Install Novell eDirectory 8.7.3 or later or install Microsoft Active Directory (from Windows 2000 Server SP 4/ Windows 2003 or later) as your LDAP server. Make sure it is active, synchronized, and working properly.

Your LDAP server and your iFolder server can reside on the same machine or on different machines.

- ❑ If you use Active Directory as your LDAP server, you must meet these additional requirements:
  - ◆ In Active Directory environments, if you have shared schema domain controllers, all must be active and synchronized to enable the schema extension during the iFolder installation.
  - ◆ You must have the necessary rights to extend the Active Directory schema. During a Complete install, iFolder extends the schema. Alternately, you can run the install to extend the schema independently, using the Extend Schema Only option.
- ❑ Install and configure IIS Server on the iFolder server, including service packs and patches.
- ❑ Get an SSL certificate and install it onto your iFolder server, using one of these methods:
  - ◆ If you have your own certificate server, such as Novell Certificate Server, then you can get a certificate from your server.
  - ◆ You can go to a certificate vendor, such as Entrust\* or VeriSign\*, and purchase a certificate.

For more information on creating and installing SSL certificates on your IIS Server:

- ◆ For IIS 4, refer to the [Microsoft Product Support Services Web site \(http://support.microsoft.com/kb/q228991/\)](http://support.microsoft.com/kb/q228991/)
  - ◆ For IIS 5, refer to the [Microsoft Product Support Services Web site \(http://support.microsoft.com/support/kb/articles/Q228/8/36.ASP\)](http://support.microsoft.com/support/kb/articles/Q228/8/36.ASP)
  - ◆ For IIS 6, refer to the [Microsoft TechNet Web site \(http://www.microsoft.com/technet/prodtechnol/WindowsServer2003/Library/IIS/89c7ef2f-f7d6-483c-8b08-ae0c6584dd4d.mspx\)](http://www.microsoft.com/technet/prodtechnol/WindowsServer2003/Library/IIS/89c7ef2f-f7d6-483c-8b08-ae0c6584dd4d.mspx)
- ❑ Install Internet Explorer (IE) 5.0 or later on your server.

## 12.2 Installing iFolder on Windows/IIS/eDirectory

This section describes how to install Novell iFolder, using the following configuration:

| Server Operating System | Web Server | LDAP Server       |
|-------------------------|------------|-------------------|
| Windows 2000            | IIS        | Novell eDirectory |
| Windows 2003            | IIS        | Novell eDirectory |

After you have met the prerequisites for this configuration, you are ready to install iFolder.

- 1** If you plan to use LDAP over SSL, locate a self-signed root certificate (rootcert.der) for your iFolder server.

You can export a self-signed root certificate from your certificate server.

Save the rootcert.der file to a location on the iFolder server or to a floppy disk. For example, a:\rootcert.der. Remember this location; you need it in [Step 8 on page 68](#).

- 2** If the IIS server is not currently running, start it.
- 3** To start the installation, go to the temporary directory where you saved the installation program, then double-click the installation program icon.

- 4 The iFolder Installation Wizard opens on your desktop. Do one of the following:
  - ♦ **New Installation of iFolder 2.1.6:** Select to either Continue or Cancel the installation.  
If you click Continue, proceed to [Step 5 on page 68](#).  
If you click Cancel, the installation program exits and the iFolder server is not installed. You can restart the installation at a later time.
  - ♦ **Upgrade Installation or Repair of iFolder 2.1.6:** If you are installing iFolder 2.1.6 on an existing iFolder server, the Installation Wizard automatically detects it. Proceed to [Step 11 on page 70](#).
- 5 For new iFolder 2.1.6 installations, read the End User License Agreement, then do one of the following:
  - ♦ Agree (click Yes)  
The installation program proceeds.
  - ♦ Disagree (click No)  
The installation program exits and the iFolder server is not installed. You can restart the installation at a later time.
- 6 To select Novell eDirectory as your LDAP server, click eDirectory.

---

**TIP:** If you have an Active Directory LDAP server and want to install the iFolder server on a Windows server, follow the installation procedures in [Section 12.3, “Installing iFolder on Windows/IIS/Active Directory,” on page 102](#).

---

- 7 Specify the directory on the destination server where you want iFolder server to be installed. Browse to select the drive letter that you mapped in [Step 1 on page 68](#)
- 8 Configure the global settings for the eDirectory LDAP server that your iFolder server uses, then click Next.
  - ♦ **LDAP Host Name or IP:** Specify the DNS name (such as *ldap1.your-domain-name.com*) or IP address (such as *192.168.1.1*) of the server that acts as your LDAP server. Replace *ldap1.your-domain-name.com* or *192.168.1.1* with the actual DNS name or IP address of your LDAP server.  
  
This can be the same server that you are configuring as your iFolder server.

---

**IMPORTANT:** If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

---

- ♦ **Port:** Select the port type, based on your security needs, for data exchanges between your LDAP server and your iFolder server.  
Select one of the following methods:
  - ♦ **Clear Text:** Specify any valid TCP port number to use for Clear Text exchanges. By default, Port 389 is used for Clear Text.  
  
Use Clear Text if you want to use LDAP without SSL encryption or if your LDAP server does not support SSL. Clear Text is also a good choice if iFolder and LDAP are running on the same server. Because no communication or data is being transferred across network connections, no encryption is necessary.
  - ♦ **SSL:** Specify any valid TCP port number to use for SSL exchanges. By default, Port 636 is used for SSL.

Use SSL if you want to use SSL exchanges to provide your network with encryption and security when data is transferred across network connections.

- ♦ **Root Certificate Path:** If you selected the SSL option, provide the full directory path to your self-signed root certificate you created or identified in [Step 1 on page 68](#).

For example, type `a:\rootcert.der` if you exported the certificate to a floppy disk.

- ♦ **LDAP Context Where iFolder Admin User Is Located:** Specify the LDAP context. For example, `o=all`.

- 9 Configure the iFolder settings for the Windows server that will be your iFolder server, then click Next.

- ♦ **iFolder Server Host Name or IP:** Specify the DNS name (such as `nif1.your-domain-name.com`) or the IP address (such as `192.168.1.1`) to use for your iFolder server.

---

**IMPORTANT:** If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

---

- ♦ **iFolder Admin Names:** Specify the default user ID for the iFolder administrator for this iFolder server. For example, `admin`.

The iFolder Admin Names are the users who have permission to manage the iFolder server. You can assign multiple users to be iFolder administrators. For multiple Admin Names, separate them with semicolons and with no spaces. For example,

```
administrator;jsmith;acatt
```

---

**IMPORTANT:** All of the users identified here must have admin privileges and must exist in the context identified in [Step 8 on page 68](#).

---

- ♦ **Local iFolder User Database Path:** Specify the path on the iFolder server where user data for all the iFolder accounts will be stored. For example, `e:\iFolder`, where `e:` is the preexisting volume and `iFolder` is the directory. If desired, you can edit the value later in the Windows Registry.

---

**IMPORTANT:** The volume you specify must already exist on the Windows server. The iFolder installation program does not create it for you.

---

- ♦ **Install on Which IIS Web Site?:** If there are multiple Web sites on your server, select where you want to install iFolder.

- 10 Review the settings you provided in the previous steps. To return to previous pages and change the settings, click Back and repeat the steps, as necessary.

When you are done, click Next.

- 11 If a version of iFolder already exists on the server as identified in [Step 4 on page 68](#), do one of the following:

- ♦ **Upgrade to iFolder 2.1.6:** Click Upgrade/Repair, then do one of the following:

- ♦ **Upgrade from iFolder Standard Edition:** The iFolder Installation Wizard requests that you confirm the upgrade to iFolder 2.1.6.

To accept, click Yes. The installation continues and uses the current settings of your iFolder 1.x server as the default settings for iFolder 2.1.6. iFolder notifies you when the upgrade installation is complete. User data remains untouched.

---

**IMPORTANT:** You might need to follow a manual upgrade process if you have a large number of users who have extended characters in their passphrases. You must also follow special precautions if you decide to concurrently use both iFolder 1.0x and iFolder 2.1 systems. For information, see [Appendix B, “Upgrading from iFolder Standard Edition to iFolder 2.1,” on page 195](#)

---

To decline, click No. Your iFolder server is not upgraded.

- ◆ **Upgrade from iFolder 2.0 Professional Edition:** The iFolder Installation Wizard requests that you confirm the upgrade to iFolder 2.1.6.

To accept, click Yes. The installation continues and uses the current settings of your iFolder 2.0 server as the default settings for iFolder 2.1. iFolder notifies you when the upgrade installation is complete. User data remains untouched.

To decline, click No. Your iFolder server is not upgraded.

- ◆ **Repair iFolder 2.1.6:** Click Upgrade/Repair. The iFolder Installation Wizard requests that you confirm the repair of iFolder 2.1.6.

To accept, click Yes. The reinstall continues and uses the current settings of your iFolder 2.1.6 server as the default settings. iFolder notifies you when the repair installation is complete. User data remains untouched.

To decline, click No. Your iFolder 2.1.6 server is not repaired.

- ◆ **Uninstall iFolder 2.1.6:** Click Uninstall. The iFolder Installation Wizard requests that you confirm the uninstall.

To accept, click Yes. The iFolder uninstall process stops the iFolder services and removes all iFolder files and settings. iFolder notifies you when the uninstall is complete. User data remains on the server; you must remove it manually.

To decline, click No. iFolder is not uninstalled.

**12** To exit the Installation Wizard, click Finish.

**13** Extend the eDirectory schema.

**13a** Open the iFolder Management Console.

Do one of the following:

- ◆ Select the Administer iFolder option on the last window of the iFolder installation.
- ◆ From a Web browser on your installation workstation, go to the iFolder Management Console by clicking File > Open, then entering the following URL:

`https://nifl.your-domain-name.com/iFolderServer/Admin`

---

**IMPORTANT:** This address is case sensitive.

---

Replace *nifl.your-domain-name.com* with the actual DNS name or IP address of your iFolder server.

**13b** Click the Global Settings icon.

**13c** Log in to the Global Settings page as the Admin user with schema extension privileges.

On successful login, iFolder extends the eDirectory schema. This can take several seconds, so expect a 10- to 30-second delay in the response. When the browser opens to the Global Settings page, the installation is complete.

## 12.3 Installing iFolder on Windows/IIS/Active Directory

This section describes how to install Novell iFolder, using the following configuration:

---

| Server Operating System | Web Server | LDAP Server      |
|-------------------------|------------|------------------|
| Windows 2000            | IIS        | Active Directory |
| Windows 2003            | IIS        | Active Directory |

---

After you have met all the prerequisites for this configuration, you are ready to install Novell iFolder 2.1.6.

- 1 If the IIS server is not currently running, start it.
- 2 To start the installation, go to the temporary directory where you saved the installation program, then double-click the installation program icon.
- 3 The iFolder Installation Wizard opens on your desktop. Do one of the following:
  - ♦ **New Installation of iFolder 2.1.6:** Continue or Cancel the installation.  
If you click Continue, proceed to [Step 4 on page 71](#).  
If you click Cancel, the installation program exits and iFolder server is not installed. You can restart the install at a later time.
  - ♦ **Repair of iFolder 2.1.6:** If you are installing iFolder 2.1.6 to repair an existing iFolder server, the Installation Wizard automatically detects it. Proceed to [Step 12 on page 74](#).
- 4 For new iFolder 2.1.6 installations, read the End User License Agreement, then do one of the following:
  - ♦ Agree (click Yes)  
The installation program proceeds.
  - ♦ Disagree (click No)  
The installation program exits and the iFolder server is not installed. You can restart the installation at a later time.
- 5 To select Microsoft Active Directory as your LDAP server, click Active Directory.

---

**NOTE:** If you have an eDirectory LDAP server and want to install the iFolder server software on a Windows server, follow the installation procedures in [Section 12.2, “Installing iFolder on Windows/IIS/eDirectory,” on page 98](#).

---

- 6 Select to extend the Active Directory schema, install iFolder, or both by selecting one of the following options:
  - ♦ **Complete Install:** Install the iFolder server and extend the Active Directory schema.  
This option requires that you have the necessary credentials as the iFolder administrator and as the schema administrator.
  - ♦ **Install iFolder Server Only:** Install the iFolder server.  
Before you install iFolder server, you must extend the schema. Run the iFolder installation program with the appropriate schema administrator credentials and follow the Extend Directory Schema Only path.

- ♦ **Extend Directory Schema Only:** Extend the Active Directory schema for an LDAP server.

This option only extends the schema. It does not install the iFolder server software to your iFolder server. Before you can use the iFolder server, you must repeat the installation with the appropriate iFolder administrator credentials to follow the Install iFolder Server Only path.

If a secondary Active Directory LDAP server exists outside the forest where the primary Active Directory LDAP server is installed, you must run the iFolder installation program again and select this option to extend the schema for the secondary Active Directory LDAP server.

- 7 If you chose the Complete Install or Extend Directory Schema Only options in **Step 6 on page 71**, verify your credentials to extend your Active Directory schema by specifying your schema administrator Distinguished Name and Password.

- ♦ **Distinguished Name:** Type the full context, using commas with no spaces as delimiters. For example, type `cn=administrator,cn=users,dc=your-domain-name,dc=com`.
- ♦ **Password:** Type your schema administrator password in this case-sensitive field.

- 8 Configure the global settings for your Active Directory LDAP server that your iFolder server uses, then click Next.

- ♦ **LDAP Host Name:** Specify the DNS name (such as *ldap1.your-domain-name.com*) of the server that acts as your LDAP server.

Replace *ldap1.your-domain-name.com* with the actual DNS name of your LDAP server.

This might be the same server that you are configuring as your iFolder server.

---

**IMPORTANT:** The DNS name you use must already exist as an entry on your DNS server and point to the IP address of the destination server.

---

- ♦ **Port:** Select the port type, based on your security needs, for data exchanges between your LDAP server and your iFolder server.

Select one of the following methods:

- ♦ **Clear Text:** Specify any valid TCP port number to use for Clear Text exchanges. By default, Port 389 is used for Clear Text.

Use Clear Text if you want to use LDAP without SSL encryption or if your LDAP server does not support SSL. Clear Text is also a good choice if iFolder and LDAP are running on the same server. Because no communication or data is being transferred across network connections, no encryption is necessary.

- ♦ **SSL:** Specify any valid TCP port number to use for SSL exchanges. By default, Port 636 is used for SSL.

Use SSL if you want to use SSL exchanges to provide your network with encryption and security when data is transferred across network connections.

In Active Directory, LDAP over SSL is not enabled by default. If you select 636 as the LDAP port during installation, ensure that LDAP over SSL is enabled and the server is listening on the port. Otherwise the schema extension will fail.

For more information on enabling LDAP over SSL, refer to the Microsoft Product Support Services Web site (<http://support.microsoft.com/default.aspx?scid=kb;en-us;321051>)

- ♦ **LDAP Context Where iFolder Admin User Is Located:** Specify the LDAP context. For example, cn=administrator,cn=users,dc=your-domain-name,dc=com.

---

**IMPORTANT:** Make sure the first context in the list is the one that the iFolder administrator is in.

---

**9** Configure the iFolder settings for your iFolder server, then click Next.

- ♦ **iFolder Server Host Name or IP:** Enter the DNS name (such as nif1.your-domain-name.com) or the IP address (such as 192.168.1.1) to use for your iFolder server.

---

**IMPORTANT:** If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

---

- ♦ **iFolder Admin Names:** Specify the default user ID for the iFolder administrator for this iFolder server. For example, administrator.

The iFolder Admin Names are the users who have permission to manage the iFolder server, using the iFolder Management Console. You can assign more than one user ID to be an iFolder administrator.

---

**IMPORTANT:** All of the users identified here must exist in the context identified in [Step 8 on page 72](#).

---

If you have multiple user IDs, separate them with semicolons and with no spaces. For example,

```
administrator;jsmith;acatt
```

- ♦ **Local iFolder User Database Path:** Specify the path on the iFolder server where user data for all the iFolder accounts will be stored. For example, *e:\iFolder*, where *e:* is the volume and *iFolder* is the directory. You can edit the value later, if desired, in the Windows Registry.

---

**IMPORTANT:** The volume you specify must already exist on the Windows server. The iFolder installation program will not create it for you dynamically.

---

- ♦ **Install on Which IIS Web Site?:** If there are multiple Web sites on your server, select where you want to install iFolder.

**10** Review the settings you entered in the previous steps. To return to previous pages and change the settings, click Back and repeat the steps, as necessary.

When you are done, click Next.

**11** Log in to Global Settings in the iFolder Management Console to finalize the installation.

**11a** Open the iFolder Management Console.

Do one of the following:

- ♦ Select the Administer iFolder option on the last window of the iFolder installation process.
- ♦ From a Web browser on your installation workstation, go to the iFolder Management Console, click File > Open, then enter the following URL:

```
https://nif1.your-domain-name.com/iFolderServer/Admin
```

---

**IMPORTANT:** This address is case sensitive.

---



Replace *nifl.your-domain-name.com* with the actual DNS name or IP address of your iFolder server.

**11b** Click Global Settings, then log in.

When the browser opens to the Global Settings page, the installation is complete.

**12** If a version of iFolder 2.1.6 already exists on the server as identified in [Step 3 on page 71](#), do one of the following:

- ♦ **Repair iFolder 2.1.6:** Click Upgrade/Repair. The iFolder Installation Wizard requests that you confirm the repair of iFolder 2.1.6.

To accept, click Yes. The reinstall continues and uses the current settings of your iFolder 2.1 server as the default settings. iFolder notifies you when the repair installation is complete. User data remains untouched.

To decline, click No. Your iFolder 2.1 server is not repaired.

- ♦ **Uninstall iFolder 2.1.6:** Click Uninstall. The iFolder Installation Wizard requests that you confirm the uninstall of iFolder 2.1.6.

To accept, click Yes. The iFolder uninstall process stops the iFolder server and removes all iFolder files and settings. iFolder notifies you when the uninstall is complete.

---

**IMPORTANT:** User data remains on the server; you must remove it manually. The extensions of the Active Directory schema also remain.

---

To decline, click No. iFolder 2.1.6 is not uninstalled.

- ♦ **Extend Directory Schema Only:** Click Extend Directory Schema Only.

Use this option to extend the schema for secondary or additional Active Directory LDAP servers that exist outside the forest where the primary Active Directory LDAP server is installed.

To enter your schema administrator credentials, see [Step 7 on page 72](#).

To enter the information about your secondary LDAP server, see [Step 8 on page 72](#).

**13** To exit the Installation Wizard, click Finish.



# Installing iFolder 2.1.7 on OES for Linux

# 13

This section describes how to install Novell® iFolder® 2.1.7 server in Standalone and Coexistent modes using the following configuration:

| Server Operating System | Web Server    | LDAP Server       |
|-------------------------|---------------|-------------------|
| SLES 9 SP3              | Apache 2.0.43 | Novell eDirectory |

iFolder 2.1.7 server can now be installed in two modes:

- ♦ **Standalone Mode:** In this mode, no Apache instances run except for iFolder. iFolder runs on the wildcard address: 80 / 443.
- ♦ **Coexistent Mode:** In this mode, the iFolder worker thread instance and other Apache instances can coexist. iFolder needs to run as a separate instance on a specific IP address (different from the primary address of the local machine). This new address must have a DNS name, and should be reachable from the iFolder clients.

For a description of known issues related to installation, see the *Novell 2.1 Readme*.

Following topics are discussed in this chapter:

- ♦ [Section 13.1, “Confirming Prerequisites,” on page 107](#)
- ♦ [Section 13.2, “Pre-Install Guidelines,” on page 108](#)
- ♦ [Section 13.3, “Configuring the iFolder 2.x Server Using OES YaST Install,” on page 108](#)
- ♦ [Section 13.4, “Manual Configuration of the iFolder 2.x Server for OES,” on page 110](#)
- ♦ [Section 13.5, “Configuring iFolder Server on Machine with Multiple NICs,” on page 111](#)
- ♦ [Section 13.6, “Configuring iFolder on an NSS Volume,” on page 112](#)
- ♦ [Section 13.7, “Uninstalling iFolder Server,” on page 113](#)
- ♦ [Section 13.8, “Accessing iFolder in Coexistent Mode,” on page 113](#)
- ♦ [Section 13.9, “Accessing iFolder in Standalone Mode,” on page 114](#)
- ♦ [Section 13.10, “Post Install Verification and Troubleshooting,” on page 114](#)
- ♦ [Section 13.11, “What's Next,” on page 114](#)

## 13.1 Confirming Prerequisites

Before installing Novell iFolder 2.1.7, ensure that you have met the following prerequisites and download requirements:

- ❑ For general iFolder server prerequisites, see [“Prerequisites for All iFolder 2.1 Servers” on page 33](#).
- ❑ For prerequisites specific to Linux, see [Section 3.5, “Prerequisites for iFolder 2.1.x,” on page 36](#).

❑ Ensure that the install, and upgrade of following dependent products is complete:

- ♦ Apache
- ♦ LDAP
- ♦ eDirectory™

## 13.2 Pre-Install Guidelines

The following guidelines are not mandatory. These guidelines are required for the administrator to ensure that the iFolder configuration files are backed up and are consistent.

- ♦ If iFolder server is installed in Coexistent mode, then iFolder install modifies the Apache configuration to redistribute the address configurations. We recommend that you backup the `/etc/apache2/listen.conf` file before installing iFolder 2.x server in case the administrator needs to revert back to the previous configuration after uninstalling iFolder.
- ♦ iFolder `specific_address` binding creates a new IP address for the system. This is identified as the interface `"ethn:ifdr"` (where *n* is the interface number on which the iFolder `specific_address` is added)

Before the install, ensure that the iFolder-specific IP address was not previously configured through `ifconfig`. If the IP address is already configured, then delete it by `ifconfig ethn:ifdr down` for the current session. The specific iFolder server entries are available in `/etc/sysconfig/network/ifcfg-eth-id-"MAC ADDRESS"` file. Delete all the lines containing the substring `"ifdr"`. A duplication of entries is usually seen when the initial installation of iFolder is incomplete and then iFolder is reinstalled.

## 13.3 Configuring the iFolder 2.x Server Using OES YaST Install

1 Open YaST

2 Click NetWork Services > iFolder.

**2a** On the iFolder 2.x LDAP Server Configuration screen, select the Local System or Remote System option for the LDAP server, and then enter the following details:

---

|                          |                                                |
|--------------------------|------------------------------------------------|
| Directory Server Address | Type the IP address of the LDAP server.        |
| Admin name with context  | Type the admin credentials of the LDAP server. |
| Admin password           | Type the admin password of the LDAP server.    |
| Port Number              | Enter the port number of the LDAP server       |

---

- ♦ Click Next
- ♦ If the IP address provided cannot be resolved to a DNS name, then YaST displays an error message indicating the same. To resolve, ensure that the LDAP server is configured to use `SSL CertificateIP`.

Otherwise, ensure that the LDAP server is configured to use `SSL CertificateDNS`.

**To enable Server Certificate:**

In ConsoleOne,

- ◆ Right-click the Ldap Server object > Properties
- ◆ Click SSL/TLS Configuration tab.
- ◆ Verify or change the value of Server Certificate.

**2b** On the iFolder 2.x configuration screen, select from the following two options:

- ◆ **iFolder 2 will be the only Web Application on this Server (Standalone Mode)**

If you select this option, the primary IP address of the server is used as iFolder 2.x server's IP address.

This option is disabled if any of the following web applications are selected:

- Novell iManager
- Novell eGuide
- Novell NetStorage
- Novell QuickFinder™
- Novell Virtual Office
- Novell iPrint

- ◆ **(default) iFolder 2 and Other Web Applications Run on this Server (Coexistent Mode)**

If you select this option, then iFolder modifies the Apache2 listen.conf file to remove the wildcard binding to ports and replaces it with a specific IP address.

Enter the following details:

---

|                                   |                                                                                                                                                                                                                                                                                                   |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| iFolder 2.x server IP address     | Specify a second IP address (different from the primary address of the local machine) for the iFolder server. iFolder listens on ports 80 and 443 of the secondary IP address.                                                                                                                    |
| iFolder 2.x server netmask        | Specify the netmask for the iFolder 2.x server IP address. This netmask value should be the same as that of the primary interface IP address which was the default address available before installation. This ensures that the new address can be reached through the primary address interface. |
| iFolder 2.x server DNS hostname   | Specify the DNS name for the iFolder 2.x server IP address.                                                                                                                                                                                                                                       |
| iFolder 2.x server user data path | Specify the path for the iFolder user accounts directory.                                                                                                                                                                                                                                         |

---

Click Next.

**2c** On the iFolder 2.x configuration screen, add iFolder 2.x admin users.

**2d** Click Next.

This completes the iFolder 2.x configuration.

- 3 If iFolder is configured in Coexistent mode, configure the NetStorage component to use second IP address for iFolder, as specified in Coexistent mode in Step 2b.

## 13.4 Manual Configuration of the iFolder 2.x Server for OES

1

Run `/opt/novell/ifolder/bin/ifolder_config.sh` at the shell prompt. This requires the user to input the following:

---

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LDAP Host                     | Enter the DNS name of the LDAP server if the LDAP server is configured to use <code>SSL CertificateDNS</code> .<br><br>Or, enter the IP address of the LDAP server if the LDAP server is configured to use <code>SSL CertificateIP</code> .<br><br><b>To enable Server Certificate:</b><br><br>In ConsoleOne, right-click the Ldap Server object > Properties. Click SSL/TLS Configuration tab and verify or change the value of Server Certificate. |
| LDAP SSL Port                 | Specify the LDAP SSL Port                                                                                                                                                                                                                                                                                                                                                                                                                            |
| LDAP Users Context            | Specify the LDAP context where the iFolder Admin user is located.                                                                                                                                                                                                                                                                                                                                                                                    |
| LDAP Admin DN                 | Type the DN of the LDAP admin                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Admin Password                | Type the admin password of the LDAP server                                                                                                                                                                                                                                                                                                                                                                                                           |
| Admin Users                   | Specify the users who have permission to manage the iFolder server                                                                                                                                                                                                                                                                                                                                                                                   |
| iFolder 2.x server IP Address | Specify the IP address of the iFolder 2.x server. To install in Standalone mode, enter 0.0.0.0 as the IP address. To install in Coexistent mode, enter a valid IP address (different from the primary address of the local machine).                                                                                                                                                                                                                 |

---

The following user inputs are required only if the user enters a valid IP address for iFolder 2.x server IP address field.

- ♦ iFolder 2.x server netmask: Type the netmask for the iFolder 2.x server.
  - ♦ iFolder 2.x DNS name: Type the DNS name for the iFolder 2.x server.
- 2 After configuration is complete, and if you are not running iFolder 2.x as a standalone server, then you need to restart Apache2 (by running `/etc/init.d/apache2 restart`) before starting iFolder 2.x server.

To load the iFolder 2.x server, run `/etc/init.d/novell-ifolder start`

## 13.5 Configuring iFolder Server on Machine with Multiple NICs

iFolder server is configured on a machine that has multiple NICs using the following installations:

- ♦ [During OES Installation](#)
- ♦ [Post Installation](#)

### 13.5.1 During OES Installation

iFolder can be configured in two ways:

- ♦ [Configuring iFolder with a New IP Address Other than the Existing NIC Card's IP Addresses](#)
- ♦ [Configuring iFolder with the IP Addresses of the Existing NICs](#)

#### Configuring iFolder with a New IP Address Other than the Existing NIC Card's IP Addresses

On the iFolder Server Configuration screen, enter the following details:

- 1 Admin credentials: On the LDAP Server Configuration screen, Click Next.
- 2 iFolder 2.x Server IP Address: Type a new IP address, other than the IP addresses of the existing NIC cards.
- 3 iFolder 2.x Server Subnet mask: Specify the subnet mask of the respective IP address.
- 4 iFolder 2.x Server DNS name: Specify the DNS name of the iFolder server's IP address.
- 5 Click Next
- 6 On the iFolder 2.x configuration screen, click Next.  
This completes the configuration of the iFolder server.

#### Configuring iFolder with the IP Addresses of the Existing NICs

- 1 Configure the NICs with their respective IP addresses and the host name of the first NIC card.

For example, a server configured with three NIC cards:

```
eth0 - <IP Address of NIC card 1> <host1.domain1.com>
```

```
eth1 - <IP Address of NIC card 2> <host1.domain1.com>
```

```
eth2 - <IP Address of NIC card 3> <host1.domain1.com>
```

In the above example, host1.domain1.com is the common host name for all the NIC cards.

---

**NOTE:** Check the /etc/hosts file for the short host name. The short host name should be aliased to the first NIC card entry only.

---

- 2 Configure the iFolder server as follows:
  - 2a Admin credentials: On the Admin Credentials screen, click Next.
  - 2b iFolder 2.x Server IP Address: Specify an IP address of the existing NIC cards, other than the IP address of the NIC card configured with DNS host name.

- 2c** iFolder 2.x Server Subnet mask: Type the subnet mask of the respective IP address.
- 2d** iFolder 2.x Server DNS name: Type the DNS name of the iFolder server's IP address and click next.
- 2e** On the iFolder 2.x Configuration screen, click next.  
This completes the configuration of the iFolder server.

## 13.5.2 Post Installation

- ◆ To configure iFolder with a new IP address, refer to [Configuring iFolder with a New IP Address Other than the Existing NIC Card's IP Addresses](#)
- ◆ To view the list of multiple interfaces, click Application Menu > YaST > Network Devices > Network Card
- ◆ To configure iFolder with the IP address of the existing NIC card, refer to [Configuring iFolder with the IP Addresses of the Existing NICs](#)

---

**IMPORTANT:** IP addresses of the Linux server and iFolder server must be DNS enabled.

---

## 13.6 Configuring iFolder on an NSS Volume

iFolder 2.x can be configured to use the NSS volumes only in the case of post installation. iFolder sever is configured on NSS volume using the following installations:

### 13.6.1 Using Local LDAP

If you select the local LDAP host option while configuring iFolder 2.x, you need to perform the following steps:

- 1** Run the following command at the shell prompt:

```
rights -f <full path of the ifolder data directory on NSS
volume> -r all trustee novlifdr.<local eDir admin
context>.<local eDir tree name>
```

For example:

```
rights -f /media/nss/NSSVOL1/ifolderdata -r all trustee
novlifdr.novell.MYTREE
```

where /media/nss/NSSVOL1/ifolderdata is the path of the iFolder data directory on NSS volume NSSVOL1, novell is the local eDirectory admin context, and MYTREE is the local eDirectory tree name

This command grants the iFolder instance of Apache rights to the iFolder data directory on NSS volume.

- 2** Run the following command to restart the iFolder 2.x server:

```
/etc/init.d/novell-ifolder restart
```



## 13.6.2 Using Remote LDAP

If you select the remote LDAP host option while configuring iFolder 2.x, you need to perform the following steps:

- 1 Run the following command at the shell prompt:

```
rights -f <path to ifolder data directory on NSS volume> -r all trustee novlifdr.<eDir admin context>.<eDir tree name>
```

where all references to eDirectory refer to the eDirectory tree used for NSS configuration.

For example:

```
rights -f /media/nss/NSSVOL1/ifolderdata -r all trustee novlifdr.novell.MYTREE
```

where /media/nss/NSSVOL1/ifolderdata is the path of the iFolder data directory on NSS volume NSSVOL1, novell is the eDirectory admin context, and MYTREE is the eDir tree name of the tree used for NSS configuration for the server on which iFolder is installed.

This command grants the iFolder instance of Apache rights to the iFolder data directory on NSS volume.

- 2 Run the following command to restart the iFolder 2.x server:

```
/etc/init.d/novell-ifolder restart
```

## 13.7 Uninstalling iFolder Server

- 1 Run the command to stop iFolder server:

```
/etc/init.d/novell-ifolder stop
```

- 2 Remove the ifolder daemon from the kernel daemon set by issuing the following command:

```
/sbin/insserv -r /etc/init.d/novell-ifolder
```

- 3 If the iFolder server was installed in Coexistent mode, restore the Apache2 configuration file backed up during install, then restart Apache.

- 4 Run `rpm -e novell-ifolder` to remove the package.

## 13.8 Accessing iFolder in Coexistent Mode

If iFolder 2.x server was installed in Coexistent mode, access NetStorage using the primary IP address of the server and access iFolder using the secondary IP address (the one provided in the iFolder 2.x server IP address field during the iFolder configuration).

For example, to access the Admin Console:

```
https://<secondary_ifolder_ip_address>/iFolderServer/Admin
```

To access the iFolder page:

```
http://<secondary_ifolder_ip_address>/iFolder
```

## 13.9 Accessing iFolder in Standalone Mode

If iFolder is installed in Standalone mode, NetStorage cannot run on the same machine. The Login link on the main iFolder page will not work because NetStorage is not installed on the local machine. However, NetStorage can be installed on a separate server and can be configured to point to the Standalone iFolder server.

Then the user can use `https://<ip address of netstorage server >/NetStorage` to access NetStorage.

## 13.10 Post Install Verification and Troubleshooting

- ◆ To ensure that the listeners are correctly distributed, use the following command:

```
netstat -an | grep -v unix | grep ":80 "
```

If iFolder is installed in Standalone mode, then you see that the iFolder instance runs on 0.0.0.0:80, the default Apache2 instance should be terminated. If iFolder is installed in Coexistent mode, then the iFolder worker thread runs on `specific_address:80` and Apache will be on `other_addresses:80`.

- ◆ Verify the new address binding using `ifconfig`. You will now see a new interface, `ethX:ifdr`, where *X* refers to a number in range 0 to n-1 and n refers to number of network interfaces.
- ◆ If iFolder installation does not bring up the iFolder server, then you can restart the daemon with the following command:

```
/etc/init.d/novell-ifolder restart
```

## 13.11 What's Next

Follow the instructions for configuring and managing your iFolder server in [Chapter 16, “Using the iFolder Management Console to Configure Your iFolder System,”](#) on page 129.

After you provision a user's account for iFolder services, to initialize an iFolder account, a user must log in to the iFolder server using the iFolder client, the iFolder Web site Login (not the PDA Login), or NetDrive.

---

**IMPORTANT:** If your global client policies include any enforced or hidden settings, users must log in with the iFolder client to initialize their iFolder user accounts.

---

To install the iFolder client on your workstations, follow the instructions in the [iFolder 2.1 Quick Start](#) and the [Novell iFolder 2.1 User Guide](#), available on the [Novell iFolder online documentation Web site \(http://www.novell.com/documentation/lg/ifolder21/index.html\)](#).

To install iFolder on additional servers, follow the instructions in [Section 16.3, “Configuring iFolder on Additional Servers,”](#) on page 143.

For more information about known issues for iFolder servers and workstations, see the Readme available at [Novell iFolder documentation Web site \(http://www.novell.com/documentation/ifolder21/index.html\)](#)

# Installing iFolder 2.1.7 on SLES 9 Server

# 14

This section describes how to install Novell® iFolder® 2.1.7 server on SLES 9 Server

| Server Operating System | Web Server    | LDAP Server       |
|-------------------------|---------------|-------------------|
| SLES 9 SP1              | Apache 2.0.43 | Novell eDirectory |

- ♦ [Section 14.1, “Pre-Install Guidelines,” on page 115](#)
- ♦ [Section 14.2, “Installing iFolder 2.1.7 on SLES 9 Server,” on page 115](#)
- ♦ [Section 14.3, “Manually Uninstalling iFolder on SLES,” on page 116](#)
- ♦ [Section 14.4, “Post- Uninstallation Guidelines,” on page 117](#)

## 14.1 Pre-Install Guidelines

The following guidelines are not mandatory. These guidelines are required for the administrator to ensure that the iFolder configuration files are backed up and are consistent.

- ♦ If iFolder server is installed in Coexistent mode, then iFolder install modifies the Apache configuration to redistribute the address configurations. We recommend that you backup the `/etc/apache2/listen.conf` file before installing iFolder 2.x server in case the administrator needs to revert back to the previous configuration after uninstalling iFolder.
- ♦ iFolder specific\_address binding creates a new IP address for the system. This is identified as the interface `"ethn:ifdr"` (where *n* is the interface number on which the iFolder specific\_address is added)

Before the install, ensure that the iFolder-specific IP address was not previously configured through `ifconfig`. If the IP address is already configured, then delete it by `ifconfig ethn:ifdr down` for the current session. The specific iFolder server entries are available in `/etc/sysconfig/network/ifcfg-eth-id-"MAC ADDRESS"` file. Delete all the lines containing the substring `"ifdr"`. A duplication of entries is usually seen when the initial installation of iFolder is incomplete and then iFolder is reinstalled.

## 14.2 Installing iFolder 2.1.7 on SLES 9 Server

- 1 Install Apache2 worker rpm:
  - 1a Open Yast2.
  - 1b Select Install and Remove Software
  - 1c Search for `apache2-worker`
  - 1d Check `apache2-worker` for installation.
  - 1e Click Accept to install `apache2-worker`  
This installs Apache-2 worker on your system.
- 2 Install LDAP libraries for C:

- 2a** Download the latest linux tarball (such as *libraryname.tar.gz*) from [Novell Developer Kit Web site \(http://developer.novell.com/ndk/cldap.htm\)](http://developer.novell.com/ndk/cldap.htm) in /opt.  
For example, novell-cldap-devel-2005.09.26-1linux.tar.gz
- 2b** Run `tar -zxvf novell-cldap-devel-2005.09.26-1linux.tar.gz` in /opt.
- 3** Run `export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/opt/cldap_2005.09.26/lib` command to add libldapsdk.so and libldapssl.so to LD\_LIBRARY\_PATH.
- 4** Install iFolder server 2.1.7:  
Run `rpm -ivh --nodeps novell-ifolder-2.1.7-20051213_1743.i586.rpm`
- 5** Run `/opt/novell/ifolder/bin/ifolder_config.sh` for configuring iFolder server.

This requires you to input the following values:

- ◆ LDAP Host: Type the DNS name for the LDAP server.
- ◆ LDAP SSL Port: Specify the LDAP SSL Port.
- ◆ LDAP Users Context: Specify the LDAP context where the iFolder Admin user is located.
- ◆ LDAP Admin DN: Type the DN of the LDAP admin.
- ◆ Admin Password: Type the admin password of the LDAP server.
- ◆ Admin Users: Specify the users who have permission to manage the iFolder server.
- ◆ iFolder 2.x server IP Address: Specify the IP address of the iFolder 2.x server.

To install in Standalone mode, enter 0.0.0.0 as the IP address.

To install in Coexistent mode, enter a valid IP address (different from the primary address of the local machine).

Enter the following user inputs if the user enters a valid IP address for iFolder 2.x server IP address field.

- ◆ iFolder 2.x server netmask: Type the netmask for the iFolder 2.x server.
  - ◆ iFolder 2.x DNS name: Type the DNS name for the iFolder 2.x server.
- 6** After configuration is complete, and if you are not running iFolder 2.x as a standalone server, then you need to restart Apache2 (by running `/etc/init.d/apache2 restart`) before starting iFolder 2.x server.

To load the iFolder 2.x server, run `/etc/init.d/novell-ifolder start`

For more information, see the [Novell iFolder 2.1 Administration guide \(http://www.novell.com/documentation/ifolder21/index.html?page=/documentation/ifolder21/admin/data/a2iii88.html#bktitle\)](http://www.novell.com/documentation/ifolder21/index.html?page=/documentation/ifolder21/admin/data/a2iii88.html#bktitle)

## 14.3 Manually Uninstalling iFolder on SLES

- 1** Stop iFolder server by giving the following command:

```
/etc/init.d/novell-ifolder stop
```

- 2** Remove the ifolder daemon from kernel daemon set by giving the following command:

```
/sbin/insserv -r /etc/init.d/novell-ifolder
```

- 3 Restore the Apache2 configuration file backed up during install and then restart Apache.
- 4 Run `rpm -e novell-ifolder` to remove package.

## 14.4 Post- Uninstallation Guidelines

Incase you had installed iFolder in Coexistence mode complete the following steps:

- ♦ iFolder `specific_address` binding creates a new IP address for the system. This is identified as the interface "`ethn:ifdr`" (where *n* is the interface number on which the iFolder `specific_address` is added). Delete it by running `ifconfig ethn:ifdr down` command at the shell prompt.

The specific iFolder server entries are available in `/etc/sysconfig/network/ifcfg-eth-id-"MAC ADDRESS"` file. Delete all the lines containing the substring "ifdr".

Restart the network by running `/etc/init.d/network restart`



# Installing iFolder 2.1.7 on Windows 2000 and Windows 2003 Server

# 15

This section describes how to install the standalone version of Novell® iFolder® 2.1.7 server software on Microsoft Windows 2000 and Windows 2003 server, using the following configurations:

| Server Operating System | Web Server | LDAP Server                             |
|-------------------------|------------|-----------------------------------------|
| Windows 2000            | IIS 6.0    | Novell eDirectory™ and Active Directory |
| Windows 2003            | IIS 6.0    | Novell eDirectory™ and Active Directory |

For more information about known issues for iFolder servers and workstations, see the [Novell 2.1 Readme](#).

See the following sections for installation and configuration information:

- [Section 15.1, “Prerequisites for Windows 2000/ Windows 2003 Servers,”](#) on page 119
- [Section 15.2, “Installing iFolder on Windows/IIS/eDirectory,”](#) on page 120
- [Section 15.3, “Installing iFolder on Windows/IIS/Active Directory,”](#) on page 124

**NOTE:** Unless specifically mentioned the installation steps will be same for WIndows 2000 and WIndows 2003 Server.

## 15.1 Prerequisites for Windows 2000/ Windows 2003 Servers

Before you install Novell iFolder 2.1.7, make sure your Windows server and enterprise network environment meet all of the following prerequisites.

- Install Windows 2000 Server SP4 or Windows 2003 (Standard or Enterprise).
- Create a storage volume accessible from the Windows server where you want to store the user data for the iFolder accounts.

It is standard practice to store user data on a volume other than the system volume. Storage solutions can include any volume options supported by Windows, including direct attached storage and storage area networks.

- Install Novell eDirectory 8.7.3 or later or install Microsoft Active Directory (from Windows 2000 Server SP 4/ Windows 2003 or later) as your LDAP server. Make sure it is active, synchronized, and working properly.

Your LDAP server and your iFolder server can reside on the same machine or on different machines.

- ❑ If you use Active Directory as your LDAP server, you must meet these additional requirements:
  - ◆ In Active Directory environments, if you have shared schema domain controllers, all must be active and synchronized to enable the schema extension during the iFolder installation.
  - ◆ You must have the necessary rights to extend the Active Directory schema. During a Complete install, iFolder extends the schema. Alternately, you can run the install to extend the schema independently, using the Extend Schema Only option.
- ❑ Install and configure IIS Server on the iFolder server, including service packs and patches.
- ❑ Get an SSL certificate and install it onto your iFolder server, using one of these methods:
  - ◆ If you have your own certificate server, such as Novell Certificate Server, then you can get a certificate from your server.
  - ◆ You can go to a certificate vendor, such as Entrust\* or VeriSign\*, and purchase a certificate.

For more information on creating and installing SSL certificates on your IIS Server:

- ◆ For IIS 4, refer to the [Microsoft Product Support Services Web site \(http://support.microsoft.com/kb/q228991/\)](http://support.microsoft.com/kb/q228991/)
  - ◆ For IIS 5, refer to the [Microsoft Product Support Services Web site \(http://support.microsoft.com/support/kb/articles/Q228/8/36.ASP\)](http://support.microsoft.com/support/kb/articles/Q228/8/36.ASP)
  - ◆ For IIS 6, refer to the [Microsoft TechNet Web site \(http://www.microsoft.com/technet/prodtechnol/WindowsServer2003/Library/IIS/89c7ef2f-f7d6-483c-8b08-ae0c6584dd4d.mspx\)](http://www.microsoft.com/technet/prodtechnol/WindowsServer2003/Library/IIS/89c7ef2f-f7d6-483c-8b08-ae0c6584dd4d.mspx)
- ❑ Install Internet Explorer (IE) 5.0 or later on your server.

## 15.2 Installing iFolder on Windows/IIS/eDirectory

This section describes how to install Novell iFolder, using the following configuration:

| Server Operating System | Web Server | LDAP Server       |
|-------------------------|------------|-------------------|
| Windows 2000            | IIS        | Novell eDirectory |
| Windows 2003            | IIS        | Novell eDirectory |

After you have met the prerequisites for this configuration, you are ready to install iFolder.

- 1** If you plan to use LDAP over SSL, locate a self-signed root certificate (rootcert.der) for your iFolder server.

You can export a self-signed root certificate from your certificate server.

Save the rootcert.der file to a location on the iFolder server or to a floppy disk. For example, a:\rootcert.der. Remember this location; you need it in [Step 8 on page 68](#).

- 2** If the IIS server is not currently running, start it.
- 3** To start the installation, go to the temporary directory where you saved the installation program, then double-click the installation program icon.



- 4 The iFolder Installation Wizard opens on your desktop. Do one of the following:
  - ♦ **New Installation of iFolder 2.1.7:** Select to either Continue or Cancel the installation.  
If you click Continue, proceed to [Step 5 on page 68](#).  
If you click Cancel, the installation program exits and the iFolder server is not installed. You can restart the installation at a later time.
  - ♦ **Upgrade Installation or Repair of iFolder 2.1.7:** If you are installing iFolder 2.1.7 on an existing iFolder server, the Installation Wizard automatically detects it. Proceed to [Step 11 on page 70](#).
- 5 For new iFolder 2.1.7 installations, read the End User License Agreement, then do one of the following:
  - ♦ Agree (click Yes)  
The installation program proceeds.
  - ♦ Disagree (click No)  
The installation program exits and the iFolder server is not installed. You can restart the installation at a later time.
- 6 To select Novell eDirectory as your LDAP server, click eDirectory.

---

**TIP:** If you have an Active Directory LDAP server and want to install the iFolder server on a Windows server, follow the installation procedures in [Section 12.3, “Installing iFolder on Windows/IIS/Active Directory,” on page 102](#).

---

- 7 Specify the directory on the destination server where you want iFolder server to be installed. Browse to select the drive letter that you mapped in [Step 1 on page 68](#)
- 8 Configure the global settings for the eDirectory LDAP server that your iFolder server uses, then click Next.
  - ♦ **LDAP Host Name or IP:** Specify the DNS name (such as *ldap1.your-domain-name.com*) or IP address (such as *192.168.1.1*) of the server that acts as your LDAP server. Replace *ldap1.your-domain-name.com* or *192.168.1.1* with the actual DNS name or IP address of your LDAP server.  
  
This can be the same server that you are configuring as your iFolder server.

---

**IMPORTANT:** If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

---

- ♦ **Port:** Select the port type, based on your security needs, for data exchanges between your LDAP server and your iFolder server.  
Select one of the following methods:
  - ♦ **Clear Text:** Specify any valid TCP port number to use for Clear Text exchanges. By default, Port 389 is used for Clear Text.  
  
Use Clear Text if you want to use LDAP without SSL encryption or if your LDAP server does not support SSL. Clear Text is also a good choice if iFolder and LDAP are running on the same server. Because no communication or data is being transferred across network connections, no encryption is necessary.
  - ♦ **SSL:** Specify any valid TCP port number to use for SSL exchanges. By default, Port 636 is used for SSL.

Use SSL if you want to use SSL exchanges to provide your network with encryption and security when data is transferred across network connections.

- ♦ **Root Certificate Path:** If you selected the SSL option, provide the full directory path to your self-signed root certificate you created or identified in [Step 1 on page 68](#).

For example, type `a:\rootcert.der` if you exported the certificate to a floppy disk.

- ♦ **LDAP Context Where iFolder Admin User Is Located:** Specify the LDAP context. For example, `o=all`.

- 9 Configure the iFolder settings for the Windows server that will be your iFolder server, then click Next.

- ♦ **iFolder Server Host Name or IP:** Specify the DNS name (such as `nif1.your-domain-name.com`) or the IP address (such as `192.168.1.1`) to use for your iFolder server.

---

**IMPORTANT:** If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

---

- ♦ **iFolder Admin Names:** Specify the default user ID for the iFolder administrator for this iFolder server. For example, `admin`.

The iFolder Admin Names are the users who have permission to manage the iFolder server. You can assign multiple users to be iFolder administrators. For multiple Admin Names, separate them with semicolons and with no spaces. For example,

```
administrator;jsmith;acatt
```

---

**IMPORTANT:** All of the users identified here must have admin privileges and must exist in the context identified in [Step 8 on page 68](#).

---

- ♦ **Local iFolder User Database Path:** Specify the path on the iFolder server where user data for all the iFolder accounts will be stored. For example, `e:\iFolder`, where `e:` is the preexisting volume and `iFolder` is the directory. If desired, you can edit the value later in the Windows Registry.

---

**IMPORTANT:** The volume you specify must already exist on the Windows server. The iFolder installation program does not create it for you.

---

- ♦ **Install on Which IIS Web Site?:** If there are multiple Web sites on your server, select the website where you want to install iFolder.

- 10 Review the settings you provided in the previous steps. To return to previous pages and change the settings, click Back and repeat the steps, as necessary.

When you are done, click Next.

- 11 If a version of iFolder already exists on the server as identified in [Step 4 on page 68](#), do one of the following:

- ♦ **Upgrade to iFolder 2.1.7:** Click Upgrade/Repair, then do one of the following:
  - ♦ **Upgrade from iFolder Standard Edition:** The iFolder Installation Wizard requests that you confirm the upgrade to iFolder 2.1.7.

To accept, click Yes. The installation continues and uses the current settings of your iFolder 1.x server as the default settings for iFolder 2.1.7. iFolder notifies you when the upgrade installation is complete. User data remains untouched.

---

**IMPORTANT:** You might need to follow a manual upgrade process if you have a large number of users who have extended characters in their passphrases. You must also follow special precautions if you decide to concurrently use both iFolder 1.0x and iFolder 2.1 systems. For information, see [Appendix B, “Upgrading from iFolder Standard Edition to iFolder 2.1,”](#) on page 195

---

To decline, click No. Your iFolder server is not upgraded.

- ◆ **Upgrade from iFolder 2.0 Professional Edition:** The iFolder Installation Wizard requests that you confirm the upgrade to iFolder 2.1.7.

To accept, click Yes. The installation continues and uses the current settings of your iFolder 2.0 server as the default settings for iFolder 2.1. iFolder notifies you when the upgrade installation is complete. User data remains untouched.

To decline, click No. Your iFolder server is not upgraded.

- ◆ **Repair iFolder 2.1.7:** Click Upgrade/Repair. The iFolder Installation Wizard requests that you confirm the repair of iFolder 2.1.7.

To accept, click Yes. The reinstall continues and uses the current settings of your iFolder 2.1.7 server as the default settings. iFolder notifies you when the repair installation is complete. User data remains untouched.

To decline, click No. Your iFolder 2.1.7 server is not repaired.

- ◆ **Uninstall iFolder 2.1.7:** Click Uninstall. The iFolder Installation Wizard requests that you confirm the uninstall.

To accept, click Yes. The iFolder uninstall process stops the iFolder services and removes all iFolder files and settings. iFolder notifies you when the uninstall is complete. User data remains on the server; you must remove it manually.

To decline, click No. iFolder is not uninstalled.

**12** To exit the Installation Wizard, click Finish.

**13** Extend the eDirectory schema.

**13a** Open the iFolder Management Console.

Do one of the following:

- ◆ Select the Administer iFolder option on the last window of the iFolder installation.
- ◆ From a Web browser on your installation workstation, go to the iFolder Management Console by clicking File > Open, then entering the following URL:

`https://nifl.your-domain-name.com/iFolderServer/Admin`

---

**IMPORTANT:** This address is case sensitive.

---

Replace `nifl.your-domain-name.com` with the actual DNS name or IP address of your iFolder server.

**13b** Click the Global Settings icon.

**13c** Log in to the Global Settings page as the Admin user with schema extension privileges.

On successful login, iFolder extends the eDirectory schema. This can take several seconds, so expect a 10- to 30-second delay in the response. When the browser opens to the Global Settings page, the installation is complete.

## 15.3 Installing iFolder on Windows/IIS/Active Directory

This section describes how to install Novell iFolder, using the following configuration:

| Server Operating System | Server Operating System | LDAP Server      |
|-------------------------|-------------------------|------------------|
| Windows 2000            | IIS                     | Active Directory |
| Windows 2003            | IIS                     | Active Directory |

After you have met all the prerequisites for this configuration, you are ready to install Novell iFolder 2.1.7.

- 1 If the IIS server is not currently running, start it.
- 2 To start the installation, go to the temporary directory where you saved the installation program, then double-click the installation program icon.
- 3 The iFolder Installation Wizard opens on your desktop. Do one of the following:
  - ♦ **New Installation of iFolder 2.1.7:** Continue or Cancel the installation.  
If you click Continue, proceed to [Step 4 on page 71](#).  
If you click Cancel, the installation program exits and iFolder server is not installed. You can restart the install at a later time.
  - ♦ **Repair of iFolder 2.1.7:** If you are installing iFolder 2.1.7 to repair an existing iFolder server, the Installation Wizard automatically detects it. Proceed to [Step 12 on page 74](#).
- 4 For new iFolder 2.1.7 installations, read the End User License Agreement, then do one of the following:
  - ♦ Agree (click Yes)  
The installation program proceeds.
  - ♦ Disagree (click No)  
The installation program exits and the iFolder server is not installed. You can restart the installation at a later time.
- 5 To select Microsoft Active Directory as your LDAP server, click Active Directory.

---

**NOTE:** If you have an eDirectory LDAP server and want to install the iFolder server software on a Windows server, follow the installation procedures in [Section 12.2, “Installing iFolder on Windows/IIS/eDirectory,” on page 98](#).

---

- 6 Select to extend the Active Directory schema, install iFolder, or both by selecting one of the following options:
  - ♦ **Complete Install:** Install the iFolder server and extend the Active Directory schema.  
This option requires that you have the necessary credentials as the iFolder administrator and as the schema administrator.
  - ♦ **Install iFolder Server Only:** Install the iFolder server.  
Before you install iFolder server, you must extend the schema. Run the iFolder installation program with the appropriate schema administrator credentials and follow the Extend Directory Schema Only path.

- ♦ **Extend Directory Schema Only:** Extend the Active Directory schema for an LDAP server.

This option only extends the schema. It does not install the iFolder server software to your iFolder server. Before you can use the iFolder server, you must repeat the installation with the appropriate iFolder administrator credentials to follow the Install iFolder Server Only path.

If a secondary Active Directory LDAP server exists outside the forest where the primary Active Directory LDAP server is installed, you must run the iFolder installation program again and select this option to extend the schema for the secondary Active Directory LDAP server.

- 7 If you chose the Complete Install or Extend Directory Schema Only options in [Step 6 on page 71](#), verify your credentials to extend your Active Directory schema by specifying your schema administrator Distinguished Name and Password.

- ♦ **Distinguished Name:** Type the full context, using commas with no spaces as delimiters. For example, type `cn=administrator,cn=users,dc=your-domain-name,dc=com`.
- ♦ **Password:** Type your schema administrator password in this case-sensitive field.

- 8 Configure the global settings for your Active Directory LDAP server that your iFolder server uses, then click Next.

- ♦ **LDAP Host Name:** Specify the DNS name (such as `ldap1.your-domain-name.com`) of the server that acts as your LDAP server.

Replace `ldap1.your-domain-name.com` with the actual DNS name of your LDAP server.

This might be the same server that you are configuring as your iFolder server.

---

**IMPORTANT:** The DNS name you use must already exist as an entry on your DNS server and point to the IP address of the destination server.

---

- ♦ **Port:** Select the port type, based on your security needs, for data exchanges between your LDAP server and your iFolder server.

Select one of the following methods:

- ♦ **Clear Text:** Specify any valid TCP port number to use for Clear Text exchanges. By default, Port 389 is used for Clear Text.

Use Clear Text if you want to use LDAP without SSL encryption or if your LDAP server does not support SSL. Clear Text is also a good choice if iFolder and LDAP are running on the same server. Because no communication or data is being transferred across network connections, no encryption is necessary.

- ♦ **SSL:** Specify any valid TCP port number to use for SSL exchanges. By default, Port 636 is used for SSL.

Use SSL if you want to use SSL exchanges to provide your network with encryption and security when data is transferred across network connections.

In Active Directory, LDAP over SSL is not enabled by default. If you select 636 as the LDAP port during installation, ensure that LDAP over SSL is enabled and the server is listening on the port. Otherwise the schema extension will fail.

For more information on enabling LDAP over SSL, refer to the Microsoft Product Support Services Web site (<http://support.microsoft.com/default.aspx?scid=kb;en-us;321051>)

- ♦ **LDAP Context Where iFolder Admin User Is Located:** Specify the LDAP context. For example, `cn=administrator,cn=users,dc=your-domain-name,dc=com`.

---

**IMPORTANT:** Make sure the first context in the list is the one that the iFolder administrator is in.

---

**9** Configure the iFolder settings for your iFolder server, then click Next.

- ♦ **iFolder Server Host Name or IP:** Enter the DNS name (such as `nif1.your-domain-name.com`) or the IP address (such as `192.168.1.1`) to use for your iFolder server.

---

**IMPORTANT:** If you use a DNS name, that name must already exist as an entry on your DNS server and point to the IP address of the destination server.

---

- ♦ **iFolder Admin Names:** Specify the default user ID for the iFolder administrator for this iFolder server. For example, `administrator`.

The iFolder Admin Names are the users who have permission to manage the iFolder server, using the iFolder Management Console. You can assign more than one user ID to be an iFolder administrator.

---

**IMPORTANT:** All of the users identified here must exist in the context identified in [Step 8 on page 72](#).

---

If you have multiple user IDs, separate them with semicolons and with no spaces. For example,

```
administrator;jsmith;acatt
```

- ♦ **Local iFolder User Database Path:** Specify the path on the iFolder server where user data for all the iFolder accounts will be stored. For example, `e:\iFolder`, where `e:` is the volume and `iFolder` is the directory. You can edit the value later, if desired, in the Windows Registry.

---

**IMPORTANT:** The volume you specify must already exist on the Windows server. The iFolder installation program will not create it for you dynamically.

---

- ♦ **Install on Which IIS Web Site?:** If there are multiple Web sites on your server, select where you want to install iFolder.

**10** Review the settings you entered in the previous steps. To return to previous pages and change the settings, click Back and repeat the steps, as necessary.

When you are done, click Next.

**11** Log in to Global Settings in the iFolder Management Console to finalize the installation.

**11a** Open the iFolder Management Console.

Do one of the following:

- ♦ Select the Administer iFolder option on the last window of the iFolder installation process.
- ♦ From a Web browser on your installation workstation, go to the iFolder Management Console, click File > Open, then enter the following URL:

```
https://nif1.your-domain-name.com/iFolderServer/Admin
```

---

**IMPORTANT:** This address is case sensitive.

---

Replace *nifl.your-domain-name.com* with the actual DNS name or IP address of your iFolder server.

**11b** Click Global Settings, then log in.

When the browser opens to the Global Settings page, the installation is complete.

**12** If a version of iFolder 2.1.7 already exists on the server as identified in [Step 3 on page 71](#), do one of the following:

- ♦ **Repair iFolder 2.1.7:** Click Upgrade/Repair. The iFolder Installation Wizard requests that you confirm the repair of iFolder 2.1.7.

To accept, click Yes. The reinstall continues and uses the current settings of your iFolder 2.1 server as the default settings. iFolder notifies you when the repair installation is complete. User data remains untouched.

To decline, click No. Your iFolder 2.1 server is not repaired.

- ♦ **Uninstall iFolder 2.1.7:** Click Uninstall. The iFolder Installation Wizard requests that you confirm the uninstall of iFolder 2.1.7.

To accept, click Yes. The iFolder uninstall process stops the iFolder server and removes all iFolder files and settings. iFolder notifies you when the uninstall is complete.

---

**IMPORTANT:** User data remains on the server; you must remove it manually. The extensions of the Active Directory schema also remain.

---

To decline, click No. iFolder 2.1.7 is not uninstalled.

- ♦ **Extend Directory Schema Only:** Click Extend Directory Schema Only.

Use this option to extend the schema for secondary or additional Active Directory LDAP servers that exist outside the forest where the primary Active Directory LDAP server is installed.

To enter your schema administrator credentials, see [Step 7 on page 72](#).

To enter the information about your secondary LDAP server, see [Step 8 on page 72](#).

**13** To exit the Installation Wizard, click Finish.





# Using the iFolder Management Console to Configure Your iFolder System

# 16

The Novell® iFolder® Management Console is a Web-based, remote management tool used to configure global and user polices, manage user accounts, monitor performance, and generate reports for your iFolder system.

This section covers the following topics for managing Novell iFolder, using the iFolder Management Console:

- ♦ [Section 16.1, “Accessing iFolder Web Interfaces,” on page 129](#)
- ♦ [Section 16.2, “Configuring Your First iFolder Server,” on page 134](#)
- ♦ [Section 16.3, “Configuring iFolder on Additional Servers,” on page 143](#)

## 16.1 Accessing iFolder Web Interfaces

After iFolder has been installed on your server, you have access to two Web interfaces: the iFolder Management Console for administrators and the iFolder Web site for users. Novell NetStorage is also compatible with iFolder. You can configure NetStorage to provide access for your users to their iFolder data on the iFolder server, using a Web browser.

This section describes the following topics:

- ♦ [“The iFolder Management Console for Administrators” on page 129](#)
- ♦ [“The iFolder Web Site for Users” on page 130](#)
- ♦ [Section 16.1.3, “The Novell NetStorage Interface for iFolder 2.1.x,” on page 133](#)

### 16.1.1 The iFolder Management Console for Administrators

The iFolder Management Console lets you manage your iFolder servers, the LDAP servers assigned to authenticate iFolder activity, and your users' iFolder accounts.

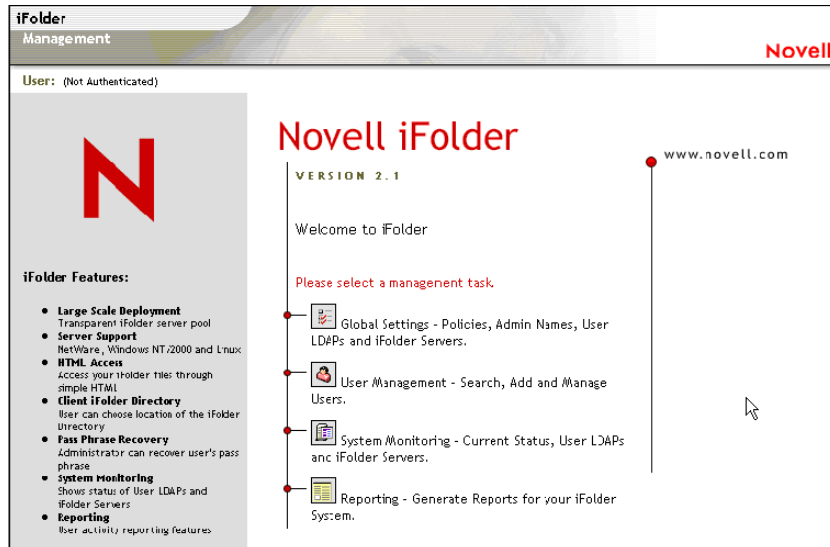
To access the iFolder Management Console, enter the following URL into your Web browser:

```
https://nif1.your-domain-name.com/iFolderServer/Admin
```

Replace *nif1.your-domain-name.com* with the IP address or the DNS name of your iFolder server.

For more information, see “Logging In to the iFolder Management Console” on page 134.

Figure 16-1 iFolder Management Console



## 16.1.2 The iFolder Web Site for Users

The iFolder Web site is where users can download the iFolder client and access their iFolder files via a Web browser, using the iFolder Java applet (on Windows 2000 and 2003 servers) or NetStorage on all the other platforms. The page contains links to do the iFolder client software for download, the *Novell iFolder Quick Start*, iFolder client Help, and other important information about Novell iFolder. You can modify this page to fit your company's internal needs.

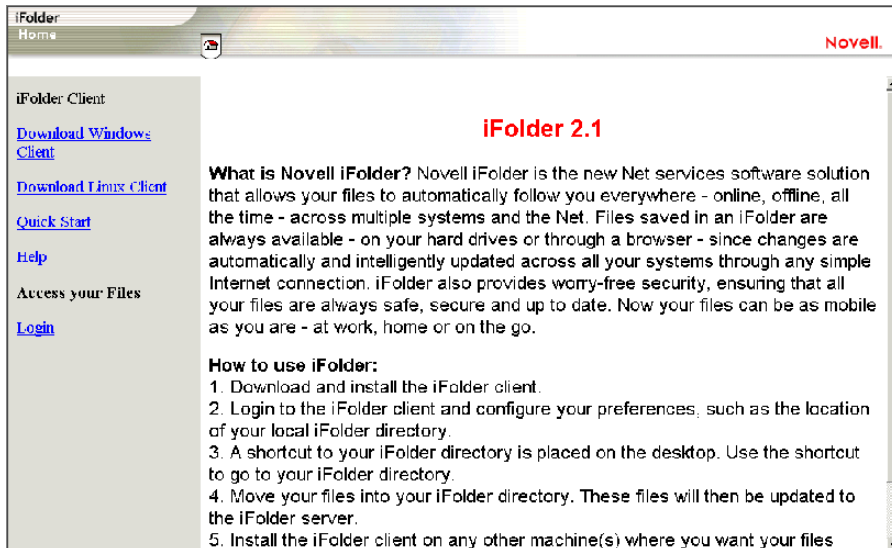
To access the default iFolder Web site, enter the following URL into your Web browser:

```
https://nif1.your-domain-name.com/iFolder
```

Replace *nif1.your-domain-name.com* with the IP address or the DNS name of your iFolder server.

After installing the iFolder client on a workstation, users can reach this site by right-clicking the iFolder icon in the system tray, then clicking iFolder Web site.

**Figure 16-2** Default iFolder Client Web Site



## iFolder Java Applet

The Java applet is a simple Web-based browser that allows users to access their iFolder data on the server, without using the iFolder client. Users can create, upload, download, rename, and delete files, refresh the file listing, and log out of iFolder. In this folder view, click the plus icons to expand the folders.

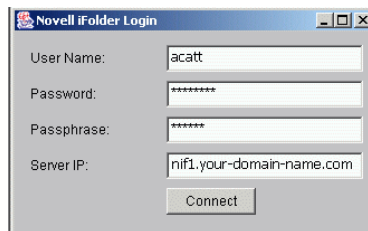
iFolder Java Applet is only supported with iFolder on Windows 2000 and Windows 2003 Servers.

To access iFolder data on the server, using the Java applet in your Web browser:

- 1 Go to the iFolder Web site.
- 2 Click Login in the left navigator.

This opens the Java applet login dialog.

**Figure 16-3** Java Applet Login Dialog for User File Access



- 3 Type your username, password, passphrase (if needed), and iFolder server IP address (if different than the default address).

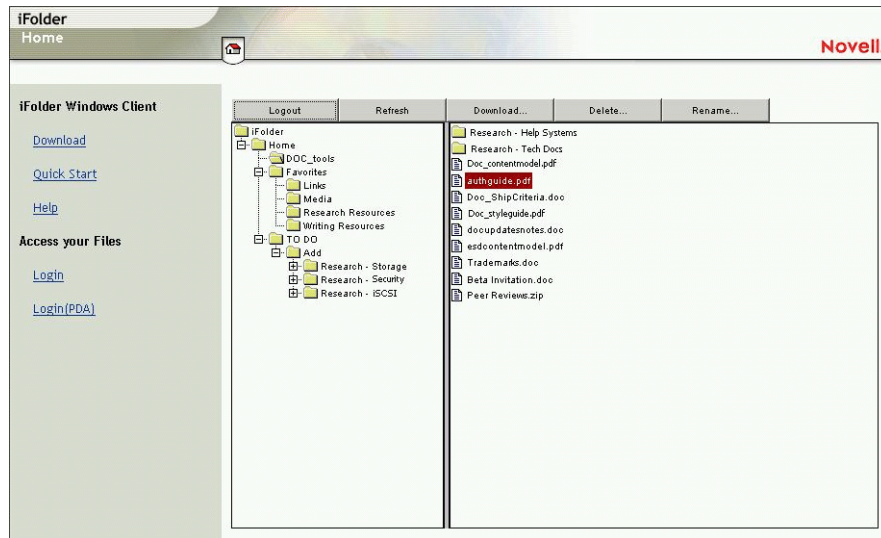
If the iFolder administrator has moved your iFolder account to different physical iFolder server since your account was first created, replace the default address with the known one.

Otherwise, the login fails and iFolder returns a message with the correct iFolder server IP address.

If your first login attempt fails, repeat **Step 1** to **Step 3** and type the new iFolder server IP address in place of the default one.

**4** Click Connect.

**Figure 16-4** The iFolder Java Applet Interface for User File Access



### iFolder 2.1 HTML Interface for PDA Access

In iFolder 2.1 only, users can access iFolder files, using the HTML interface in a Web browser:

**1** To open the HTML login page, use one of these methods:

- ◆ Go to the iFolder Web site, then click Login (PDA).
- ◆ Enter the following URL in a Web browser:

`https://nif1.your-domain-name.com/iFolder/MyFiles`

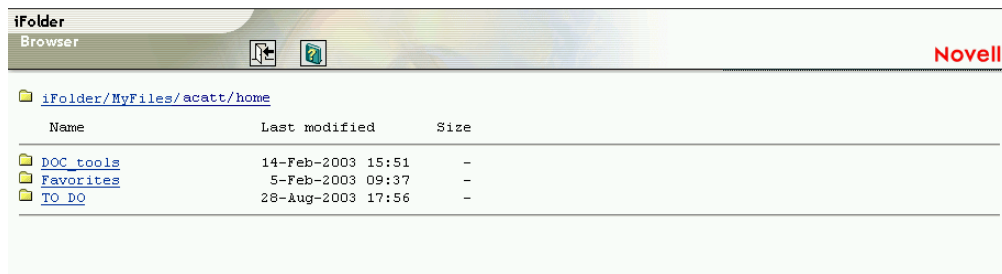
Replace `nif1.your-domain-name.com` with the IP address or the DNS name of your iFolder server.

This opens the HTML login page.

- 2** Enter your username, password, and passphrase (if needed.)
- 3** Click Login.

This opens the HTML interface in your Web browser. Click the link beside the folder to expand the folders. Click the link beside the file to download the file to your local workstation, laptop, or handheld device.

**Figure 16-5** The iFolder HTML Interface for User File Access



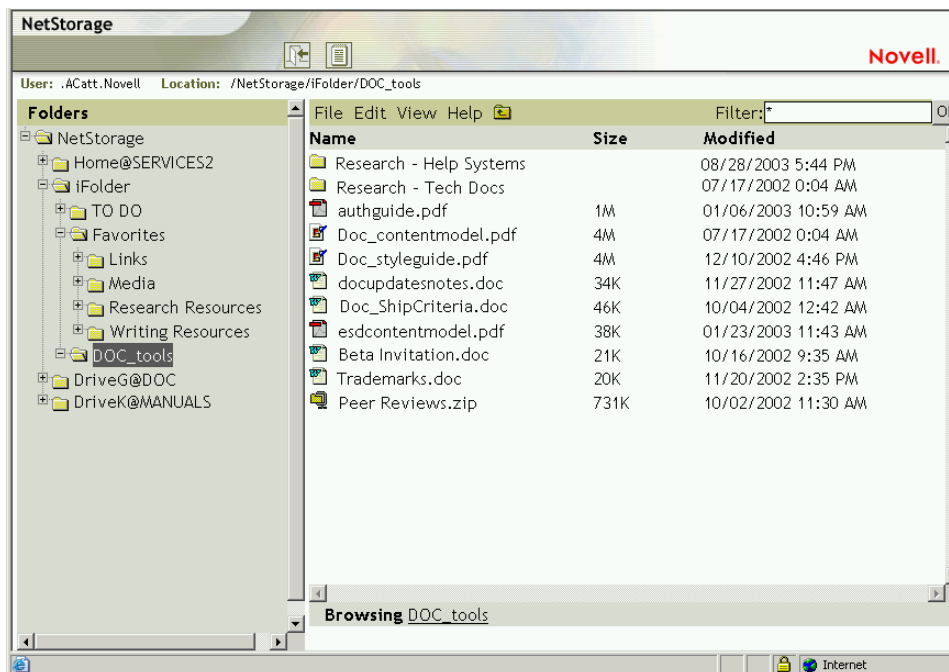
### 16.1.3 The Novell NetStorage Interface for iFolder 2.1.x

If you have Novell NetStorage services installed in your network, you can configure NetStorage to support iFolder data access. Novell NetStorage is available in the bundled release of iFolder 2.1.x with NetWare® 6.5 and later, Novell Nterprise™ Linux Services 1.0 and later and with Open Enterprise Server.

Users can access iFolder data, using the NetStorage folder view, by entering the following URL in a Web browser:

`https://nif1.your-domain-name.com/NetStorage`

**Figure 16-6** Example of the Novell NetStorage Folder View



Users can access iFolder data, using the NetStorage text view, by entering the following URL in a Web browser:

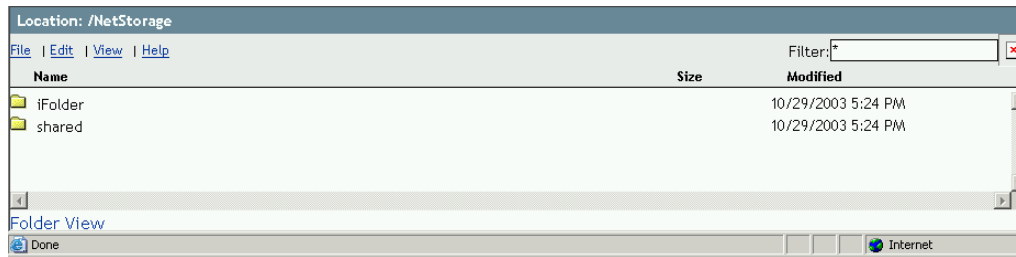
`https://nif1.your-domain-name.com/oneNet/NetStorage`

---

**IMPORTANT:** The NetStorage folder view and text view URLs are case sensitive.

---

**Figure 16-7** Example of the Novell NetStorage Text View



For information about installing and configuring Novell NetStorage on your network, see the *NetWare 6.5 NetStorage Administration Guide*.

## 16.2 Configuring Your First iFolder Server

This section describes how to configure your first Novell iFolder server by performing the following tasks:

1. “Logging In to the iFolder Management Console” on page 134
2. “Identifying the iFolder Objects in the Schema” on page 137
3. “Defining Your User Contexts” on page 137
4. “Provisioning User Objects for iFolder Services” on page 138
5. “Configuring Your User LDAP Server” on page 141
6. Section 16.2.6, “What's Next,” on page 142

### 16.2.1 Logging In to the iFolder Management Console

- 1 To open the iFolder Management Console, use one of the following methods, depending on your version of iFolder:

- ◆ For iFolder 2.1, open your Web browser to the following URL:

`https://nif1.your-domain-name.com/iFolderServer/Admin`

Replace *nif1.your-domain-name.com* with the actual DNS name or IP address of your iFolder server. If you specified different ports during the installation, append the IP address of the server with a colon followed by the port number. For example,

`https://192.168.1.1:80/iFolderServer/Admin`

---

**IMPORTANT:** The iFolder Management Console URL is case sensitive.

---

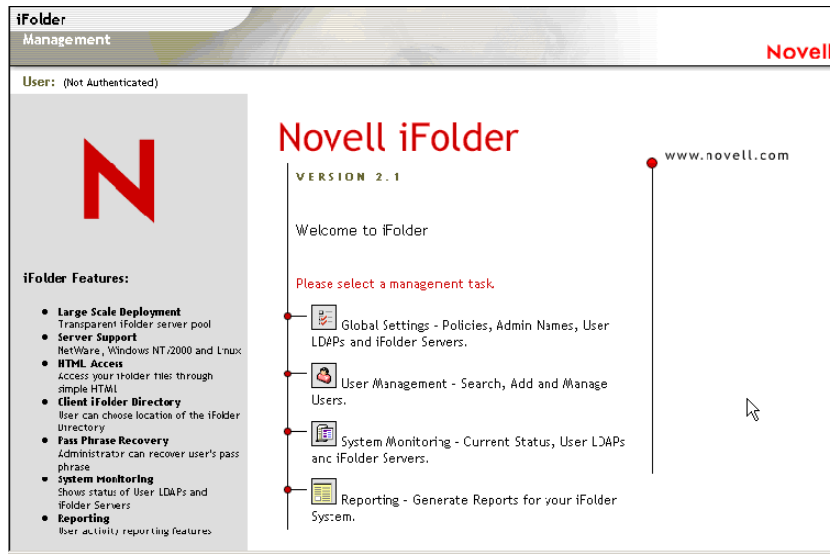
- ◆ For iFolder 2.1.x, you can also access the iFolder Management Console from Novell iManager. Open your Web browser to iManager to the following URL:


`https://nif1.your-domain-name.com/nps/iManager.html`

Replace *nif1.your-domain-name.com* with the actual DNS name or IP address of your iFolder server.

Log in to iManager, then click the iFolder role in the left navigator. For information about iManager, see the *Novell iManager 2.0.x Administration Guide*.

Figure 16-8 iFolder Management Console Home Page



2 To log in to the iFolder Management Console, click Global Settings , then log in with your iFolder administrator username and password.

For Novell eDirectory™ environments, most installation scenarios require that you log in to the iFolder Management Console to extend the schema and complete the installation. However, in some installations scenarios, iFolder completes the schema extension during the installation process.

For example, the iFolder installation extends the schema as follows:

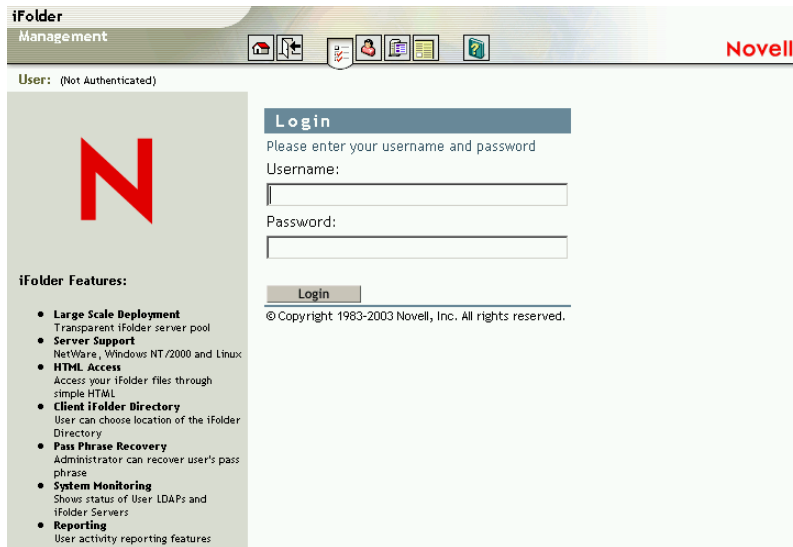
- ♦ Novell eDirectory configurations with iFolder 2.1.2 in Novell Nterprise™ Linux Services
- ♦ Microsoft Active Directory configurations with iFolder 2.1
- ♦ Novell eDirectory configurations with iFolder 2.1.5 in Open Enterprise Server on SLES. and iFolder 2.1.6 in Open Enterprise Server Support Pack 1 and iFolder 2.1.7 in Open Enterprise Server Support Pack 2

See your installation instructions to determine which case applies to you.

If applicable, the first time you log in to the iFolder Management Console after the installation, you must log in as a user that has schema extension privileges. The initial login might take 10 to 30 seconds while iFolder extends the schema, creates objects, and writes attributes. Server

objects are created in the Admin LDAP context that you specified during the iFolder installation.

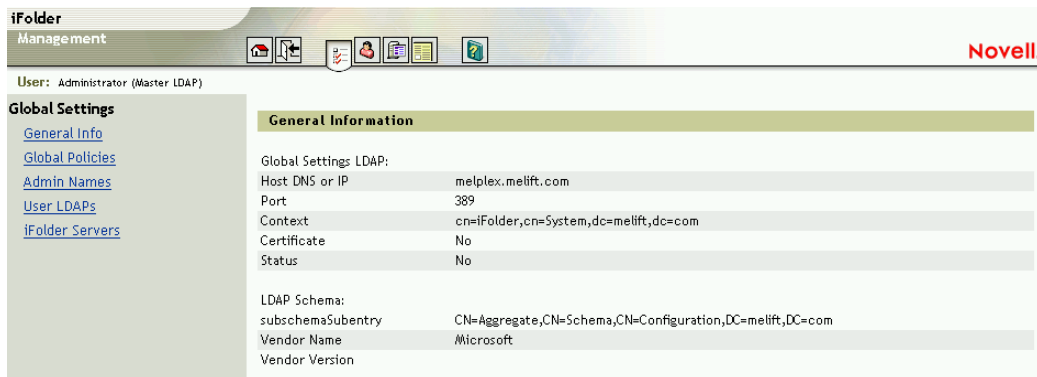
**Figure 16-9** iFolder Management Console > Global Settings > Login



**3** When the General Information page opens, your login is successful.

Successful login completes the server installation for your first server. The schema extension is not repeated on subsequent logins.

**Figure 16-10** Global Settings > {Login} > General Information



Use this procedure to log in to the iFolder Management Console at any time to manage the iFolder server.

To optionally verify the schema extension, see [“Identifying the iFolder Objects in the Schema” on page 137](#).

To continue configuring your first iFolder server, see [“Defining Your User Contexts” on page 137](#).



## 16.2.2 Identifying the iFolder Objects in the Schema

The iFolder installation extends your LDAP schema to include the following objects:

- ◆ iFolder Settings object (iFolder\_Settings) with the following attributes:
  - ◆ iFolderAdminNames
  - ◆ iFolderClientXML
  - ◆ iFolderDefaultServerName
  - ◆ iFolderkey1
  - ◆ iFolderkey2
  - ◆ iFolderServerXML
- ◆ iFolder User LDAP object (iFolder\_ldap01) with the following attributes:
  - ◆ iFolderLDAPCertificate
  - ◆ iFolderLDAPContexts
  - ◆ iFolderLDAPDNSorIP
  - ◆ iFolderLDAPPort
- ◆ iFolder Server object (iFolder\_server01) with the following attributes:
  - ◆ iFolderServerDNSorIP
  - ◆ iFolderServerSecureDNSorIP

The schema extension and the newly created objects enable your iFolder server to run with the LDAP settings you specified during the installation. These settings are used as your Global Settings LDAP. For more information, see [“LDAP Directories” on page 24](#).

The iFolder\_Settings object is created only once and it holds all the Global LDAP settings. However, for every additional LDAP server and iFolder server that you add through the iFolder Management Console, a new iFolder\_ldap and iFolder\_server object are created that correspond to the new LDAP or iFolder server.

---

**IMPORTANT:** All iFolder management must be done through the iFolder Management Console.

---

To continue configuring an iFolder server, see [“Defining Your User Contexts” on page 137](#).

## 16.2.3 Defining Your User Contexts

During the iFolder installation, you specified the LDAP context of your Admin objects. For authentication purposes, you must now define the context where your users reside. After you define your user context, all the User objects that reside in the specified context appear in the iFolder Management Console.

As you add iFolder servers to your iFolder system, you might define different or the same user contexts for each server.

**TIP:** If you need to add a User object to your context, you can use the User Management > Add Users option in the iFolder Management Console.

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).
- 2 Click Global Settings > User LDAPs, then click the server name of the server you want to manage.

**Figure 16-11** Global Settings > User LDAPs > {Server Name} > User Contexts for This Server



- 3 From the Contexts listed, select the context where your users are located. iFolder searches the contexts you specify when authenticating users.
- 4 If you want LDAP to search subcontexts below the specified context during user authentication, check the Search Subcontexts check box.
- 5 If you want to add additional contexts to search, click Add.
- 6 Click Update to save these default user authentication settings.

To continue configuring an iFolder server, see [“Provisioning User Objects for iFolder Services” on page 138](#).

## 16.2.4 Provisioning User Objects for iFolder Services

Before users can create and use iFolder accounts, you must first enable users' User objects on the LDAP server for iFolder services. Users can have only one account associated with a given user ID. However, any given user can have multiple accounts under different user IDs.

When you log in for the first time to the iFolder Management Console and click User Management, iFolder extends the User LDAP directory's schema to include the LDAP User Object. An Aux Class of iFolderUser and the following attributes are also assigned to each User object:

- ◆ iFolderServerName

- ◆ iFolderQuota

Only enable iFolder services for the usernames you want to give iFolder privileges. iFolder does not create and activate the associated iFolder account until the user first logs in to the iFolder server, using the iFolder client, the iFolder Java applet, NetStorage or NetDrive.

---

**IMPORTANT:** If your global client polices include any enforced or hidden settings, the users must log in with the iFolder client to create their iFolder user accounts.


---

After you provision the User objects, instruct your users to log in to the iFolder server to create an iFolder account.

To enable iFolder services for users:

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).

The first time you log in to User Management, iFolder extends the User LDAP's schema. You must log in as a user with schema extension rights for the User LDAP servers you want to use for authenticating iFolder users on the specified server.

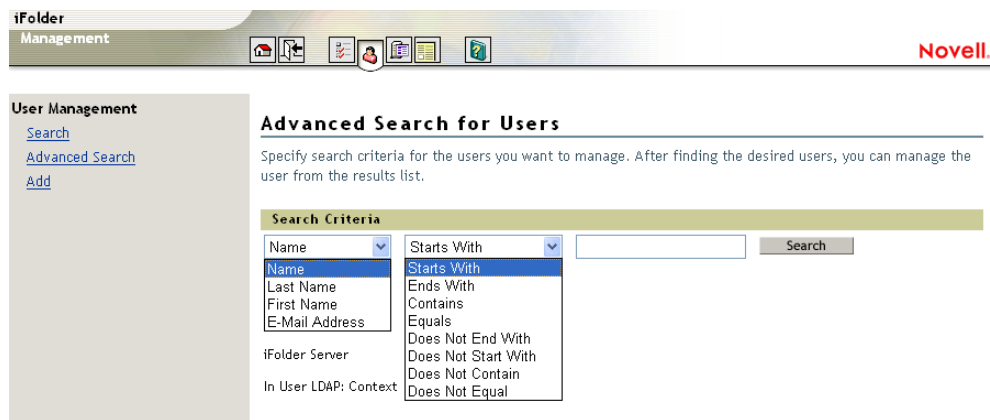
- 2 Click User Management .
- 3 Use the Advanced Search for Users, as shown in [Figure 16-12](#), to obtain a list of users whose accounts you want to manage.

---

**IMPORTANT:** If an Admin object resides on multiple LDAP servers, do not enable this object as an iFolder user. If you have only one LDAP server and one corresponding Admin user, you can enable this object; however, we do not recommend it.

---

**Figure 16-12** Search Criteria for Advanced Searches



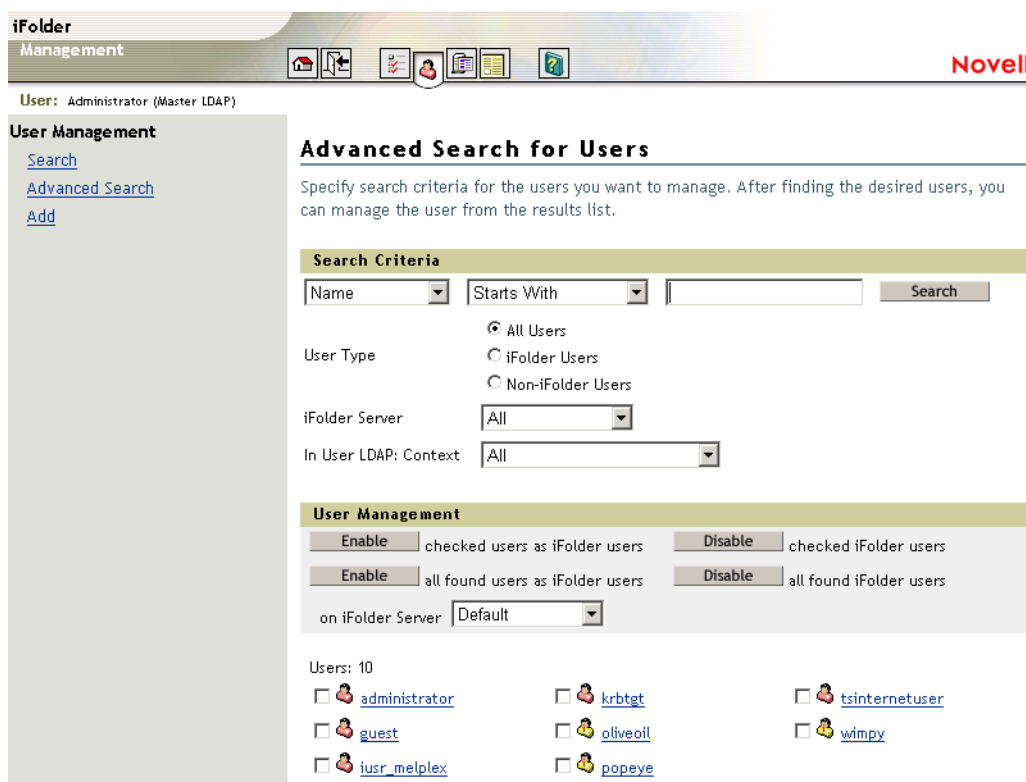
The iFolder Management Console provides an Advanced Search feature. You can use the following search criteria to narrow your search:

| User Category Syntax | Operator Syntax |
|----------------------|-----------------|
| Name                 | Starts With     |

| User Category Syntax                                    | Operator Syntax     |
|---------------------------------------------------------|---------------------|
| Last Name                                               | Ends With           |
| First Name                                              | Contains            |
| E-mail Address                                          | Equals              |
| User Type (All Users, iFolder Users, Non-iFolder Users) | Does Not Start With |
| iFolder Server (All, select from list)                  | Does Not End With   |
| In User LDAP: Context (All, select from list)           | Does Not Contain    |
|                                                         | Does Not Equal      |

- 4 Enable or disable iFolder services for users, using one of these methods:
- ♦ **Single User:** Click the username link, then click Enable or Disable to change the iFolder privileges for the selected user.
  - ♦ **Multiple Users:** From the Advanced Search results, click Enable or Disable iFolder services for all of the users found that met the search criteria.
  - ♦ **Subset of Multiple Users:** From the Advanced Search results, check the check box beside any user whose status you want to change, then click Enable or Disable. The provisioning status changes for only those specified users.
  - ♦ **Subset of Multiple Users on a Specific iFolder Server:** From the Advanced Search results, select the server from the iFolder Server drop-down list, then click Enable or Disable. The provisioning status changes for only those users assigned to the specified server.

Figure 16-13 User Management > Advanced Search > Search Results



If your first iFolder server is not also your LDAP server, continue with the next section, “[Configuring Your User LDAP Server](#).”

If your first iFolder server is also your LDAP server, the basic configuration tasks are complete. See [Section 16.2.6, “What's Next,” on page 142](#).

## 16.2.5 Configuring Your User LDAP Server

Novell iFolder uses your user LDAP directory to authenticate users on the iFolder server. The User LDAP directory stores the iFolder Server Name and the Disk Quota attribute of User objects for user accounts enabled with iFolder services.

If LDAP and iFolder are not running on the same server, configure the LDAP server information for iFolder:

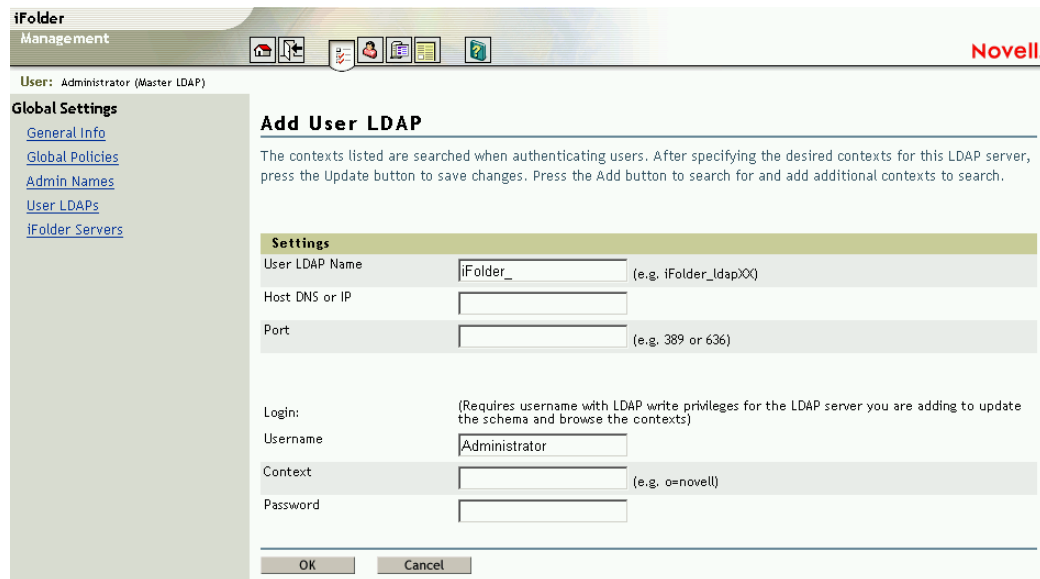
- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click log in. For details, see “[Logging In to the iFolder Management Console](#)” on page 134.

You must log in with an admin username that has write privileges to the LDAP server or servers you plan to modify or add.

- 2 Click Global Settings > User LDAPs, then click Add.

This opens the Add User LDAP subtask.

**Figure 16-14** *Global Settings > User LDAPs > Add > Add User LDAP*



**3** Enter your LDAP server's configuration information.

- ◆ **User LDAP Name:** The LDAP server host name.
- ◆ **Host DNS or IP:** The LDAP server's DNS name such as ldap1.your-domain-name.com or IP address such as 192.168.1.1.
- ◆ **Port:** The port to use for communications between the iFolder server and the user LDAP server. Use Port 389 for clear text communications or use Port 636 for Secure Sockets Layer (SSL) communications.
- ◆ **Login Username:** The admin username for the LDAP server. This username must have write privileges for the LDAP server to support extending the schema and browsing contexts.
- ◆ **Context:** The context you want iFolder to search to authenticate users for the iFolder server.
- ◆ **Login Password:** The password for the Login Username.

**4** Click OK, or click Cancel to abandon the process.

After you add your LDAP server to iFolder system configuration, you are finished with the mandatory iFolder server configuration. See [Section 16.2.6, "What's Next," on page 142](#).

## 16.2.6 What's Next

The iFolder installation and mandatory configuration sets default behaviors for the iFolder server and client. Use the following table to determine what next to do to configure and manage your iFolder system, according to your business needs.

| To Do This                                                                                | Refer To                                                                               |
|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Configure the global client policies if you want them to differ from the default settings | <a href="#">Section 17.3, “Configuring Global Client Policies,” on page 148</a>        |
| Configure the global server policies if you want them to differ from the default settings | <a href="#">Section 19.2, “Configuring Global Server Policies,” on page 171</a>        |
| Provision User objects for iFolder services                                               | <a href="#">“Provisioning User Objects for iFolder Services” on page 138</a>           |
| Expand your iFolder system by adding another iFolder server                               | <a href="#">Section 16.3, “Configuring iFolder on Additional Servers,” on page 143</a> |
| Manage iFolder user accounts                                                              | <a href="#">“Managing iFolder User Accounts” on page 147</a>                           |
| Manage your iFolder servers                                                               | <a href="#">“Managing iFolder Servers” on page 171</a>                                 |

## 16.3 Configuring iFolder on Additional Servers

You can install iFolder on an unlimited number of servers to create your iFolder system.

- 1 Install iFolder on the additional server.

For links to specific installation instructions for your operating system, see the table in [Section 3.1, “Installation Scenarios for iFolder 2.1,” on page 27](#).

- 2 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).
- 3 Add your iFolder server to the iFolder system.
  - 3a Click Global Settings > iFolder Servers > Add.
  - 3b Enter the appropriate information, then click Add.

- ♦ **Public and Private iFolder Server Names:** If the DNS name or IP address of your iFolder server goes directly to the iFolder server without being routed through another device, meaning that your iFolder server is not behind a firewall, you are only required to fill in the information beneath the Public heading.

If the DNS name or IP address of your iFolder server goes through another device, like an L4 switch or a firewall that redirects the request to the iFolder server, you need to fill in the information under both the Public and Private headings.

---

**IMPORTANT:** If you have Network Address Translation (NAT) functionality built into your routers or switches, enter both your iFolder public and private DNS names and IP addresses.

---

If your public DNS name or IP address redirects requests to a private iFolder IP address, specify a DNS name (not an IP address) as the public address of the iFolder server. Then make sure you use an internal DNS server to resolve the DNS name to the private address for internal users and use an external DNS server to resolve the DNS name to the public address of external users.

The Private settings allow the iFolder servers to communicate directly to each other within the iFolder system. The Public settings allow you to access the iFolder server from outside the firewall.

- ♦ **iFolder Ports:** The ports that you enter into the iFolder Management Console must match the ports that you specified during the iFolder installation. You can have multiple iFolder servers, using the same port numbers if they all have a unique DNS name or IP address.

Port 80 is used to send the encrypted username and password and data from the iFolder client to the iFolder server. iFolder uses RSA encryption to encrypt the username and password, and Blowfish encryption to encrypt the user data. Port 443 is used to access the iFolder Management Console and the Java applet via SSL and HTTPS.

**Figure 16-15** Global Settings > iFolder Servers > Add > Add iFolder Server

The screenshot shows the iFolder Management console interface. The main window is titled "iFolder Management" and includes a navigation bar with icons for Home, Back, Forward, Refresh, and Help. The user is logged in as "Administrator (Master LDAP)". The "Global Settings" section is active, and the "Add iFolder Server" form is displayed. The form has two sections: "Public" (external access) and "Private" (internal access). The "Public" section includes fields for "iFolder Server Name" (with a hint "(e.g. iFolder\_server00)"), "Host DNS or IP", "Port" (with a hint "(e.g. 80)"), and "Secure Port" (with a hint "(e.g. 443)"). The "Private" section includes fields for "Host DNS or IP" and "Port" (with a hint "(e.g. 80)"). At the bottom of the form are "Add" and "Cancel" buttons. The Novell logo is visible in the top right corner.

**4** Add your LDAP server settings for the new server to the iFolder system.

**4a** Click the Global Settings icon at the top of the page, then click User LDAPs.

**4b** Click Add to add a User LDAP server.

You can add up to eight LDAP directories. The Global User LDAP that you specified during the first installation of iFolder appears as iFolder\_ldap01.

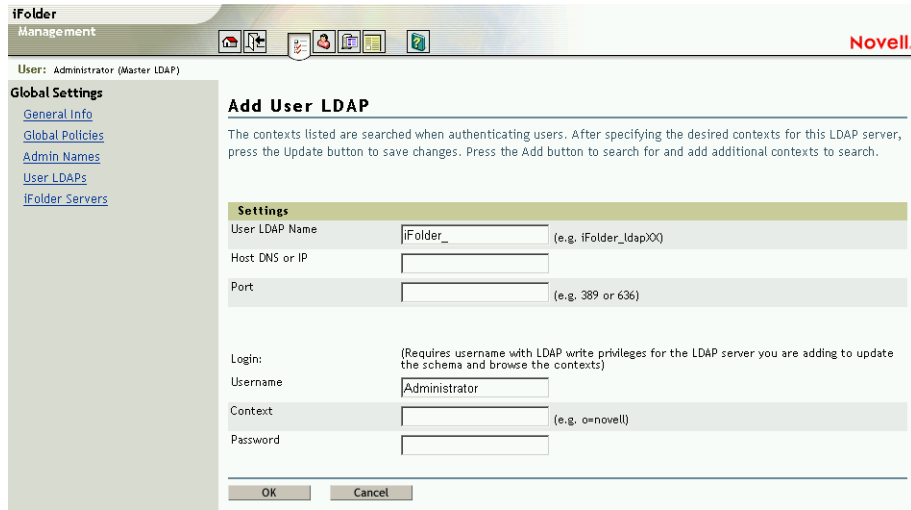
The LDAP directories are accessed in alphabetical order when iFolder users are authenticated. Be careful when naming your LDAP directories. iFolder searches the directories in alphabetical order. Thus, if your company uses more than one LDAP directory, make sure you name the LDAP directories alphabetically, so that the first LDAP directories that are listed are the directories that have the majority of your iFolder users.

If you have users with the same username located in multiple contexts, iFolder will authenticate the first user it finds during LDAP authentication. All subsequent users who are located later in the LDAP authentication process will need to enter their usernames



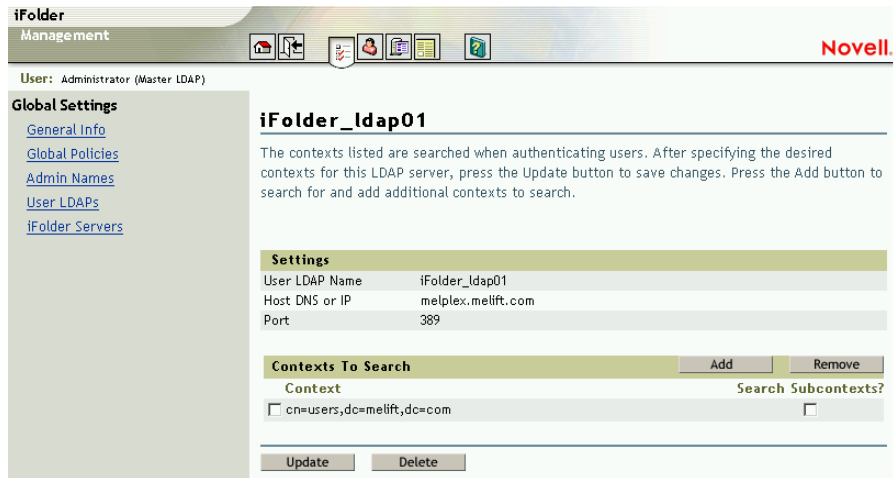
and full contexts in the User ID field of the iFolder client login box in order to properly authenticate and log in to the iFolder server.

**Figure 16-16** *Global Settings > User LDAPs > Add > Add User LDAP*



- 4c** If you want LDAP to search subcontainers below the user context during user authentication, click **Global Settings > User LDAPs**, select the name of your LDAP server from the list, select your context from the drop-down list, check the check box, then click **Update**.

**Figure 16-17** *Global Settings > User LDAPs > Server Name > User Contexts for This Server*





# Managing iFolder User Accounts

# 17

Before you can manage client policies for your Novell® iFolder® system, you must perform the tasks described in:

- ◆ [Section 16.2, “Configuring Your First iFolder Server,” on page 134](#)
- ◆ [Section 16.3, “Configuring iFolder on Additional Servers,” on page 143](#), as needed

---

**IMPORTANT:** If your global client policies include any enforced or hidden settings, the users must log in with the iFolder client to create their iFolder user accounts.

---

Users can download the iFolder client from the iFolder Web site. For information, see [“The iFolder Web Site for Users” on page 130](#).

Before you can manage individual user accounts, your users must log in to the iFolder server, using the iFolder client or the iFolder Java applet or NetStorage to create their iFolder accounts.

An iFolder administrator can perform the following user management tasks:

- ◆ [Section 17.1, “Enabling iFolder Services for Users,” on page 147](#)
- ◆ [Section 17.2, “Adding User Objects to the User LDAP Directory from iFolder User Management,” on page 147](#)
- ◆ [Section 17.3, “Configuring Global Client Policies,” on page 148](#)
- ◆ [Section 17.4, “Using the Remember Password Option,” on page 152](#)
- ◆ [Section 17.5, “Configuring the Security Passphrase,” on page 153](#)
- ◆ [Section 17.6, “Searching for Users in a User LDAP Directory,” on page 154](#)
- ◆ [Section 17.7, “Viewing a User’s iFolder Account Information,” on page 156](#)
- ◆ [Section 17.8, “Modifying Individual User Client Policies,” on page 159](#)
- ◆ [Section 17.9, “Recovering Passphrases,” on page 161](#)
- ◆ [Section 17.10, “Restoring Deleted or Corrupted Files,” on page 162](#)
- ◆ [Section 17.11, “Deleting User Data on the Server,” on page 163](#)
- ◆ [Section 17.11.1, “Preventing Data Loss When Resetting User Accounts,” on page 164](#)
- ◆ [“Using the Conflict Bin” on page 164](#)

## 17.1 Enabling iFolder Services for Users

To add iFolder user accounts to an existing iFolder server, you must enable iFolder services for the User objects. For information, see [“Provisioning User Objects for iFolder Services” on page 138](#).

## 17.2 Adding User Objects to the User LDAP Directory from iFolder User Management

The User Management task allows you to add new User objects to your LDAP directory from within the Novell iFolder Management Console.

When you add a new iFolder user, you must specify the following:

- ♦ **User ID:** The unique network user ID for the new user account.
- ♦ **Password:** The user password for the new user account.
- ♦ **iFolder Server:** The iFolder server that provides iFolder services for the new user.
- ♦ **LDAP Context:** The LDAP context that authenticates the user to the iFolder server.

Adding a new user through the iFolder Management Console accomplishes the following tasks:

- ♦ It creates a User object in your LDAP directory and creates the corresponding user account.
- ♦ It adds the iFolderServerName and iFolderQuota attributes to the new User object. Because these attributes are iFolder-specific, you must manage them through the iFolder Management Console. All other attributes associated with the user account object must be managed through your LDAP directory's management tool.
- ♦ It automatically enables the use of iFolder services for that user account; you do not need to manually enable the new user account for iFolder services. The iFolder user account gets created and activated the first time this user logs in to the iFolder server.
- ♦ It lets you assign the new user to the Default iFolder Server. Whatever iFolder server you have specified as the default server at the time of the user's initial login becomes the user's assigned server.
- ♦ Typically, the Default iFolder Server is the first server that you installed iFolder on unless you manually changed this. To change your default server name, go to the Global Settings task of the iFolder Management Console, then click iFolder Servers. For instructions, see [Managing iFolder Servers](#).

## 17.3 Configuring Global Client Policies

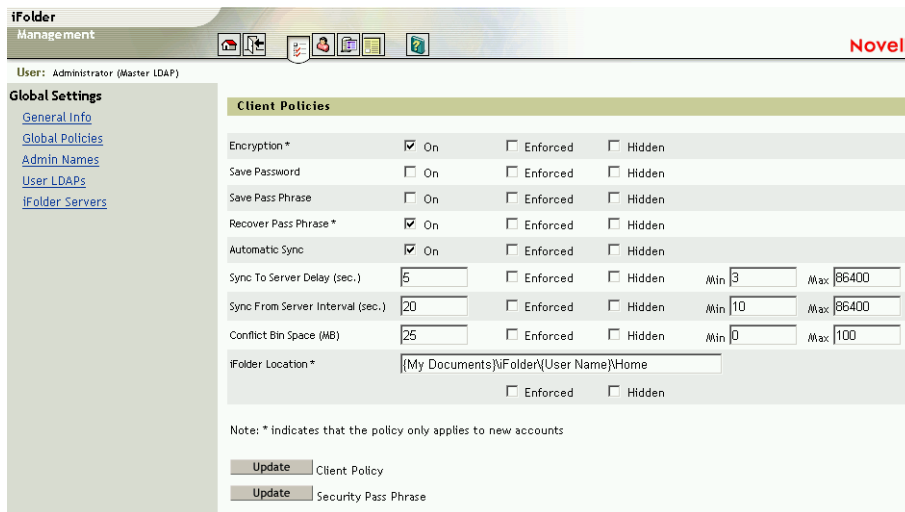
The iFolder administrator uses the global client policies to control which features the user can configure for the iFolder client and what the default settings are. Client policies are rules that govern the iFolder client behavior. Global policy settings apply to all iFolder clients and servers. You can override global policies for individual users by setting user policies.

Before you permit users to access the iFolder system for the first time, you must review the default settings and configure policies to meet your network needs. Later, if you modify policies, you must consider how iFolder effects your changes. In general, client policy changes require only that users log out and log in to the iFolder client to effect the changes. However, changes might not apply to existing accounts or clients. To apply the changes you make, click Update Client Policy.

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).

2 Click Global Policies > Client Policies > Display > Client Policy Settings.

Figure 17-1 Global Settings > Global Policies > Client Policies > Display > Client Policies Settings



3 Set the global client policies, then click Update Client Policy.

For information about global server policies, which includes user disk quotas, see [Section 19.2, “Configuring Global Server Policies,”](#) on page 171.

## 17.3.1 Understanding iFolder Client Policies

Client policies specify default settings or values, whether the user can modify the default, and whether the user can view the policies.

The iFolder administrator sets three policy levels for the global client policies:

- ♦ **Default Policies:** To enable the policy, check the On check box or specify a value. If the default policy setting is not Enforced or Hidden, users can modify the default setting, according to their personal preferences.

In general, if you modify a policy’s default setting, the change applies automatically to new iFolder accounts and new client installs or upgrades. For existing iFolder accounts and clients, if the specific policy is modifiable, you must enable Enforced to force this change to take effect.

If the specific policy is not modifiable for existing accounts, changes do not apply even if they are enforced or hidden. For examples, see Encryption and Recover Passphrase policies.

If the specific policy is not modifiable for existing instances of the iFolder client, a change does not apply even if it is enforced or hidden. For an example, see the iFolder Location policy.

- ♦ **Enforced:** To enforce the default setting, check the Enforced check box. If this option is enabled, the default setting is dimmed in the iFolder client. Users can view the default setting, but they cannot change it. If this option is disabled, users can modify the default setting, according to their personal preferences.

For both global and user client policies, you must enable the Enforced option when setting or changing policies that you want to override the user’s personal preferences. Enforced settings apply automatically to new iFolder accounts. If the specific policy is modifiable for existing

accounts or clients and you enable Enforced, the change takes effect the next time the user logs in to their iFolder account, installs a new client, or upgrades an existing client. If it is not a modifiable policy for accounts or clients, enabling Enforced has no effect.

For user client policies, you must enable the Enforced option when setting or modifying a policy that you want to override the corresponding global client policy. If it is not a modifiable policy for iFolder accounts or clients, enabling Enforced for a user client policy has no effect.

- ◆ **Hidden:** To hide the policy and its default setting from the user, check the Hidden check box. Users cannot view or modify the default setting. Hidden features are enforced by default.

You set the default values and behavior for the following client policies:

- ◆ **Encryption:** [Default: On, Not Enforced, Not Hidden] Allows the user's local data to be encrypted as it leaves a workstation to travel to the iFolder server, resides on the server, and travels to another workstation, where it is unencrypted; the user's data resides on the user's workstations in unencrypted form.

Encryption policies cannot be modified for existing accounts. Once set for an iFolder account, the decision applies for the life of the account and across all instances of the iFolder client that the user installs. If you want to change marked features for all users after accounts exist, you must coordinate with users to delete their accounts and recreate them with the new settings enforced. For more information about encryption, see [Section A.1, "Authentication and Encryption," on page 193](#).

- ◆ **Save Password:** [Default: Off, Not Enforced, Not Hidden] Allows automatic entry of the user's password during any iFolder login sequence.

---

**IMPORTANT:** The iFolder client does not pass on system warnings about grace logins. If your organization requires frequent password changes, we recommend that users be notified of pending change requirements by alternate means so users can proactively change the stored password, if they select this option.

---

- ◆ **Save Passphrase:** [Default: Off, Not Enforced, Not Hidden] Allows automatic entry of the user's encryption passphrase during any iFolder login sequence.
- ◆ **Recover Passphrase:** [Default: On, Not Enforced, Not Hidden] Allows the iFolder administrator to recover the user's encryption passphrase.

---

**IMPORTANT:** Because the Passphrase is the user's encryption key, the administrator is able to decrypt the user's data files on the iFolder server. Allowing this option implies a trusted relationship for the iFolder administrator.

---

Recover Passphrase policies cannot be modified for existing accounts. Once set for an iFolder account, the decision applies for the life of the account and across all instances of the iFolder client that the user installs. If you want to change marked features for all users after accounts exist, you must coordinate with users to delete their accounts and recreate them with the new settings enforced.

- ◆ **Automatic Sync:** [Default: On, Not Enforced, Not Hidden] Allows the iFolder client to automatically synchronize the user's iFolder files between the local iFolder directory and the iFolder server.
  - ◆ **Sync to Server Delay:** [Default: 5 seconds with a minimum of 3 seconds, Not Enforced, Not Hidden] If Automatic Sync is allowed, sets the default time (in seconds) that the iFolder client waits after a file in the local iFolder directory changes until it automatically

uploads the file to the iFolder server. Also sets the minimum and maximum values allowed.

- ♦ **Sync from Server Interval:** [Default: 20 seconds with a minimum of 10 seconds, Not Enforced, Not Hidden] If Automatic Sync is allowed, sets the default time (in seconds) after a synchronization occurs that the iFolder client waits to check with the iFolder server to determine if there are changed files it needs to automatically download to the local iFolder directory. Also sets the minimum and maximum values allowed.

For information on synchronization strategies for users, see the *Novell iFolder 2.1 User Guide*.

- ♦ **Conflict Bin Space:** [Default: 25 megabytes with a minimum of 0 (zero) megabytes, Not Enforced, Not Hidden] Sets the default size (in MB) of the Conflict Bin for the user's iFolder account. Also sets the minimum and maximum allowed values.

The iFolder client uses a Conflict Bin to help prevent the inadvertent loss of user files. Each workstation where users install the client has its own bin on the local hard drive. The iFolder client stores files in the bin on a first-in, first-out basis. As the bin size nears the maximum space allotted, the iFolder client purges documents from the bin to make room for newer files that might be in conflict. If a file in conflict exceeds the size of the bin, iFolder automatically purges the file from the bin.

In general, the default size of the Conflict Bin should be about 10 to 15 percent of the Initial Client Quota. At a minimum, the space allocated should be larger than the largest file size that a user might store in the iFolder account.

- ♦ **iFolder Location:** [Default: {My Documents}\iFolder\{User Name}\Home, Not Enforced, Not Hidden] Sets the default path of the user's local iFolder directory.

Changes to this policy apply only to new instances of the iFolder client for existing accounts or to new iFolder accounts.

Some policies apply only to new iFolder user accounts. The related options appear in the first instance of an iFolder client install for that user. After the user sets the preferences, the items no longer appear in the login sequence or in subsequent installations of the iFolder client by that user.

Changing the marked policy has no effect for existing users; it applies only for all subsequently created accounts. If you want to change marked features for all users after accounts exist, you must coordinate with users to delete their accounts and recreate them with the new settings enforced.

## 17.3.2 Examples of Global Client Policies

Consider the following examples to help you understand how to use the policy levels.

### **Example Policy: All users must enable iFolder encryption.**

If you want every user to encrypt iFolder data, set Encryption to On, Enforced, and Hidden as a global client policy, then click Update Client Policy. The user must specify an encryption passphrase the first time he or she logs in to iFolder. The passphrase serves as the encryption key for the user's iFolder account.

### **Example Policy: Administrators must be allowed to recover user passphrases.**

If you want to enable the iFolder administrator to recover all users' encryption passphrases, set Recover Passphrase to On, Enforced, Hidden and set the Security Passphrase for the administrators to use when recovering passphrases. Then click Update Client Policy. The first time a user logs in,

iFolder does not prompt the user with the option to Recover Passphrase because the policy is mandatory and hidden from view.

**Example Policy: Guest users must use clear text when storing iFolder data on the iFolder server.**

If you want an individual user account to use clear text only, go to the User Account > Edit Client Policies, then set the Encryption, Save Passphrase, and Remember Passphrase policies to Off, Enforced, and Hidden as user client policies. Then click Update Client Policy. iFolder does not prompt the user with a choice to encrypt iFolder data.

**Example Policy: Users must synchronize files manually to minimize bandwidth requirements.**

If you want users to synchronize iFolder files only as needed, set Automatic Synchronization to Off, Enforced, and Not Hidden as a global client policy. Then click Update Client Policy. The users cannot take advantage of automatic synchronization. In the iFolder client, the automatic synchronization option is disabled (unchecked) and dimmed on the Account Information > Preferences page. The user must use the manual Sync and Stop Sync options to synchronize files, using the iFolder client.

**Example Policy: Users must authenticate manually at login.**

Because the client requires that users log in to change their passwords, they can be locked out if the password changes while they are logged out of iFolder. If your environment requires frequent password changes, you can avoid users being accidentally locked out of their iFolder accounts by setting Save Password to Off, Enforced, and Hidden as a global client policy. Then click Update Client Policy. The users must enter a valid password each time they log in to the iFolder client.

## 17.4 Using the Remember Password Option

If your network environment requires that users change passwords frequently, we recommend that you disable the Remember Password option for the iFolder client. The iFolder client will not alert users of expired passwords and users might exceed the number of grace logins allowed by your network. If a user enables the Remember Password option and the user's password expires while the user is logged out, the user will not be able to log in to iFolder to set the new password.

### Disabling the Remember Password Option for All Users

To disable the Remember Password policy and make the option unavailable to your users:

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).
- 2 Click Global Settings > Global Client Policies.
- 3 Disable the Remember Password option in the iFolder client.
  - 3a Uncheck the Save Password check box.
  - 3b Check the Enforced check box.
  - 3c Check the Hidden check box.
- 4 Click Update Client Policies.



- 5 Click Logout, then close the Web browser.

## Avoiding Being Locked Out When a Password Changes

If you enable the Remember Password option for users, make sure to notify users about their password expiration through other means. Users must follow some simple precautionary steps before changing their network passwords to avoid being locked out of their iFolder accounts.

If the Remember Password check box is checked in the iFolder client, users must follow these steps when changing the passwords associated with their iFolder usernames.

- 1 For every instance of the iFolder client where the Remember Password option is enabled, disable the Remember Password option.
  - 1a Log in to the iFolder client.
  - 1b Right-click the iFolder icon in the system tray, then click Account Information > Preferences.
  - 1c Uncheck the Remember Password check box, click Apply, then click Yes.
  - 1d Click File > Logout.
- 2 Log in to the network and change the password, following any procedures set by the network administrator.
- 3 Log in to iFolder, using the iFolder client, entering the new password instead of the old one.
- 4 If desired, re-enable the Remember Password option.
  - 4a Right-click the iFolder icon in the system tray, then click Account Information > Preferences.
  - 4b Check the Remember Password check box, click Apply, then click Yes.
  - 4c Close the iFolder account management window.

## 17.5 Configuring the Security Passphrase

If Recover Passphrase is enabled, you must set a Security Passphrase for the iFolder administrator. You use the Security Passphrase to recover an iFolder user's passphrase if the user has forgotten it. However, in order to recover a passphrase, the user must have selected Enable Passphrase Recovery (or this policy was set to Enforced) on first login to the iFolder client.

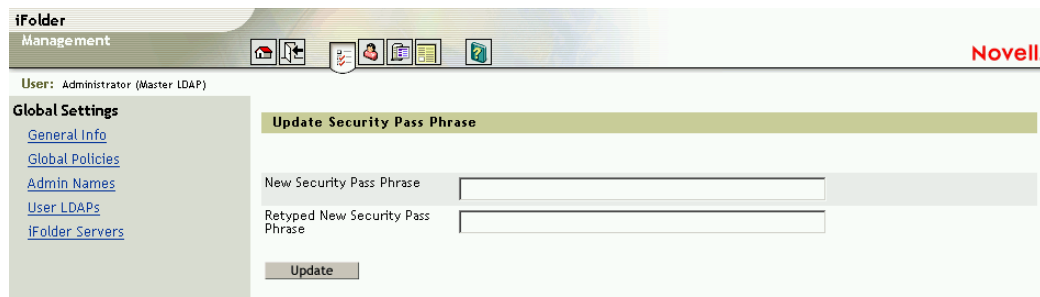
---

**WARNING:** The Security Passphrase is irrecoverable. If you forget the Security Passphrase, you will not be able to reset it or recover any iFolder user's Passphrase.

---

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).
- 2 Click Global Policies > Display Client Policies > Update Security Passphrase.
- 3 Enter a new Security Passphrase, then retype it.
- 4 Click Update.

**Figure 17-2** *Global Settings > Global Policies > Client Policies > Update Security Passphrase > Security Passphrase Settings*



To change an existing Security Passphrase:

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).
- 2 Click Global Policies > Display Client Policies > Update Security Passphrase.
- 3 Enter the current Security Passphrase.
- 4 Enter a Security Passphrase, then retype it.
- 5 Click Update.

For more information on security passphrases, see [Section 17.9, “Recovering Passphrases,” on page 161](#).

## 17.6 Searching for Users in a User LDAP Directory

The User Management task of the Novell iFolder Management Console allows you to perform a simple search or an advanced search of your user LDAP directory for users whose accounts you want to manage.

### Search

- 1 From the iFolder Management Console, click User Management, then click Search in the left navigator.
- 2 Use one of these methods to find the user account:
  - ♦ To list all the users in your system, regardless of where their accounts are located, leave the Enter Username field blank.
  - ♦ To narrow your search, type letters in the Enter Username field, then click Search. The search returns only the iFolder user accounts that begin with the letter or letters that you entered.
  - ♦ To find a known user account, type the username.
- 3 Click Search.

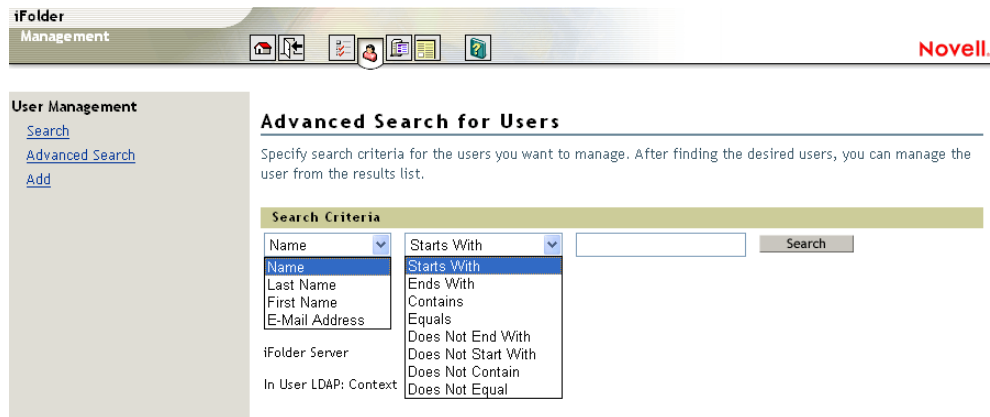
### Advanced Search

- 1 From the iFolder Management Console, click User Management, then click Advanced Search.

- Use the Advanced Search for Users, as shown in [Figure 16-12](#), to obtain a list of users whose accounts you want to manage.

**IMPORTANT:** If an Admin object resides on multiple LDAP servers, do not enable this object as an iFolder user. If you have only one LDAP server and one corresponding Admin user, you can enable this object; however, we do not recommend it.

**Figure 17-3** Search Criteria for Advanced Searches



The iFolder Management Console provides an Advanced Search feature. You can use the following search criteria to narrow your search:

| User Category Syntax                                    | Operator Syntax     |
|---------------------------------------------------------|---------------------|
| Name                                                    | Starts With         |
| Last Name                                               | Ends With           |
| First Name                                              | Contains            |
| E-mail Address                                          | Equals              |
| User Type (All Users, iFolder Users, Non-iFolder Users) | Does Not Start With |
| iFolder Server (All, select from list)                  | Does Not End With   |
| In User LDAP: Context (All, select from list)           | Does Not Contain    |
|                                                         | Does Not Equal      |

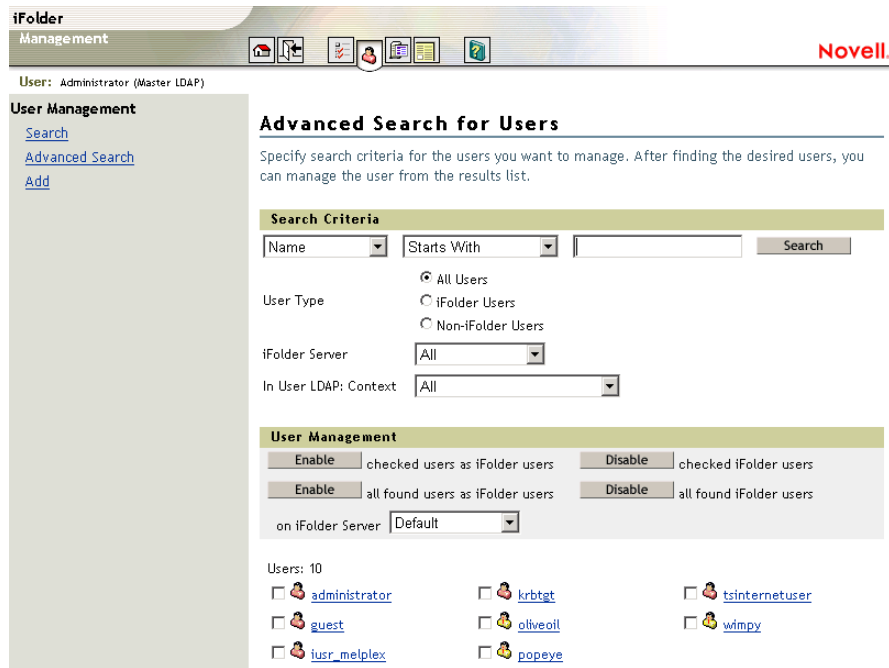
To search for multiple users whose usernames begin with different letters, type the first letter of each name separated by a semicolon. For example, if you wanted to search for all usernames that begin with the letters A through D, select Name and Starts With operators, then type the following in the user name field

a;b;c;d

- Click Search.

The search returns a list of found user accounts. Each username is hyperlinked to the user's account information.

**Figure 17-4** *User Management > Advanced Search > Search Results*



## 17.7 Viewing a User's iFolder Account Information

- 1 From the iFolder Management Console, click User Management.
- 2 Use the Search or Advanced Search feature to find the user account your want to manage. For information, see [Section 17.6, "Searching for Users in a User LDAP Directory," on page 154](#).
- 3 Click the username.

The user's iFolder account page displays the following information about the selected user's iFolder account.

### iFolder User

The username for the iFolder user. Also known as the user's common name.

### Distinguished Name

The User object attributes that uniquely identify the selected user in the LDAP directory server. For example, cn=acatt,cn=users,dc=mydomain,dc=com.

### User LDAP

The host name and DNS name or IP address of the user LDAP server that iFolder uses to authenticate the selected user. For example, iFolder\_ldap01 (ldap1.your-domain-name.com).

### **iFolder Server Name**

The host name and DNS name or IP address of the iFolder server where the user's account and iFolder data reside. For example, iFolder\_server01 (nif1.your-domain-name.com).

### **iFolder Account Path**

The path in the iFolder data directory where the specified user's data resides. For example, C8\CA3BA5B45C2BB11A098A1BD6042FF0B6. You need this location to restore a user's iFolder data from backup media or to move a user's iFolder data to another iFolder server.

In the iFolder data directory, the user accounts are separated alphabetically in to subdirectories. The account path begins with a two-digit hexadecimal directory name that represents the hashed alphanumeric character that is the first character in the username. The user account's directory is the hashed hexadecimal value of the username.

When you installed iFolder, you specified a location on the server where iFolder stores the users' iFolder data. For example, iFolder\Data\. The iFolder account path begins in the iFolder data directory, so you must prepend the account path with the iFolder data location to get the full path to the user's data. For example, iFolder\Data\C8\CA3BA5B45C2BB11A098A1BD6042FF0B6.

### **Disk Quota**

The maximum storage space in megabytes on the iFolder server that you allocated to the user's account. By default, the user's initial disk quota is 200 MB.

### **Number of Connections**

The total number of connections to the user's iFolder account that are currently active. The connections can originate from one or multiple workstations and can access the server, using different iFolder interfaces.

### **Syncs in Progress**

The total number of active uploads or downloads across the current connections for the selected user account.

### **Last Sync**

The time stamp of the last completed synchronization for the selected user account.

### **Memory in Use**

The total amount of memory currently in use by processes related to the selected user account.

### **Used Space**

The total storage space on the iFolder server currently consumed by the specified user's iFolder data.

**Upload**

The total amount of iFolder data in megabytes uploaded from the user's workstation to the iFolder server for the selected user account. This value includes all data uploaded since the account was activated.

**Download**

The total amount of iFolder data in megabytes downloaded from the iFolder server to the user's workstation for the selected user account. This value includes all data downloaded since the account was activated.

If the user has only one workstation, the Download value is usually very low, and might even be zero. However, if the user has multiple workstations, each time the user uploads data to the server from one workstation, the server downloads the data to the other workstations. Thus, an account with three workstations reports 1 MB of upload and 2 MB of download each time 1 MB is uploaded. The Download number can become quite large.

**Number of Directories**

The total number of directories (and subdirectories) in the user's iFolder directory. iFolder supports up to 32,765 directories within a user's iFolder directory. If the user exceed this number, iFolder stops writing to the local iFolder directory and data loss is likely.

**Number of Files**

The total number of files in the user's iFolder directory and subdirectories.

**Encryption Status**

Indicates whether encryption is enabled for the iFolder account. [Blowfish or No]

## Client Policy

The policies that govern how the user's client interface behaves.

**Figure 17-5** *User Management > Advanced Search > User ID*

The screenshot shows the iFolder Management console interface. At the top, it says 'iFolder Management' and 'Novell'. The user is identified as 'Administrator (Master LDAP)'. The main content area is titled 'User Management' and shows details for 'iFolder User: oliveoil'. The details include:

- Distinguished Name: cn=oliveoil,cn=users,dc=melift,dc=com
- User LDAP: iFolder\_ldap01 (melplex.melift.com)
- iFolder Server Name: iFolder\_server01 (melcpq.melift.com)
- iFolder Account Path: C8\CA3BA5B45C2BB11A098A1BD6042FF0B6
- Disk Quota: 3000 MB (with an 'Update' button)
- Disable: iFolder User (with a 'Disable' button)
- Current Status:**
  - Number of Connections: 0
  - Syncs in Progress: 0
  - Last Sync: Wed Feb 05 21:31:31 2003
  - Memory in Use: 144 Bytes
- Server Utilization:**
  - Used Space: 226 MB
  - Upload: 28633 MB
  - Download: 28295 MB
  - Number of Directories: 4
  - Number of Files: 18
- Account Settings:**
  - Encryption Status: No
  - Policy: Using client policies from Global Settings (with an 'Edit' button)
  - Remove: iFolder User Data (with a 'Remove' button)
  - Recover: iFolder User Pass Phrase (with a 'Recover' button)

## 17.8 Modifying Individual User Client Policies

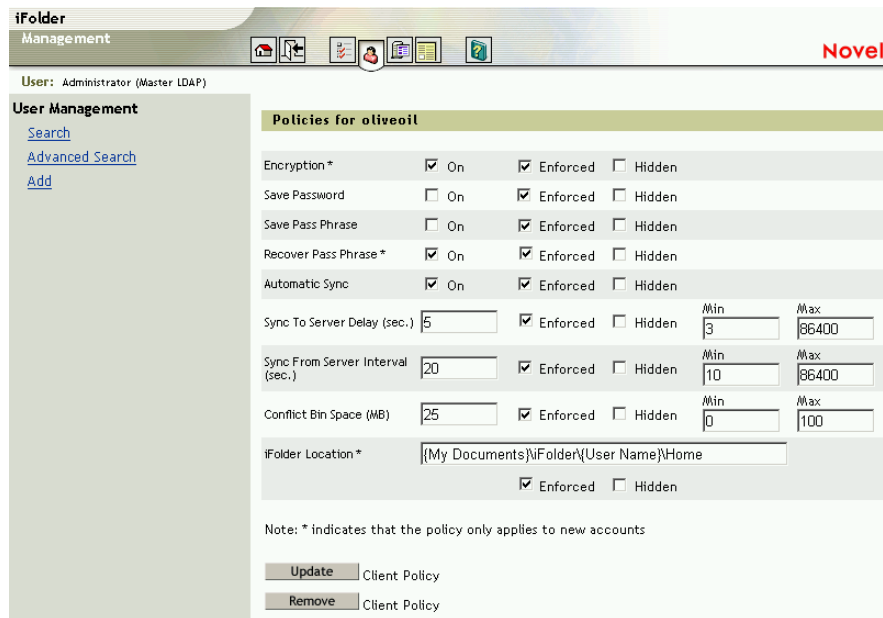
By default, global client policies apply to all iFolder user accounts. However, the iFolder administrator can modify the policy settings for a specific user from the User Management page.

To set iFolder client policies for an individual user: From the iFolder Management Console, click User Management > Advanced Search > User\_ID > Edit.

The User Policy page opens to allow you to set policies that apply to the individual.

User-specific policy settings take precedence over the global policy settings only if you enable the Enforced option. Enable Enforced only for those policies that you want to override the default.

**Figure 17-6** *User Management > Advanced Search > User ID > Edit Policy > Policies for {User ID}*



## Setting User Client Policies

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).
- 2 Use Search or Advanced Search to find the user in the LDAP directory whose iFolder account you want to manage. Click the username for the user you found in Step 2. Click Edit Client Policies to open the User Client Policies page. Modify the fields of the policies that you want to differ from the global settings. For information on how to complete each field, see [Section 17.3, “Configuring Global Client Policies,” on page 148](#). To override the corresponding global client policy, check the Enforced check box for each modified policy. Click Update Client Policy to save the changes. When the user next logs in to the account, iFolder uses the enforced global client policies and user client policies to create the appropriate default settings.

Typically, you set iFolder client policies before the first time the user logs on to the account. If the user's account already exists, you must coordinate the new settings with the user.

If you want to change the Encryption or Recover Passphrase options, you must delete the current user account, create a new account for that user, then set the user policies. The user must move data in the local iFolder directory to another folder, uninstall the iFolder client, reinstall the iFolder client, then move data back to the iFolder local directory to upload it to the iFolder server.

## Re-Setting User Client Policies to the Global Client Policies

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).



- 2 Use Search or Advanced Search to find the user in the LDAP directory whose iFolder account you want to manage. For information, see Searching the User LDAP Directory. Click the username for the user you found in Step 2. Click Edit Client Policies to open the User Client Policies page. Click Remove Client Policy. Click Update Client Policy to save the changes. When the user next logs in to the account, the iFolder client applies enforced global settings to the iFolder account.

## 17.9 Recovering Passphrases

In order for the iFolder administrator to recover a user's passphrase, either the policy must have been set to Enforced or the user must have enabled passphrase recovery the first time he or she has logged in with the iFolder client.

- 1 If you have not already done so, set up your security passphrase.  
See [Section 17.5, “Configuring the Security Passphrase,” on page 153](#).
- 2 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).
- 3 To recover a user's passphrase, go to the User Management section of the iFolder Management Console.
- 4 Search for the appropriate user, then click the username.
- 5 Scroll down to the bottom of the list, then click Recover.
- 6 Enter your security passphrase, then click OK.
- 7 When the passphrase appears, let the user know what it is.

You can view user settings by clicking the iFolder Management Console > User Management > {Search or Advanced Search} > User\_ID.

**Figure 17-7** User Management > {Search or Advanced Search} > User\_ID > Recover iFolder User Passphrase

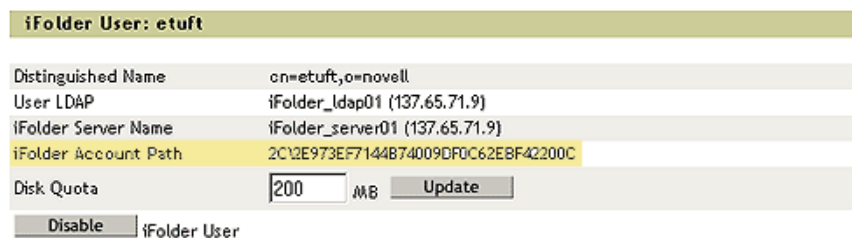


## 17.10 Restoring Deleted or Corrupted Files

If a user needs to recover data from a deleted or corrupted file, you can restore the user's folder to a secondary iFolder server. From there, the user can access the iFolder server's copy of the local files via a browser or NetDrive.

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).
- 2 Search for the user, then click the username to locate the iFolder Account Path.

**Figure 17-8** Example of the Account Path in an iFolder User Account



- 3 Restore the folder located at the iFolder Account Path from a backup tape to a secondary iFolder server that the user can attach to.
- 4 Have the iFolder user use the Java applet or NetDrive to access the secondary iFolder server.

When the user logs in, the Java applet will show the user's data and the user can download the file that was previously deleted. Using the iFolder Java applet or NetStorage or NetDrive is a good choice because they do not synchronize data; they only give access.


## 17.11 Deleting User Data on the Server

If a user forgets the password, you can delete the user data on the iFolder server and then have the user log in again. When the user logs in, iFolder prompts the user for a new password.

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see “[Logging In to the iFolder Management Console](#)” on page 134.
- 2 Click User Management in the tool bar.
- 3 Search for a specific user if you know the unique user ID; if not, find the user by doing an advanced search.
- 4 Click the username, scroll to the bottom of the page, then click Remove iFolder User Data.
- 5 Click OK to confirm the removal of the user data.

You can view user settings by clicking the iFolder Management Console > User Management > Search [or Advanced Search] > User\_ID.

**Figure 17-9** User Management > {Search or Advanced Search} > User\_ID > Remove iFolder User Data



The screenshot shows the iFolder Management Console interface. The top navigation bar includes 'iFolder Management' and the Novell logo. The user is logged in as 'Administrator (Master LDAP)'. The main content area displays the settings for the user 'oliveoil'. The settings are organized into several sections:

- iFolder User: oliveoil**
  - Distinguished Name: cn=oliveoil,cn=users,dc=melift,dc=com
  - User LDAP: iFolder\_ldap01 (melplex.melift.com)
  - iFolder Server Name: iFolder\_server01 (melcpq.melift.com)
  - iFolder Account Path: C8\CA3BA5B45C2BB11A098A1BD6042FF0B6
  - Disk Quota: 3000 MB (with an Update button)
  - Buttons: Disable iFolder User
- Current Status:**
  - Number of Connections: 0
  - Syncs in Progress: 0
  - Last Sync: Wed Feb 05 21:31:31 2003
  - Memory in Use: 144 Bytes
- Server Utilization:**
  - Used Space: 226 MB
  - Upload: 28633 MB
  - Download: 28295 MB
  - Number of Directories: 4
  - Number of Files: 18
- Account Settings:**
  - Encryption Status: No
  - Policy: Using client policies from Global Settings (with an Edit button)
  - Buttons: Remove iFolder User Data, Recover iFolder User Pass Phrase

## 17.11.1 Preventing Data Loss When Resetting User Accounts

Before you delete the user account, the user must do the following to prevent data loss during an account reset:

- 1 Copy data from the current local iFolder directory to another local directory on the user workstation, then delete the local iFolder directory.
- 2 Uninstall the iFolder client from the user workstation.
  - 2a Click Start > Settings > Control Panel > Add/Remove Programs > Change or Remove Programs.
  - 2b Select Novell iFolder client, then click Change/Remove > Yes.
- 3 Go to the iFolder Web site to download the iFolder client software.

You can get the URL from your iFolder administrator. The iFolder Web site is typically located at the following URL:

```
http://nifl.your-domain-name.com/iFolder
```

Replace *nifl.your-domain-name.com* with the actual DNS name or IP address of your iFolder server.
- 4 Follow the download and installation instructions to install the iFolder client.
- 5 If the user ID, password, or encryption passphrase have changed, enter the new values during the reinstallation of the iFolder client.
- 6 Move the user data to the newly created local iFolder directory.
- 7 Either wait for the files to synchronize automatically, or right-click the iFolder icon in the system tray, then click Sync Now.

## 17.11.2 Using the Conflict Bin

The iFolder client has a feature called the Conflict Bin. A user will rarely need to access this option; however, it is useful to understand this feature. The following scenario illustrates what the Conflict Bin is and how it works.

Suppose that Carla is one of your iFolder users. Carla has the iFolder client installed on two computers: computer A and computer B. At some point in the day, Carla disconnects both of these computers from the network and continues to work from both computers offline. While she is working, she makes a change to one of her iFolder files on computer A and then, later in the day, she makes a different change to the same file on computer B. She then reconnects computer A to the network in order to synchronize the changes to the iFolder server. Then, Carla reconnects computer B to the network to synchronize the new change.

When computer B reconnects to the network and synchronizes the change to the iFolder server, the change that Carla made on computer A would be overwritten with the change that Carla made to that same file from computer B. To prevent data loss, iFolder saves the overwritten file to the Conflict Bin. Carla can access the Conflict Bin by right-clicking the iFolder icon located in the system tray of the computer that originally contained the file that was overwritten.

---

**NOTE:** If the problem file is larger than the quota set for the Conflict Bin, the file will not be saved in the bin; it will be discarded.

---

Novell® iFolder® uses your user LDAP directory to authenticate users on the iFolder server. The User LDAP directory stores the iFolder Server Name and the Disk Quota attribute to User objects for user accounts you have enabled for iFolder services. For information on enabling users, see [“Provisioning User Objects for iFolder Services” on page 138](#).

Use multiple LDAP directories, if needed, to maintain your current organization and group management even in the event of a server failure. Regardless of how many iFolder servers in your iFolder system, you can specify up to eight User LDAP directories.

Whenever you add an LDAP server through the iFolder Management Console for user authentication, you must log in, using an admin username that has write privileges to the LDAP server or servers you plan to modify or add.

This section describes the following User LDAP management tasks:

- ◆ [Section 18.1, “Modifying User Contexts for the User LDAP Server,” on page 165](#)
- ◆ [Section 18.2, “Adding a User LDAP Server to the iFolder System,” on page 166](#)
- ◆ [Section 18.3, “Adding a User LDAP Server for a Linux-Based iFolder 2.1.2 or Later Server,” on page 166](#)
- ◆ [Section 18.4, “Replacing a User LDAP Server for the iFolder System,” on page 168](#)
- ◆ [Section 18.5, “Replacing a User LDAP Server for the Linux-Based iFolder 2.1.2 or Later Server,” on page 168](#)
- ◆ [Section 18.6, “Deleting a Single User LDAP Server from the iFolder System,” on page 168](#)
- ◆ [Section 18.7, “Deleting All User LDAP Servers from the iFolder System,” on page 169](#)
- ◆ [Section 18.8, “Using Clear Text or SSL Connections to the User LDAP Server,” on page 169](#)

For more information on how iFolder and LDAP work together, see [Chapter 2, “Understanding the Novell iFolder Architecture,” on page 23](#).

## 18.1 Modifying User Contexts for the User LDAP Server

For each iFolder server, you must specify the contexts where you want an iFolder server to search for User objects during the user authentication process.

- 1** If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).
- 2** Click Global Settings > User LDAPs.  
The User LDAPs page lists the existing LDAP servers you have identified to iFolder.
- 3** Click the LDAP server that you want to modify.
- 4** Do one of the following:
  - ◆ **Add Contexts:** Click Add. Select the context. To specify that iFolder should search the subcontainers of the context, check the Search Subcontainers check box. Click OK.

In the contexts field, list all of the contexts, separated by semicolons (;) with no spaces. The order of the contexts is the order in which the contexts will be searched. The first context that is listed should be the context that contains the Admin user.

- ♦ **Remove Contexts:** Check the Context check box next to one more contexts, then click Remove.

5 Click Update to save your changes.

If you do not click Update before moving to another location in the console or before exiting the console, your changes will be lost.

## 18.2 Adding a User LDAP Server to the iFolder System

You can specify up to eight User LDAP servers for your iFolder system. All user LDAPs must be in the same Novell eDirectory tree.

1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).

2 Click Global Settings > User LDAPs.

The User LDAPs page lists the existing LDAP servers you have identified to iFolder.

3 Click Add.

This opens the Add User LDAP page.

4 Type the following information:

- ♦ **User LDAP Name:** The LDAP server host name.
- ♦ **Host DNS or IP:** The LDAP server’s DNS name such as ldap1.your-domain-name.com or IP address such as 192.168.1.1.
- ♦ **Port:** The port to use for communications between the iFolder server and the LDAP server. For information, see [Section 18.8, “Using Clear Text or SSL Connections to the User LDAP Server,” on page 169](#)
- ♦ **Login Username:** The admin username for the LDAP server. This username must have write privileges for the LDAP server to support extending the schema and browsing contexts.
- ♦ **Context:** The context you want iFolder to search to authenticate users for the iFolder server.
- ♦ **Login Password:** The password for the Login Username.

5 Click OK, or click Cancel to abandon the process.

## 18.3 Adding a User LDAP Server for a Linux-Based iFolder 2.1.2 or Later Server

This section describes how to add a user LDAP server to your iFolder 2.1.2 server for Enterprise Linux solutions. You can specify up to eight User LDAP servers for your iFolder system. All user LDAPs must be in the same Novell eDirectory tree.

1 Copy the self-signed root certificate file (RootCert.der) from

```
/etc/opt/novell/ifolder/RootCert.der
```

to the following location

```
/opt/novell/ifolder/Server/LDAP/import/RootCert.der
```

- 2 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).

The iFolder Management Console opens to the Global Settings > General Information page, which shows the current LDAP settings for the iFolder server.

- 3 Click Global Settings > User LDAPs.

The User LDAPs page lists the existing LDAP servers you have identified to iFolder.

- 4 Click Add.

This opens the Add User LDAP page.

- 5 Type the following information:

- ♦ **User LDAP Name:** The LDAP server host name.
- ♦ **Host DNS or IP:** The LDAP server’s DNS name such as ldap1.your-domain-name.com or IP address such as 192.168.1.1.
- ♦ **Port:** The port to use for communications between the iFolder server and the LDAP server. For information, see [Section 18.8, “Using Clear Text or SSL Connections to the User LDAP Server,” on page 169](#)
- ♦ **Login Username:** The admin username for the LDAP server. This username must have write privileges for the LDAP server to support extending the schema and browsing contexts.
- ♦ **Context:** The context you want iFolder to search to authenticate users for the iFolder server.
- ♦ **Login Password:** The password for the Login Username.

- 6 Click OK, or click Cancel to abandon the process.

- 7 Add any additional search contexts for the new LDAP server, then click OK.

- 8 Exit the iFolder Management Console.

- 9 Modify the LdapHost directive in the httpd\_ifolder\_unix.conf file to point to the new LDAP server.

**9a** Open the /etc/opt/novell/ifolder/httpd\_ifolder\_unix.conf file in a text editor.

**9b** Replace the current setting of the LdapHost directive with the IP address or DNS name of the new LDAP server.

**9c** Save the file.

- 10 Restart iFolder.

**10a** To stop the iFolder server gracefully, at the server console, enter

```
/etc/init.d/novell-httpd stop
```

**10b** To start the iFolder server, at the server console, enter

```
etc/init.d/novell-httpd start
```

- 11 To verify the new User LDAP server settings, if you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password,

then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).

The iFolder Management Console opens to the Global Settings > General Information page, which shows the current LDAP settings for the iFolder server.

## 18.4 Replacing a User LDAP Server for the iFolder System

If you have multiple User LDAP server resources available to your iFolder server, you can add or delete User LDAP resources from the list, as needed, within the 1 to 8 User LDAP servers allowed. However, if you have a single User LDAP server as a resource for your iFolder server and need to replace it with a different User LDAP server, you must add the new LDAP server before you delete the existing User LDAP server from the User LDAP resources for the server.

- 1 Add the new User LDAP server to your iFolder server. For information, see [Section 18.2, “Adding a User LDAP Server to the iFolder System,” on page 166](#).
- 2 Delete the old User LDAP server from your Linux-based iFolder 2.1.2 server. For information, see [Section 18.6, “Deleting a Single User LDAP Server from the iFolder System,” on page 168](#).

## 18.5 Replacing a User LDAP Server for the Linux-Based iFolder 2.1.2 or Later Server

If you have multiple User LDAP server resources available to your iFolder server, you can add or delete User LDAP resources from the list, as needed, within the 1 to 8 User LDAP servers allowed. However, if you have a single User LDAP server as a resource for your iFolder server and need to replace it with a different User LDAP server, you must add the new LDAP server before you delete the existing User LDAP server from the User LDAP resources for the server.

To replace a User LDAP server on your Linux-based iFolder 2.1.2 server:

- 1 Add the new User LDAP server to your Linux-based iFolder 2.1.2 server. For information, see [Section 18.3, “Adding a User LDAP Server for a Linux-Based iFolder 2.1.2 or Later Server,” on page 166](#).
- 2 Delete the old User LDAP server from your Linux-based iFolder 2.1.2 server. For information, see [Section 18.6, “Deleting a Single User LDAP Server from the iFolder System,” on page 168](#).

## 18.6 Deleting a Single User LDAP Server from the iFolder System

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).
- 2 Click Global Settings > User LDAPs.  
The User LDAPs page lists the existing LDAP servers you have identified to iFolder.
- 3 Click the link for the LDAP server that you want to delete.  
This opens the management page for the individual LDAP server.



#### 4 Click Delete.

This removes the LDAP objects that are associated with the selected LDAP server from the LDAP directory. Its LDAP objects can no longer be managed through the iFolder Management Console.

## 18.7 Deleting All User LDAP Servers from the iFolder System

1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).

2 Click Global Settings > User LDAPs.

The User LDAPs page lists the existing LDAP servers you have identified to iFolder.

3 Click Delete All.

This removes the LDAP objects that are associated with all of the LDAP servers from the LDAP directory. The LDAP objects can no longer be managed through the iFolder Management Console. You must add LDAP servers to the list so that iFolder can authenticate users.

## 18.8 Using Clear Text or SSL Connections to the User LDAP Server

If you want to use LDAP without SSL encryption or if your LDAP server does not support SSL, select non-secure port. Non-secure is also a good choice if iFolder and LDAP are running on the same server. Because no communication or data is being transferred across network connections, no encryption is necessary. The default non-secure port is 389.

---

**IMPORTANT:** If you select non-secure port, the LDAP Group object must be marked to allow clear text passwords, using your LDAP server management tool.

---

Select secure port if you want to use SSL, which provides your network with encryption and security when data is transferred across network connections. SSL requires a Root Certificate.

If you select secure port, make sure you have previously copied the LDAP trusted root certificate (rootcert.der file) from your LDAP server to a directory on your iFolder server. For example, in NetWare, copy the file from LDAP server's sys:\public directory to an iFolder server's sys:\public directory. If you use secure port, you must enter the path to the directory on your iFolder server where you copied the rootcert.der file. The default secure port is 636.

When you add a secure LDAP server to your iFolder system, the root certificate is copied into an attribute of the iFolderSettings class on the Global Settings LDAP.



# Managing iFolder Servers

# 19

Use the Novell® iFolder® Management Console to change your iFolder server's IP address, DNS name, or assigned ports.

Before you can manage server policies for your Novell iFolder system, you must perform the tasks described in:

- ♦ [Section 16.2, “Configuring Your First iFolder Server,” on page 134](#)
- ♦ [Section 16.3, “Configuring iFolder on Additional Servers,” on page 143, as needed](#)

This section describes the following management tasks:

- ♦ [Section 19.1, “Adding iFolder Servers,” on page 171](#)
- ♦ [Section 19.2, “Configuring Global Server Policies,” on page 171](#)
- ♦ [Section 19.3, “Managing the User Disk Quotas for iFolder User Accounts,” on page 172](#)

## 19.1 Adding iFolder Servers

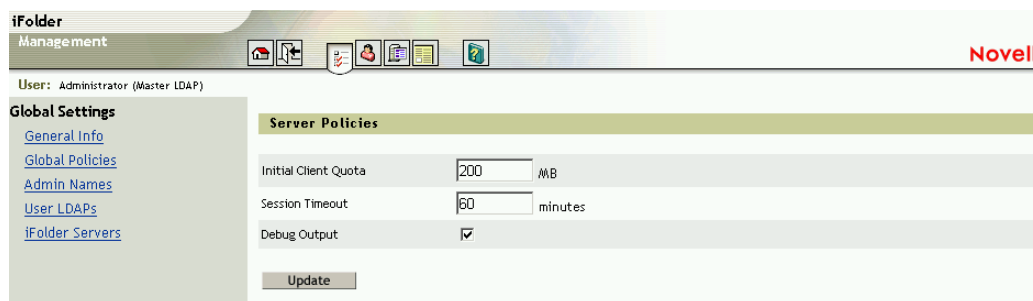
Your first iFolder server is automatically added to the iFolder Management Console for you. All additional iFolder servers must be manually added into the iFolder system in order for you to manage them. You can have an unlimited number of iFolder servers. For information on adding servers, see [Section 16.3, “Configuring iFolder on Additional Servers,” on page 143](#).

## 19.2 Configuring Global Server Policies

Server policies are rules that govern how the iFolder server behaves for users. You can regulate how much disk space will be allotted to each iFolder user or how much time will pass before a session times out.

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).
- 2 Click Global Policies, then click Display Server Policies.

**Figure 19-1** *Global Settings > Global Policies > Display Server Policies > Server Policies*



3 Complete the following information:

- ♦ **Initial Client Quota:** [Default: 200 megabytes] Specify the amount of storage space (in MB) that will be the minimum amount assigned to new iFolder user accounts. The maximum disk quota size for an iFolder account is 8 TB. Changes to this value go into effect immediately only for new iFolder accounts.
- ♦ **Session Timeout:** [Default: 60 minutes] Specify the maximum length of time (in minutes) that a session will be continued when there is no synchronization activity. If the session times out, the client must go through a reconnect step before its next synchronization. Changes to this value go into effect immediately for all iFolder users.
- ♦ **Debug Output:** [Default: Enabled (checked)] Check the check box to enable synchronization activity to be logged and available for analysis. Changes to this value go into effect immediately for all iFolder users. For instructions on viewing the log, see [Section 20.5, “Debugging Synchronization Activity on Your iFolder Server,” on page 175.](#)

4 Click Update Server Policies to enforce the changes.

## 19.3 Managing the User Disk Quotas for iFolder User Accounts

The Initial Client Quota, specified in the Global Server Policies, determines the default maximum disk space allocated to a new iFolder account. For information, see [Section 19.2, “Configuring Global Server Policies,” on page 171.](#)

As the account matures, or for select users, you might need to expand or reduce the amount of space allocated to an iFolder account. The User Disk Quota specifies the actual maximum disk space allocated to an individual iFolder account. The maximum disk quota size for an iFolder account is 8 TB.

Modifications to the User Disk Quota apply immediately to the user’s iFolder account. If you reduce the quota below the current size of the user’s iFolder data, the user is not able to upload data to the iFolder server until sufficient amount of data is deleted or moved from the iFolder account.

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134.](#)
- 2 From the iFolder Management Console, click User Management.
- 3 Use Search or Advanced Search to find the user in the LDAP directory whose iFolder account you want to manage.
- 4 Click the username for the user you found.
- 5 Specify the maximum amount of storage space in megabytes that the selected iFolder account can use on the iFolder server.
- 6 Click Update.

# Monitoring Your iFolder System

# 20

The System Monitoring task of the Novell® iFolder® Management Console lists general information about the User LDAP servers and iFolder servers in your iFolder system. It also allows you to temporarily pause and resume synchronization services for an iFolder server.

This section discusses the following:

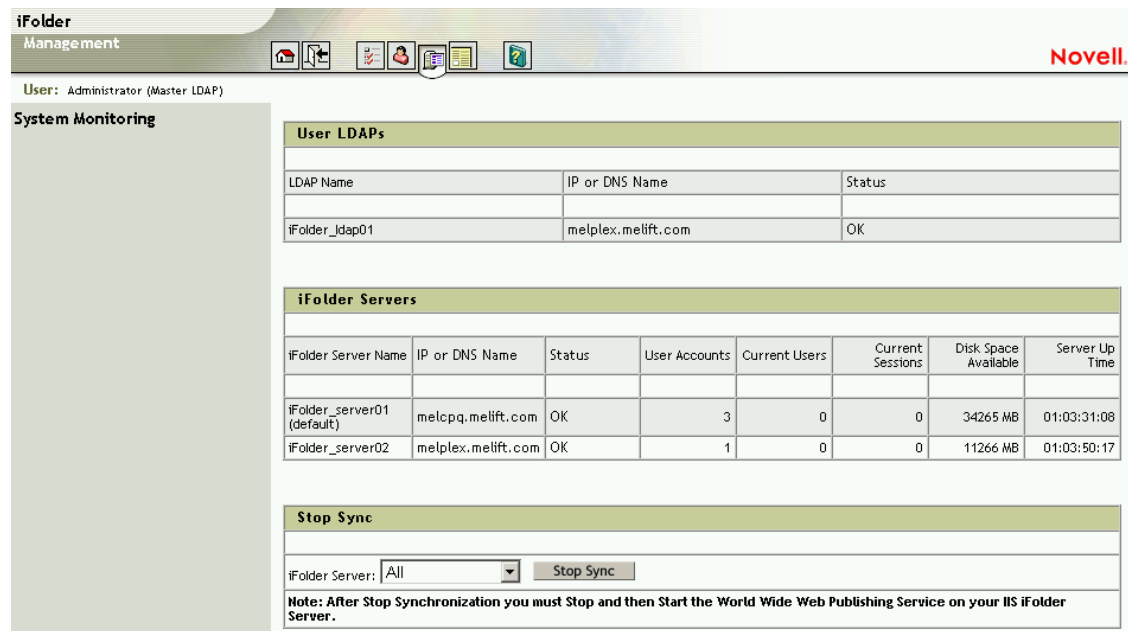
- ◆ [Section 20.1, “Accessing the iFolder System Monitoring Tool,” on page 173](#)
- ◆ [Section 20.2, “Monitoring User LDAP Server Status,” on page 174](#)
- ◆ [Section 20.3, “Monitoring iFolder Server Status,” on page 174](#)
- ◆ [Section 20.4, “Stopping Synchronization between iFolder Servers and Clients,” on page 174](#)
- ◆ [Section 20.5, “Debugging Synchronization Activity on Your iFolder Server,” on page 175](#)

## 20.1 Accessing the iFolder System Monitoring Tool

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).

- 2 Click System Monitoring  in the tool bar.

**Figure 20-1** Example of iFolder System Monitoring



**User LDAPs**

| LDAP Name      | IP or DNS Name     | Status |
|----------------|--------------------|--------|
| iFolder_ldap01 | melplex.melift.com | OK     |

**iFolder Servers**

| iFolder Server Name        | IP or DNS Name     | Status | User Accounts | Current Users | Current Sessions | Disk Space Available | Server Up Time |
|----------------------------|--------------------|--------|---------------|---------------|------------------|----------------------|----------------|
| iFolder_server01 (default) | melcpq.melift.com  | OK     | 3             | 0             | 0                | 34265 MB             | 01:03:31:08    |
| iFolder_server02           | melplex.melift.com | OK     | 1             | 0             | 0                | 11266 MB             | 01:03:50:17    |

**Stop Sync**

iFolder Server:

**Note:** After Stop Synchronization you must Stop and then Start the World Wide Web Publishing Service on your IIS iFolder Server.

## 20.2 Monitoring User LDAP Server Status

For each user LDAP server, the system reports the following:

- ♦ **LDAP Name:** The host name of the user LDAP server. For example, iFolder\_ldap01.
- ♦ **IP Address or DNS Name:** The IP address or DNS name of the user LDAP server. For example, ldap1.your-domain-name.com or 192.168.1.1.
- ♦ **Status:** The current operational status of the user LDAP server, either OK (up and running) or No (down).

## 20.3 Monitoring iFolder Server Status

For each iFolder server in your iFolder system, iFolder reports the following:


- ♦ **iFolder Server Name:** The host name of the iFolder server. For example, iFolder\_server01.
- ♦ **IP Address or DNS Name:** The IP address or DNS name of the iFolder server. For example, nif1.your-domain-name.com or 192.168.1.1.
- ♦ **Status:** The current operational status of the iFolder server, either OK (up and running) or No (down).
- ♦ **User Accounts:** The number of user accounts currently assigned to the iFolder server.
- ♦ **Current Users:** The number of users currently connected to the iFolder server.
- ♦ **Current Sessions:** The number of concurrent connections currently made between user workstations and the iFolder server. This might be more than the number of current users because a user might have multiple workstations synchronizing to a single user account.
- ♦ **Disk Space Available:** The amount of disk space that is available on the iFolder user data volume that is not currently in use.
- ♦ **Server Up Time:** The elapsed time between the last server start time and the current time, that is, the amount of time the iFolder server has been up and running.

## 20.4 Stopping Synchronization between iFolder Servers and Clients

You have the option to halt automatic synchronization between a specific iFolder server and its iFolder clients.

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).



- 2 Click System Monitoring  in the tool bar.
- 3 Select the server from the iFolder server drop-down list.
- 4 Click Stop Sync.
- 5 If you are using IIS, stop and start the Web server to put this change into effect.

Reverse this process to resume synchronization services.

## 20.5 Debugging Synchronization Activity on Your iFolder Server

You can view a log of synchronization activity on your Novell iFolder servers to help debug problems.

To enable or disable logging:

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).
- 2 From the iFolder Management Console, click Global Settings > Global Policies.
- 3 Click Display Server Policies.
- 4 Check the Debug Output check box to enable logging. Uncheck the Debug Output check box to disable logging.
- 5 Click Update Server Policies.

To view the log, use one of the following methods, depending on the server operating system and the version of iFolder you use:

- [“Using Debug Output in iFolder 2.1.x for NetWare Servers” on page 175](#)
- [Section 20.5.2, “Using Debug Output in iFolder 2.1 for Windows 2000 Servers,” on page 175](#)
- [Section 20.5.3, “Using Debug Output in iFolder 2.1 for Linux Servers,” on page 176](#)
- [Section 20.5.4, “Using Debug Output in iFolder 2.1.2 for Enterprise Linux Servers,” on page 176](#)

### 20.5.1 Using Debug Output in iFolder 2.1.x for NetWare Servers

You can view all of the synchronization activity on each NetWare server when you click Debug Output. The log information is output to the Apache screen located on each iFolder server.

### 20.5.2 Using Debug Output in iFolder 2.1 for Windows 2000 Servers

- 1 Create a logs directory at `c:\inetpub\wwwroot\iFolder\DocumentRoot`.
- 2 In the Windows Registry, go to `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\iFolderServer`, then add the following line:  

```
ifolderserverlogging
c:\inetpub\wwwroot\iFolder\DocumentRoot\logs\index.html
```
- 3 To access the log, in a Web browser, enter the DNS name or IP address of your iFolder server, followed by the directory and filename.

For example, `http://nif1.your-domain-name.com/logs/index.html`, where `nif1.your-domain-name.com` is the actual DNS name or IP address of your iFolder server.

## 20.5.3 Using Debug Output in iFolder 2.1 for Linux Servers

- 1 To set permissions for the logs directory to allow Apache to create and write a file for logging, at the server console prompt, enter the following command:

```
chmod 760 /usr/local/apache2/ifolder/DocumentRoot/logs
```

- 2 Edit the `/usr/local/apache2/iFolderServer/httpd_ifolder_unix.conf` file by adding the following directive to the end of the Virtual Hosts sections for both port 80 and port 443:

```
iFolderServerLogging "/usr/local/apache2/ifolder/DocumentRoot/logs/index.html"
```

This allows iFolder to create the `index.html` file in the `/usr/local/apache2/ifolder/DocumentRoot/logs` directory and to write the synchronization activity for the iFolder server to it.

- 3 Restart your Apache server by entering the following commands at the server console:

```
/etc/init.d/httpd stop
/etc/init.d/httpd start
```

- 4 To access the iFolder log, do one of the following:

- ♦ In your Web browser, enter the DNS name or IP address of your iFolder server, followed by the directory and filename.

For example, go to the URL `http://nifl.your-domain-name.com/logs/index.html`, where `nifl.your-domain-name.com` is the actual DNS name or IP address of your iFolder server.

- ♦ At the server console, enter

```
tail -f pathandfilename
```

For example,

```
tail -f /usr/local/apache2/ifolder/DocumentRoot/logs/index.html
```

## 20.5.4 Using Debug Output in iFolder 2.1.2 for Enterprise Linux Servers

- 1 To create and set permissions for a directory where the log file resides, at the server console prompt, enter the following commands:

```
mkdir /var/opt/novell/ifolder/DocumentRoot/logs
chmod 760 /var/opt/novell/ifolder/DocumentRoot/logs
chown novlwww /var/opt/novell/ifolder/DocumentRoot/logs
```

- 2 Edit the `/etc/opt/novell/ifolder/httpd_ifolder_unix.conf` file by adding the following directive to the end of the file:

```
iFolderServerLogging "/var/opt/novell/ifolder/DocumentRoot/logs/index.html"
```

This allows iFolder to create the `index.html` file in the `/var/opt/novell/ifolder/DocumentRoot/logs` directory and to write the synchronization activity for the iFolder server to it.

- 3 Restart your Apache server by entering the following commands at the server console:

```
/etc/init.d/novell-httpd stop
/etc/init.d/novell-httpd start
```

- 4 To access this information, do one of the following:

- ♦ In your Web browser, enter the DNS name or IP address of your iFolder server, followed by the directory and filename.



For example, go to the URL `http://nifl.your-domain-name.com/logs/index.html`, where `nifl.your-domain-name.com` is the actual DNS name or IP address of your iFolder server.

- ◆ At the server console, enter

```
tail -f pathandfilename
```

For example,

```
tail -f /var/opt/novell/ifolder/DocumentRoot/logs/index.html
```



# Generating Reports for Your iFolder System

# 21

The Reporting option in the Novell® iFolder® Management Console generates statistics about your iFolder system, iFolder servers, user LDAP servers, or iFolder user accounts, then displays the information in report format.

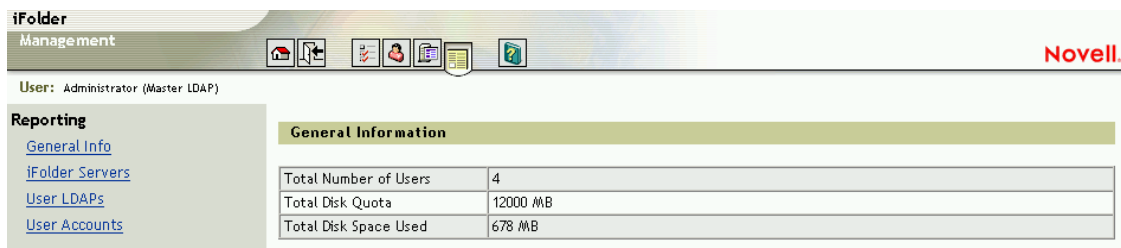
This section discusses the following topics:

- ◆ [Section 21.1, “Reporting General Information,” on page 179](#)
- ◆ [Section 21.2, “Reporting iFolder Server Information,” on page 180](#)
- ◆ [Section 21.3, “Reporting User LDAP Server Information,” on page 181](#)
- ◆ [Section 21.4, “Reporting iFolder User Account Information,” on page 181](#)
- ◆ [Section 21.5, “Creating Reports,” on page 183](#)
- ◆ [Section 21.6, “Exporting and Manipulating Reports,” on page 183](#)
- ◆ [Section 21.7, “Printing Reports,” on page 183](#)

## 21.1 Reporting General Information

The General Information report displays information about the number of users and the storage resources in use on each of the iFolder servers in your iFolder system.

**Figure 21-1** Novell iFolder General Information Report



The screenshot shows the iFolder Management Console interface. At the top, it says 'iFolder Management' and 'Novell'. Below that, it indicates the user is 'Administrator (Master LDAP)'. On the left, there is a 'Reporting' menu with options for 'General Info', 'iFolder Servers', 'User LDAPs', and 'User Accounts'. The main content area displays the 'General Information' report as a table with the following data:

| General Information   |          |
|-----------------------|----------|
| Total Number of Users | 4        |
| Total Disk Quota      | 12000 MB |
| Total Disk Space Used | 678 MB   |

The report includes the following data:

- ◆ **Total Number of Users:** The number of usernames provisioned with iFolder services that have activated a corresponding iFolder account.
- ◆ **Total Disk Quota:** The sum of all storage space on your iFolder system assigned to iFolder accounts based on all of the individual User Disk Quotas. This represents the maximum amount of space on your iFolder servers that is currently set aside for storing iFolder data. For example, 12000 MB.
- ◆ **Total Disk Space Used:** The sum of all storage space on your iFolder system currently used to store iFolder data based on the actual space consumed by all iFolder accounts. This represents the actual amount of space on your iFolder servers currently in use by all iFolder accounts. For example, 2309 MB.

## 21.2 Reporting iFolder Server Information

The iFolder Server report displays information about the operational state of your iFolder servers. You can view the information for all iFolder servers or a specified iFolder server in your iFolder system. From the Show Information about iFolder Server drop-down list, select All or select a specific iFolder server, then click Display.

**Figure 21-2** Novell iFolder Servers Report

| iFolder Server Name        | IP Address or DNS  | Server Up Time | iFolder Server Version | User Accounts | Current Users | Current Sessions | Total Disk Space Used | Total Disk Quota | iFolder Host OS | iFolder Host Web Server | User Data  | Application Root                  |
|----------------------------|--------------------|----------------|------------------------|---------------|---------------|------------------|-----------------------|------------------|-----------------|-------------------------|------------|-----------------------------------|
| iFolder_server01 (default) | melcpq.mellft.com  | 01:03:34:18    | 2.1 02/06/08           | 3             | 0             | 0                | 452 MB                | 9000 MB          | Windows 2000    | Microsoft IIS           | C:\iFolder | C:\inetpub\wwwroot\iFolder\Server |
| iFolder_server02           | melplex.mellft.com | 01:03:53:27    | 2.1 03/01/31           | 1             | 0             | 0                | 226 MB                | 3000 MB          | Windows 2000    | Microsoft IIS           | C:\iFolder | c:\inetpub\wwwroot\iFolder\Server |

The report includes the following data:

- ◆ **iFolder Server Name:** The host name of the iFolder server. For example, iFolder\_server01.
- ◆ **IP or DNS Name:** The IP address (such as 192.168.1.1) or DNS name (such as nifl.your-domain-name.com) of the specified iFolder server.
- ◆ **Server Up Time:** The elapsed time since the last server reboot.
- ◆ **iFolder Server Version:** The iFolder version running on the specified server. [Version number and release date (mm/dd/yy)]
- ◆ **User Accounts:** The total number of iFolder accounts assigned to the specified iFolder server.
- ◆ **Current Users:** The total number of users currently logged in to the specified iFolder server.
- ◆ **Current Sessions:** The total number of iFolder sessions currently active on the specified iFolder server. For example, a user might be logged in from multiple machines concurrently to create multiple sessions.

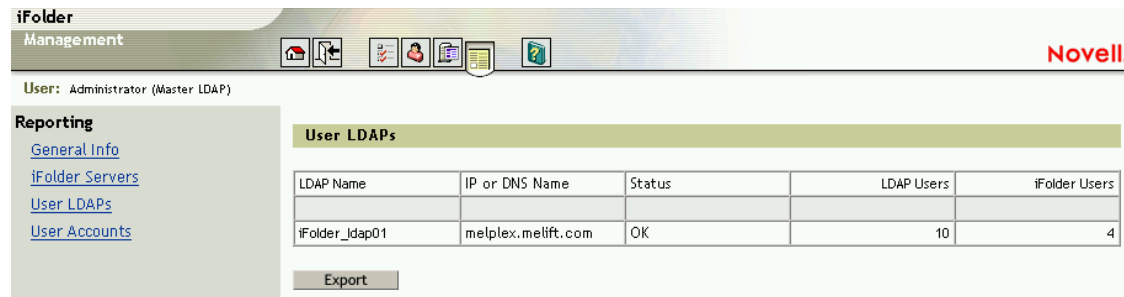
Each iFolder server can support between 5,000 and 10,000 concurrent iFolder sessions, depending on the CPU, memory, and bandwidth available on the server.

- ◆ **Total Disk Space Used:** The total amount of space currently consumed by the all users' iFolder data on the specified iFolder server. For example, 12200 MB.
- ◆ **Total Disk Quota:** The total of all user disk quotas allocated to the iFolder accounts on the specified server. For example, 100,000 MB. The maximum disk quota size for an individual iFolder account is 8 TB.
- ◆ **iFolder Host OS:** The server operating system used by the iFolder server. For example, NetWare 6.5, Red Hat Linux, or Windows 2000.
- ◆ **iFolder Host Web Server:** The Web server that iFolder uses to manage user connections and to administer iFolder. [Apache Web Server or Microsoft IIS]
- ◆ **User Data:** The path to the directory location where all iFolder data is stored on the specified iFolder server.
- ◆ **Application Root:** The path to the directory location where the iFolder application is stored on the specified iFolder server.

## 21.3 Reporting User LDAP Server Information

Your iFolder system can specify up to 8 user LDAP servers to authenticate iFolder users when they log in to the iFolder servers. Use this report to determine how many of the usernames managed by a given user LDAP server are associated with existing iFolder accounts.

**Figure 21-3** Novell iFolder User LDAP Servers Report



| LDAP Name      | IP or DNS Name     | Status | LDAP Users | iFolder Users |
|----------------|--------------------|--------|------------|---------------|
| iFolder_ldap01 | melplex.melift.com | OK     | 10         | 4             |

The report includes the following data:

- ◆ **LDAP Name:** The host name of the specified LDAP server. For example, iFolder\_ldap01.
- ◆ **IP or DNS Name:** The IP address (such as 192.168.1.1) or DNS name (such as ldap1.your-domain-name.com) of the specified LDAP server.
- ◆ **Status:** The current availability of the specified user LDAP server. [OK or No]
- ◆ **LDAP Users:** The total number of all network usernames authenticated by the specified user LDAP server.
- ◆ **iFolder Users:** The total number of iFolder user accounts authenticated by the specified user LDAP server.

## 21.4 Reporting iFolder User Account Information

The iFolder User Account report displays information about the iFolder accounts on all servers in your iFolder system or about the iFolder accounts assigned to a specific iFolder server. Use this report to view a list of users by iFolder server, statistics about the storage and bandwidth consumed by an iFolder user account, and which user accounts use encryption versus clear text for data transfers between workstations and the iFolder server and while stored on the iFolder server.

You can view the iFolder user accounts information for all iFolder servers or a specified iFolder server in your iFolder system. From the Show User Accounts on iFolder Server drop-down list, select All or select a specific iFolder server, then click Display.

**Figure 21-4** Novell iFolder User Accounts Report

| User Name | iFolder Server   | Used Space | Quota   | Last Sync            | Files | Directories | Upload   | Download | Encryption |
|-----------|------------------|------------|---------|----------------------|-------|-------------|----------|----------|------------|
| oliveoil  | iFolder_server01 | 226 MB     | 3000 MB | Feb 05 2003 21:31:31 | 18    | 4           | 28633 MB | 28295 MB | No         |
| source    | iFolder_server01 | 0 KB       | 3000 MB | Feb 05 2003 13:39:17 | 0     | 1           | 30 MB    | 29 MB    | No         |
| wimpy     | iFolder_server01 | 226 MB     | 3000 MB | Feb 05 2003 16:26:29 | 18    | 4           | 5874 MB  | 4214 MB  | Blowfish   |
| popeye    | iFolder_server02 | 226 MB     | 3000 MB | Feb 05 2003 21:58:05 | 18    | 4           | 27290 MB | 26686 MB | Blowfish   |

The report includes the following data:

- ◆ **User Name:** The user's username associated with the iFolder account. For example, acatt.
- ◆ **iFolder Server:** The host name of the iFolder server. For example, iFolder\_server01.
- ◆ **Used Space:** The total amount of space currently consumed by the user's iFolder data on the iFolder server. For example, 235 MB.
- ◆ **Quota:** The current user disk quota allocated to the iFolder account. For example, 500 MB. The maximum disk quota size for an iFolder account is 8 TB.
- ◆ **Last Sync:** The time stamp of the last synchronization of iFolder data. [MMM dd yyyy hh:mm:ss] (month, day, year, hours, minutes, and seconds)
- ◆ **Directories:** The total number of directories (including subdirectories) in the user's iFolder directory.

iFolder supports up to 32,765 directories within a user's iFolder directory. If the user exceed this number, iFolder stops writing to the local iFolder directory and data loss is likely. Typical iFolder users are unlikely to exceed this upper limit with normal use. However, you should monitor use to alert users if they are approaching this limit.

- ◆ **Upload:** The the total amount of the iFolder data uploaded from the user's workstation to the iFolder server since the account was activated.

An individual file must be smaller than 4 GB to be synchronized with iFolder. The smallest data transfer is a 4 KB block of data.

- ◆ **Download:** The the total amount of the iFolder data downloaded from the iFolder server to the user's workstation since the account was activated.


An individual file must be smaller than 4 GB to be synchronized with iFolder. The smallest data transfer is a 4 KB block of data.

- ◆ **Encryption:** Indicates whether encryption is enabled for the iFolder account. [Blowfish or No]

## 21.5 Creating Reports

- 1 If you are not logged in, go to the iFolder Management Console, click Global Settings, enter your administrator username and password, then click login. For details, see [“Logging In to the iFolder Management Console” on page 134](#).



- 2 Click Reporting  in the tool bar.
- 3 Do one of the following:
  - ♦ **General Info:** Click General Info.
  - ♦ **iFolder Servers:** Click iFolder Servers. From the Show Information about iFolder Server drop-down list, select All or select a specific iFolder server, then click Display.
  - ♦ **User LDAPs:** Click User LDAPs. Click View Report, or right-click the link for an option to save the report.
  - ♦ **User Accounts:** Click User Accounts. From the Show User Accounts on iFolder Server drop-down list, select All or select a specific iFolder server, then click Display.

## 21.6 Exporting and Manipulating Reports

- 1 Create a report. For information, see [Section 21.5, “Creating Reports,” on page 183](#).
- 2 Click Export.
- 3 Specify a name for the HTML file and a location where you want to save the file, then click Save.
- 4 Import the data into a spreadsheet application where you can create reports, graphs, and other visual presentations.

## 21.7 Printing Reports

To print the iFolder report as displayed on the Web page, use the print feature of your Web browser. For different formats, you must export the data and reorganize the data, using a spreadsheet application.





# Coexistence and Migration Issues

# 22

One of the top priorities in designing Novell® Open Enterprise Server (OES) was to ensure that new OES components, running on either NetWare® or Linux, can be introduced into an existing network environment without disrupting any of the products and services that are in place. It was also deemed important that there be a clear migration path for moving existing products or services and related data onto the OES platform.

This chapter discusses the issues involved in the coexistence and migration of the DNS server in OES. It is divided into the following sections:

- ♦ [Section 22.1, “Coexistence,” on page 185](#)
- ♦ [Section 22.2, “iFolder 2.x Migration Issues,” on page 185](#)
- ♦ [Section 22.3, “Migrating to OES NetWare and OES Linux,” on page 187](#)

For a general discussion of coexistence and migration issues in OES, see the *OES Coexistence and Migration Guide*.

## 22.1 Coexistence

This section provides information regarding the coexistence of NetWare 6.5 iFolder server with SUSE® LINUX Enterprise Server.

### 22.1.1 Compatibility

The following table summarizes the compatibility of iFolder server with various network operating systems.

|                          |                                      |
|--------------------------|--------------------------------------|
| NetWare Operating System | NetWare 6.5 (SP1 or later)           |
| Linux Operating System   | SUSE LINUX Enterprise Server 9 (SP1) |

### 22.1.2 Coexistence Issues

The following issues are seen when there are several iFolder servers running on different OS under same tree:

- ♦ Installation of iFolder 2.x server on Linux automatically creates an iFolder\_serverxx object for that server in the tree. But on installation of iFolder 2.x server on NetWare, the administrator needs to manually create the iFolder\_serverxx object for NetWare iFolder server. For manual creation of the iFolder\_serverxx object go to iFolder Management Console > Global Settings > iFolder Servers > Add. For additional details, refer to [Section 16.3, “Configuring iFolder on Additional Servers,” on page 143](#)

## 22.2 iFolder 2.x Migration Issues

This section provides information on how to migrate a previous installation of iFolder 2.x to a server running Novell® Open Enterprise Server (OES).

## 22.2.1 Migration Tools

- ◆ NetWare Migration Wizard 8.0
- ◆ Novell Server Consolidation Utility 4.0

## 22.2.2 Recommended Procedure for NetWare-to-NetWare Migrations

You can use either the NetWare Migration Wizard or the Server Consolidation Utility to migrate iFolder data from a NetWare source server to an OES NetWare destination server.

- ◆ The NetWare Migration Wizard is used when you are performing a server hardware upgrade at the same time as you migrate the data. After the migration, the new server replaces the old server and assumes its server name and IP address.
- ◆ The Server Consolidation Utility is used to copy iFolder data from an old NetWare server to an existing OES NetWare server. The old server can continue to exist and retains its server name and IP address.

Follow the instructions below for the type of migration you require.

### iFolder Migration Using NetWare Migration Wizard

- 1 Follow the steps in the [NetWare Migration Wizard 8.0 documentation \(http://www.novell.com/documentation/migwiz80\)](http://www.novell.com/documentation/migwiz80) to migrate data from NetWare 5 or NetWare 6 Support Pack 5.

The default version of iFolder with NW 6 Support Pack 5 is 1.03. Migration from iFolder 1.03 to OES Support Pack 1 is not supported. To migrate, upgrade the server to iFolder 2.x and all iFolder 1.x accounts to iFolder 2.x accounts before migration. Access the iFolder 2.x for NetWare 6 Support Pack 5 from [Novell File Downloads \(http://support.novell.com/servlet/filedownload/pub/ifolder213.exe\)](http://support.novell.com/servlet/filedownload/pub/ifolder213.exe).

In preparation for the migration, you will install a new OES NetWare server using the Pre-Migration Server pattern. This is your destination server.

- 1a As you model your migration project, drag and drop the iFolder data directory from the source server to the destination server.

The iFolder data directory is the value of the 'iFolderUserRoot' in the iFolder configuration file `sys:\apache2\iFolder\server\httpd_ifolder_nw.conf`.

You can locate the iFolder directory anywhere you like on the destination server.

In the Copy File System Data step, the dropped directories are copied to the destination server according to your migration project model.

- 1b Complete the server migration procedure as outlined in the NetWare Migration Wizard documentation.

When the migration is complete, the old server is brought down and the new OES NetWare server takes its place.

- 2 After the destination server is up and running, install iFolder on the destination server and provide the path of the migrated iFolder data directory as an install parameter for the iFolder data folder.

---

**NOTE:** For fully functional iFolder, install iManager 2.5 and NetStorage.

---

- 3 Start iFolder.

### **iFolder Migration Using the Server Consolidation Utility**

- 1 Install a new OES NetWare server as your destination server for the iFolder data.

See the *OES for NetWare Installation Guide* (<http://www.novell.com/documentation/oes/install-nw/data/hz8pck9v.html>) for server installation instructions.

- 2 Follow the instructions in the *Server Consolidation Utility 4.0 documentation* (<http://www.novell.com/documentation/servercon40>) to copy the necessary iFolder data from the source server to the destination server.

- 2a As you model your consolidation project, drag and drop the iFolder data directory from the source server to the destination server.

The iFolder data directory is the value of the 'iFolderUserRoot' in the iFolder configuration file `sys:\apache2\iFolder\server\httpd_ifolder_nw.conf`.

You can locate the iFolder directory anywhere you like on the destination server.

In the Run the Consolidation step, the dropped directories are copied to the destination server according to your consolidation project model.

- 2b Complete the server consolidation procedure as outlined in the NetWare Migration Wizard documentation.
- 3 Install iFolder on the destination server and provide the path of the migrated iFolder data directory as an install parameter for the iFolder data folder.
- 4 Modify the iFolder\_ldapxx and iFolder\_serverxx objects for the source server to contain the IP address of the destination server. Modify the iFolderLDAPDNSorIP attribute of the iFolder\_ldapxx object and the attributes iFolderServerDNSorIP and iFolderServerSecureDNSorIP of the iFolder\_serverxx object for the source server to contain the DNS or IP address of the destination server. This can be done using iManager or ConsoleOne®.
- 5 Start iFolder.

### **22.2.3 Post-Migration Issues**

After the iFolder migration, NetStorage users are prompted to enter their passphrase.

## **22.3 Migrating to OES NetWare and OES Linux**

This section details the following migration scenarios.

- ♦ [Section 22.3.1, “Migrating from NetWare to OES Linux,” on page 188](#)
- ♦ [Section 22.3.2, “Migrating from Windows 2000/ 2003 to OES NetWare or OES Linux,” on page 189](#)

This section describes how to migrate iFolder data. The migration procedure described here is *not* for migrating the eDirectory tree and iFolder eDirectory objects.

## 22.3.1 Migrating from NetWare to OES Linux

- 1 Install a new OES Linux server as the destination server for the iFolder data into the same tree as the source server.

For information on installing a new OES Linux server, refer to Installing Open Enterprise Server (OES) for Linux in the *OES for Linux Installation Guide* ([http://www.novell.com/documentation/oes/install\\_linux/data/btejmd5.html](http://www.novell.com/documentation/oes/install_linux/data/btejmd5.html)).

- 2 Install iFolder on the destination server.
- 3 Start the iFolder on the destination server, then log in to the iFolder Management Console (<https://serverip/iFolderServer/Admin>).
- 4 Make sure that the server and client policies are identical in both the servers.
  - 4a In the iFolder Management Console, go to Global Settings > Global Policies.
  - 4b Make sure that the values for Server Policies and Client Policies are identical in the destination and the source servers.
- 5 Stop the destination server.

- 6 Copy the iFolder data from the source server to the destination server.

You can either use the tools provided by Novell (such as the Server Consolidation and Migration Utility, RSync) or any other tool of your choice.

For step-by-step information on setting up RSync, refer to [Using RSYNC for NetWare Outside of Nterprise Branch Office](http://www.novell.com/coololutions/trench/470.html) (<http://www.novell.com/coololutions/trench/470.html>).

Although, Novell does not support Rsync on a non-Branch Office server, you can use it to copy all user data from the iFolderServer\_01 server to the iFolder\_New server.

- 7 Start the destination server.
- 8 Assign iFolder ownership to the data folder based on the scenario that applies to your setup.
  - 8a If migrating to OES Linux on an NSS volume, make sure that the novlifdr user owns all the files, folders, and subfolders under the iFolder data folder. Then ensure that novlifdr user has all trustee rights to the iFolder data folder and its subfolders.

For details, refer to [Configuring iFolder on an NSS Volume](#).
  - 8b If migrating to OES Linux on non NSS volume, make sure that the novlifdr user and ifdrwww group own all the files, folders, and subfolders under the iFolder data folder.
  - 8c In the iFolder data folder, make sure that all files and directories must have the read and execute permissions.

- 9 Stop the source server.

- 10 Verify the correct iFolder server name in the iFolder Server object.

- 10a In the destinations server's iFolder Management Console, go to Global Settings > iFolder Servers.

- 10b Locate and click the iFolder server object that represents the source server

- 10c If the IP address is provided in the Host DNS or IP field, change it to the IP address of the destination server IP.

However, if the DNS name of the server is provided in this field, you need not change it if you plan to change the DNS server entry to point to the destination server by this DNS name.

- 10d Click Save.

**11** (Optional) Change the DNS settings for the source server to point to the destination server.

**12** Delete the iFolder Server object which was previously pointing to the destination server.

To do this, go to iFolder Management Console > Global Settings > iFolder Servers, click the iFolder Server object, and then click delete on the next page.

## 22.3.2 Migrating from Windows 2000/ 2003 to OES NetWare or OES Linux

Before proceeding to migrate, meet the following prerequisites:

- If iFolder server on Windows uses eDirectory, then make sure that both Windows and the OES server are in the same eDirectory tree.
- Set the security passphrase from the Windows iFolder Server Admin console based on the instructions at [Section 17.5, “Configuring the Security Passphrase,” on page 153](#)

After meeting the above prerequisites, you can proceed to migrate as follows:

**1** Install a new OES NetWare or OES Linux server as your destination server for the iFolder data.

For information on installing a new NetWare server, refer to the Installing OES for NetWare in the *OES for NetWare Installation Guide* (<http://www.novell.com/documentation/oes/install-nw/data/hz8pck9v.html>).

For information on installing a new OES Linux server, refer to the Installing Open Enterprise Server (OES) for Linux section in the *OES for Linux Installation Guide* ([http://www.novell.com/documentation/oes/install\\_linux/data/front.html](http://www.novell.com/documentation/oes/install_linux/data/front.html)).

**2** Install iFolder on the destination server.

**3** (Conditional) If migrating users from Active Directory to eDirectory, then copy the iFolder keys in the iFolder\_settings from Active Directory to eDirectory.

**3a** To do this you can use the Novell Import Conversion Export Utility (ICE) based on the instructions at *Novell eDirectory 8.7.3 - Novell Import Conversion Export Utility Documentation* (<http://www.novell.com/documentation/edir873/edir873/data/a5hgmnu.html#a5hgmnu>).

- ♦ Use the following script in the command line utility of ICE:

```
ice -S LDAP -s Windows_servername_Or_IPaddress -p port -d
full_dn_for_ADS_administrator -w administrator_password
-b cn=iFolder,CN=System,DC=domain_name,DC=com -F
objectClass=iFolderSettings -m -a
iFolderKey1,iFolderKey2 -c one -D LDIF -f
ldif_filename.ldif
```

- ♦ Open the ldif\_filename.ldif and change the “dn” which holds the DN of iFolder settings object in ADS to DN of iFolder\_Settings object of your destination eDir tree. For example,
- ♦ dn: CN=iFolder\_Settings,o=novell.Find all add: in the file (by default, there will be two of those) and replace with replace:
- ♦ Save and close the ldif\_filename.ldif file and then run the following command:  

```
ice -S LDIF -f server1.ldif -D LDAP -s eDirectory_server_name_or_IP -p port -d
eDirectory_admin_dn -w admin_password
```

- 3b** Open the object in ConsoleOne or iManager and set the Admin field with the same name that you entered during installation.
- 4** (Conditional) If you are migrating the iFolder Windows server which was originally installed on eDirectory tree to OES, then keeping the same tree, delete the iFolder\_ServerAgent object from the tree.
- 5** Start the iFolder server in the destination server, then log in to the iFolder Management Console (<https://serverip/iFolderServer/Admin>).
- 6** (Conditional) If you are migrating the iFolder Windows server which was originally installed on the same eDirectory tree to OES, then update each of the LDAP server associated to this iFolder Server.
- To do this click the Global Settings icon > go to User LDAPs. In the User Ldaps page, click each of the LDAP servers listed there and then click Update.
- 7** Make sure that the server and client policies are identical in both the servers.
- 7a** In the Global Settings section, click Global Policies.
- 7b** Make sure that the values for Server Policies and Client Policies are identical in the destination and source servers.
- 7c** Make sure that the security passphrase is set in your Source (Windows) iFolder server. The same security pass phrase need to be set in destination server.
- 8** Stop the destination server.
- 9** Copy the iFolder data from source server to the destination server.
- Copy the data to the location set for the iFolder data directory while installing iFolder on the destination server.
- To do this, you can use the tools provided by Novell such as Server Consolidation and Migration Utility and RSync.
- For step-by-step information on setting up RSync, refer to [Using RSYNC for NetWare Outside of Nterprise Branch Office](http://www.novell.com/coolsolutions/trench/470.html) (<http://www.novell.com/coolsolutions/trench/470.html>).
- Although, Novell does not support RSync on a non-Branch Office server, you can use this method to copy all user data from the iFolderServer\_01 server to the iFolder\_New server.
- 10** Start the destination server.
- 11** (Conditional) If you are migrating to OES Linux, then complete the migration based on the scenario that applies to your setup.
- 11a** If migrating to OES Linux on an NSS volume, make sure that novlifdr user owns all the files, folders, and subfolders under the iFolder data folder. Then ensure that novlifdr user has all trustee rights to iFolder data folder and its subfolders.
- For details, refer to [Configuring iFolder on an NSS Volume](#).
- 11b** If migrating to OES Linux on a non-NSS volume, make sure that novlifdr user and ifdrwww group own all the files, folders, and subfolders under iFolder data folder.
- 11c** In the iFolder data folder, make sure that all files and directories must have the read and execute permissions.
- 12** (Conditional) If migrating users from Active Directory to eDirectory, then in the iFolder Management Console of the destination server, click Advance Search on the User tabbed page to search for all users in the tree. Check all the users in the list that you migrated from the source server, then click Enable-Checked users as iFolder Users.

- 13** Stop the source server.
- 14** (Conditional) If your user were already in eDirectory and you are going to use the same tree, then do the following:
  - 14a** In the destination server's iFolder Management Console, > Global Settings section, click iFolder Servers.
  - 14b** Locate and click the iFolder server object that represents the source server.
  - 14c** If the IP address is provided in the Host DNS or IP field, change it to the IP address of the destination server IP.

However, if the DNS name of the server is provided in this field, you need not change it if you plan to change the DNS server entry to point to the destination server by this DNS name.
  - 14d** Click Save.
- 15** Delete the iFolder Server object which was previously pointing to the destination server.

To do this, go to iFolder Management Console > Global Settings > iFolder Servers, click the iFolder Server object, and then click delete on the next page.





# In-Depth Look at Authentication, Encryption, and Synchronization

# A

This section gives you an in depth view of how Novell® iFolder® 2.1 authentication, encryption, and synchronization work. For an overview, see [Chapter 2, “Understanding the Novell iFolder Architecture,” on page 23](#).

After the iFolder software is installed and configured, users can download and install the iFolder client. For installation instructions, see the [Novell iFolder Quick Start](#).

Before a user can use iFolder on the local workstation, you must enable the user's User object in the iFolder Management Console. You can control who is authorized to have an iFolder account by enabling User objects or, in other words, by giving those users authority to create and use iFolder accounts.

iFolder accounts are initialized the first time a provisioned user logs in to the iFolder server, using the iFolder client, the iFolder Web site Login (Java applet or NetStorage), or NetDrive. After a user account is initialized, the iFolder administrator manages it through the iFolder Management Console.

As users begin to populate their iFolder directories with data, the iFolder client supports automatic synchronization. Users can install the iFolder client on multiple workstations, which allows them to move between computers and locations easily, knowing their data is always secure, backed up on the network, and following them in its electronic footsteps so that the latest copy of their data is available from any location and at any time.

## A.1 Authentication and Encryption

The iFolder client talks to the iFolder server over HTTP port 80, which is a clear text, unencrypted port. Data requests that are exchanged between the iFolder client and iFolder server are never encrypted. However, the username and password are always encrypted. Novell iFolder encrypts the data over the connection and while the file is on the iFolder server only if the user selects the encryption option at the time the account is initialized or if the iFolder administrator enforces the encryption option from the iFolder Management Console.

iFolder uses RSA encryption to encrypt the username and password and Blowfish encryption to encrypt the user data when it travels between the iFolder client and server. If data encryption is enabled, the data is actually encrypted as it travels across the wire to the iFolder server and is stored in its encrypted state on the iFolder server. However, the data is never stored encrypted on the local workstation.

When a user logs in, the iFolder client authenticates to the iFolder server by sending the encrypted username and password to the iFolder server. The iFolder server uses the user ID and password to perform an LDAP bind to an LDAP server. After the LDAP bind is successful, LDAP verifies that the user is connected to the correct iFolder server. If the user is on a different server, the request is directed to the correct server. iFolder uses the LDAP server to store its configuration settings and to specify what iFolder server the user is assigned to; this is how iFolder handles redirection.

When iFolder is installed and the Admin logs in to the iFolder Management Console, the Global Settings LDAP schema is extended and the following LDAP objects are added:

- ◆ iFolderLDAP
- ◆ iFolderServer
- ◆ iFolderServerAgentObject
- ◆ iFolderSettings

For more information on the attributes associated with these objects, see [“Logging In to the iFolder Management Console” on page 134](#).

## A.2 Synchronization

After the initial login via the iFolder client, a user can begin to add files to the local iFolder directory, and automatic synchronization begins. The iFolder client is always aware of any local activity and, based on the synchronization preferences chosen by you or the user, the iFolder client regularly asks the iFolder server for a download of any new data. After the iFolder server downloads the data, it uploads any updates from the iFolder local directory. When the user accesses the iFolder account from a different computer, the iFolder server first downloads any updates before uploading the iFolder client changes.

Every time the iFolder client logs in to the iFolder server, it compares filemaps (metadata that describes information about the actual file in your local iFolder) and dirmaps (metadata information on your local iFolder directory) between itself and the iFolder server. Filemaps and dirmaps are located on the local workstation at `c:\program files\novell\iFolder\username\home`. If discrepancies are found between the filemaps and dirmaps, the iFolder client first downloads the new files from the server and then uploads any new local files. When files are uploaded or downloaded between the iFolder server or client, only the changes, not the whole file, are sent on a 4 KB block level across the wire. This results in fast download and uploads times, even at slower modem speeds.

---

**IMPORTANT:** There are some applications that rewrite the complete file regardless of how minor the change. Microsoft Word, for example, behaves like this. Thus, if the application that you are using completely rewrites the file, iFolder will recognize it as 100% new content and synchronize the whole file.

---

The iFolder server then receives these new files and adds them to its sync index, which lists the current state of the file system. The iFolder sync index is very small, consisting of only four bytes.

Whenever the sync indexes match between the iFolder server and the client, iFolder knows that no changes have been made. When that same user logs in from another workstation, the iFolder client compares its sync index to the iFolder server's sync index and then downloads any changes. All along, the iFolder client is monitoring the file system and caching any changes. If there is a conflict between files, iFolder uses time stamps to resolve it. The newest time stamp wins and the old file is placed in the Conflict Bin, accessed through the iFolder system tray menu on the local workstation. For more information about the Conflict Bin, see [“Using the Conflict Bin” on page 164](#).

# Upgrading from iFolder Standard Edition to iFolder 2.1

# B

The Novell® iFolder® 2.1 server installation supports upgrading from Novell iFolder Standard Edition (1.x) in the install program for all operating systems that have valid upgrade paths. For information about valid upgrade paths, see [Section 3.3, “Upgrade Scenarios for iFolder,” on page 31](#).

---

**IMPORTANT:** You might need to follow a manual upgrade process if you have a large number of users who have extended characters in their passphrases. You must also follow special precautions if you decide to concurrently use both iFolder 1.x and iFolder 2.1 systems.

---

This section discusses the following:

- ♦ [Section B.1, “Conflict in the Passphrase Storage Method between iFolder 1.x and iFolder 2.1,” on page 195](#)
- ♦ [Section B.2, “Upgrading Manually from iFolder 1.x to iFolder 2.1,” on page 196](#)
- ♦ [Section B.3, “Compatibility Issues between iFolder Client and Server Versions,” on page 197](#)

## B.1 Conflict in the Passphrase Storage Method between iFolder 1.x and iFolder 2.1

If you have a large number of users who have extended characters in their passphrases, do not use the automatic uninstall function in the iFolder server installation program. Instead, manually uninstall the iFolder 1.x from your system and install the iFolder 2.1 version.

In a direct upgrade, the iFolder 2.1 client will not recognize the passphrase used by the iFolder 1.x client because the two clients use different formats for storing the encryption passphrase. The iFolder 1.x client uses an ANSI hash and the iFolder 2.1 client uses a Unicode\* format. Whenever a user attempts to access an iFolder account through the Java applet, the login will fail and return a message prompting the user to contact the iFolder administrator to change the passphrase.

To avoid this problem, first uninstall iFolder 1.x and remove the user accounts from your existing iFolder server. Then, install iFolder 2.1 on your server.

After installing and configuring the iFolder 2.1 server, the users must install the iFolder 2.1 client on their workstations and log in to the iFolder server. The initial iFolder client login will prompt the users to enter a new passphrase. They can enter the old passphrase if they want to, because iFolder doesn't need a new passphrase; it simply needs to store the passphrase in a format that it can recognize.

By manually uninstalling iFolder 1.x and installing iFolder 2.1, you avoid the time-consuming task of manually removing each user account as the users report that they cannot log in.

## B.2 Upgrading Manually from iFolder 1.x to iFolder 2.1

- 1 Stop the iFolder service or the Web server service on the server that you are going to upgrade.
- 2 Uninstall iFolder Standard Edition on the server that you want to upgrade.
- 3 Install iFolder 2.1, using one of the following methods.
  - ♦ **NetWare:** Follow the instructions in [Chapter 4, “Installing iFolder 2.1 on NetWare,”](#) on page 41.
  - ♦ **Windows 2000:** Follow the instructions in [Section 5.2, “Installing iFolder on Windows/IIS/eDirectory,”](#) on page 47.
  - ♦ **Red Hat Linux 8:** Follow the instructions in [“Installing iFolder 2.1 on Red Hat Linux 8”](#) on page 57.
- 4 If LDAP is running on the same server that holds your User objects, no additional LDAP configuration is required, and you can skip to [Step 5 on page 196](#).

However, if your LDAP server does *not* contain your User objects, do either of the following:

- ♦ In the iFolder Management Console, add your user contexts to your settings for the User LDAP directory.  
To do this, log in to the Global Settings section of the iFolder Management Console, click User LDAPs, click the server name you are upgrading, enter the context of your User objects, then click Update.
- ♦ Add the LDAP directory that contains your User objects in the iFolder Management Console.  
To do this, log in to the Global Settings section of the iFolder Management Console, then click User LDAPs.

For instructions, see [“Managing User LDAP Servers”](#) on page 165.

- 5 In the iFolder Management Console, click Global Settings > iFolder Servers.
- 6 Select the server you just upgraded to iFolder 2.1.
- 7 Click Upgrade.  
This will assign the iFolder attribute to the iFolder users on the server that you just upgraded. This attribute authorizes your iFolder users to access the upgraded iFolder server.
- 8 After installing iFolder 2.1 server, have the users install the iFolder 2.1 client on their workstations and log in to the iFolder server. The initial iFolder client login will prompt the users to enter a new passphrase. They can enter the old passphrase if they want to, because iFolder doesn't need a new passphrase; it simply needs to store the passphrase in a format that it can recognize.

For additional information:

- ♦ **Installing iFolder on Additional Servers:** See [Section 16.3, “Configuring iFolder on Additional Servers,”](#) on page 143.
- ♦ **Managing iFolder:** See [Section 16.1, “Accessing iFolder Web Interfaces,”](#) on page 129.

## **B.3 Compatibility Issues between iFolder Client and Server Versions**

The iFolder 2.1 client cannot access an iFolder 1.x server; similarly, an iFolder 1.x client cannot access an iFolder 2.1 server. If you have multiple iFolder versions available in your environment, make sure your users have the right client software for accounts located on different servers. Make sure the users understand that they must access the iFolder server with the correct version of the iFolder client. For example, use the iFolder 2.1 client to access files on an iFolder 2.1 server.



# Configuring iFolder on Novell Cluster Services

# C

This section discusses how to configure Novell® iFolder® 2.1 on Novell Cluster Services™. It discusses the following topics:

- ♦ [Section C.1, “Minimum System Requirements,” on page 199](#)
- ♦ [Section C.3, “Configuring an iFolder Server Cluster on NetWare 5.1 and 6.0,” on page 201](#)
- ♦ [Section C.4, “Configuring an iFolder Server Cluster on NetWare 6.5 and Later,” on page 203](#)
- ♦ [Section C.5, “Configuring iFolder Server Cluster on OES Linux,” on page 208](#)

## C.1 Minimum System Requirements

- Novell Cluster Services is installed and set up
- Configure at least one LDAP server before you install Novell iFolder. The LDAP server must be in the same local tree as the iFolder server. For details on doing this, refer [“Considerations for the LDAP Server Solution” on page 200](#).

For more information on understanding, setting up NCS, consult the following references:

- ♦ **NetWare 5.1:** *Novell Cluster Services Overview and Installation Guide for NetWare 5.1* (<http://www.novell.com/documentation/lg/ncs>)
- ♦ **NetWare 6:** *Novell Cluster Services Overview and Installation Guide for NetWare 6.0* (<http://www.novell.com/documentation/lg/ncs6p/index.html>)
- ♦ **NetWare 6.5 or OES NetWare:** *Novell Cluster Services 1.7 Administration Guide*
- ♦ **OES Linux:** For step-by-step information on setting up Novell Cluster Services, refer to Installation and Setup in the *OES Novell Cluster Services 1.8 Administration Guide for Linux* ([http://www.novell.com/documentation/oes/cluster\\_admin\\_lx/data/h4hgu4hs.html#bktitle](http://www.novell.com/documentation/oes/cluster_admin_lx/data/h4hgu4hs.html#bktitle))

## C.2 Preparing to Configure Your iFolder Server Cluster

### Considerations for the Number of Nodes in the Cluster

Novell Cluster Services alone does not provide load-balancing services between nodes in the cluster. Load-balancing cluster solutions require cluster-aware applications or additional external hardware. Because Novell iFolder 2.1 is not a cluster-aware application, a load-balancing solution based on NetWare and the server hardware alone is not possible. Only one server in the cluster operates at any given time.

An active/passive, two-node cluster is the basic fault-tolerant, high-availability solution. You can add multiple passive (standby) servers, if desired, for increased availability. In an active/passive cluster configuration, one server is active and any other nodes serve as a standby servers. If the active server goes down, the Novell Cluster Services software handles the graceful failover to the next available server in the cluster.

The failover is transparent to users logged in to iFolder server accounts from the iFolder clients. Users logged in to the iFolder server via a Web browser might need to click Refresh to reactivate the link to the server.

### **Considerations for Storage Media in the Shared-Disk System**

A Novell Cluster Services solution requires a storage-area-network (SAN) configuration to support the sharing of devices between multiple member nodes of the cluster. It is also possible to configure a two-node cluster, using two servers connected to a single external storage array, but this solution does not offer the same type of connection fault tolerance as a SAN.

In a shared-disk cluster, a single disk error can cause a volume failure if fault-tolerant measures are not used. Novell Cluster Services does not protect against disk and connection faults.

To add fault tolerance against a single disk failure to the shared-disk system, you can set up the devices you plan to use in the cluster as software RAID 1 (mirrored) devices or as software RAID 5 (striping with parity) devices. Make the software RAID devices sharable for clustering, then assign them as devices in the cluster-enabled pool. For information, see “[Using Software RAID Devices to Enhance Data Fault Tolerance and Performance](#)” in the *Novell Storage Services Administration Guide for NetWare 6.5*.

To add fault tolerance against a connection failure, NetWare supports multipath I/O to your storage devices. You can specify which path to use as the primary path between the server and the device for each member server, then specify the failover priority for other paths. For information, see “[Managing Multiple Connection Paths to Devices \(NetWare\)](#)” in the *Novell Storage Services Administration Guide for NetWare 6.5*.

### **Considerations for Apache Instances**

In Novell iFolder 2.1 and later, iFolder runs as a module on Apache. Any failure of the module causes the Apache instance to fail. This means that if you run multiple applications in a single instance of Apache, all the applications fail if one application module fails.

If you plan to run other applications that use Apache on a clustered server, we recommend that you install Novell iFolder first in its own instance of Apache. For information on setting up additional instances of Apache on a server, consult the [Apache Web site \(http://www.apache.org\)](http://www.apache.org).

### **Considerations for the LDAP Server Solution**

As discussed in [Chapter 3, “Preparing to Install iFolder 2.1,” on page 27](#), you must install and configure at least one LDAP server before you install Novell iFolder. The LDAP server must be in the same local tree as the iFolder server. Although you can point iFolder to the master LDAP server or a replica, we recommend you point to the master LDAP server.

During the installation of iFolder on the primary server, you identify the primary LDAP server that the iFolder cluster uses. You specify the LDAP server's address during the iFolder installation. If you change the LDAP server address later, you must change it in the iFolder configuration. After the cluster configuration is complete, you can add additional LDAP servers to the list to ensure fault tolerance. For information, see “[Managing User LDAP Servers](#)” on [page 165](#).

The LDAP service must always be available to iFolder in the event of failover. Typically, the LDAP server can be the same server as the iFolder server. However, in a clustered iFolder configuration, the LDAP server should not reside on any of the member nodes in the cluster. For example, if you put the LDAP server on the primary server and that server failed over, then the LDAP services



would no longer be available to a standby server that becomes active. To ensure that the LDAP service is available to any of the nodes that might become active, put your LDAP service on a server other than the servers in the cluster, then point iFolder to it.

If you decide to place an LDAP server replica on every member node, the primary iFolder server must be the one that the install points to as the LDAP server. After the cluster install, you need to perform the following steps:

- 1 With the designated primary server active, use the iFolder Management Console to set up the additional replicas as alternatives to be used in the event of server failover:
  - ♦ To add an iFolder LDAP object for each LDAP replica, refer to [Section 18.2, “Adding a User LDAP Server to the iFolder System,” on page 166](#)
- 2 Edit the iFolder apache conf file and replace LdapHost IP address with LdapHost 127.0.0.1 (This will point to localhost in case of cluster failover).
- 3 Restart the iFolder server.

## C.3 Configuring an iFolder Server Cluster on NetWare 5.1 and 6.0

In NetWare 5.1 and 6.0, the iFolder 2.1 server software resides and runs on the primary server. Each server node must have its own copy of the software.

To configure Novell iFolder on Novell Cluster Services:

- 1 Install iFolder on all NetWare servers in the cluster that you want to run iFolder.  
See [Chapter 4, “Installing iFolder 2.1 on NetWare,” on page 41](#).
- 2 Stop the iFolder service on one of your iFolder servers in the cluster.  
This will be your passive-standby iFolder server that iFolder will fail over to.
- 3 Create an NSS volume to use as the central repository of iFolder user accounts and data.  
The size of this volume will vary, based on the number of iFolder users you plan to support and the storage quota allocated per user.  
Do one of the following:
  - ♦ **NetWare 5.1 Support Pack 5:** Create a Novell Storage Service (NSS) volume on your shared storage disk system, commonly referred to as a storage area network or SAN.
  - ♦ **NetWare 6 or later:** Create an NSS volume on a pool. If a pool already exists, make sure there is enough space on the pool for the NSS volume that you plan to make.
- 4 Enable the NSS volume for clustering by assigning an IP address or DNS name to the cluster-enabled volume.  
Do one of the following:
  - ♦ **NetWare 5.1 Support Pack 5:** Enable clustering on the NSS volume that you created in [Step 3 on page 201](#).
  - ♦ **NetWare 6.0 or later:** Enable clustering on the pool you created in [Step 3 on page 201](#). (Enabling clustering on the pool automatically enables clustering on its NSS volume.)Remember the IP address of the user-database volume; you will need it in [Step 6 on page 202](#).
- 5 Create a directory on the cluster-enabled volume where you want to store the iFolder user database.

- 6 On one of the active iFolder servers in the cluster, edit the `sys:\apache\ifolder\server\httpd_additions_nw.conf` file to set parameters for the LDAP Host, iFolderServerRoot, and Virtual Host. The parameters must be modified in the listings for the unsecured port (usually Port 80) and for the secured port (usually Port 443).

Modify the following parameters:

- ♦ **LDAP Host:** Set this (for Port 80 and Port 443) to the DNS name or IP address (such as `ldap1.your-domain-name.com` or `192.168.1.1`) that you assigned to the cluster-enabled volume in [Step 4 on page 201](#).
- ♦ **iFolderServerRoot:** Set this (for Port 80 and Port 443) to the directory that you created on the cluster-enabled volume in [Step 5 on page 201](#).  
For example, if your cluster-enabled volume was called `sharedvol` and you had created a folder on that volume called `nifdir`, you would set the iFolderServerRoot to `sharedvol:\nifdir`.
- ♦ **Virtual Host:** Set this (for Port 80 and Port 443) to the DNS name or IP address (such as `lnif1.your-domain-name.com` or `192.168.1.1`) that you assigned to the cluster-enabled volume in [Step 4 on page 201](#).

When you are finished, save your edits.

- 7 Copy the edited `httpd_additions_nw.conf` file to the passive-standby iFolder server that you set up in [Step 2 on page 201](#).
- 8 On a different active iFolder server in the cluster, edit the `sys:\apache\ifolder\server\httpd.conf` file to set parameters for the Listen, ServerName, and SecureListen.

Modify the following parameters:

- ♦ **Listen:** Set this parameter to the IP address or DNS name of the cluster-enabled volume by either adding a new Listen parameter or modifying an existing one.
- ♦ **ServerName:** By default, this parameter displays the IP address of the server. Replace this IP address with the IP address or DNS name of the cluster-enabled volume.
- ♦ **SecureListen:** Change the IP address in the SecureListen *ipaddress* SSL CertificateIP parameter to the IP address or DNS name of the cluster-enabled volume.

When you are finished, save your edits.

- 9 Copy the edited `httpd.conf` file to the passive-standby iFolder server that you set up in [Step 2 on page 201](#).
- 10 Turn off the automatic start on reboot of iFolder on the member servers in the cluster by editing the `autoexec.ncf` file on the following iFolder servers in the cluster:
  - ♦ The iFolder server that you chose to be the passive standby server in [Step 2 on page 201](#).
  - ♦ The iFolder server where you modified the `httpd_additions_nw.conf` file in [Step 7 on page 202](#).
  - ♦ The iFolder server where you modified the `httpd.conf` file.

To modify the `autoexec.ncf` file, comment out the `startifolder` line. Adding a pound sign (#) in front of the line makes it a comment line. For example,

```
#startifolder
```

The `startifolder` command allows iFolder to start by default when you reboot your server. However, when you use iFolder in a clustered environment, iFolder is started by Novell Cluster Services.

- 11 Verify that the IP address for your cluster volume resource is correct.

To view the IP address from your workstation, launch ConsoleOne<sup>®</sup>, browse to your cluster container object, right-click the cluster volume resource, then click Properties > IP address.

**12** Set up Novell Cluster Services to start iFolder by default on reboot of the cluster.

**12a** In the Properties dialog box, click Scripts > Cluster Resource Load Script.

**12b** Add the following command to the end of the existing load script:

```
startifolder
```

**12c** Click Apply.

**13** Set up Novell Cluster Services to stop iFolder services by default on the server down command.

**13a** In the Properties dialog box, click Scripts > Cluster Resource Unload Script.

**13b** Add the following commands to the beginning of the existing unload script:

```
stopifolder
delay 2
```

**13c** Click Apply, then click Close.

Novell iFolder is now configured for Novell Cluster Services.

## C.4 Configuring an iFolder Server Cluster on NetWare 6.5 and Later

In a NetWare 6.5 cluster, the Novell iFolder server software resides and runs on an external storage location shared by all server nodes in the cluster. You only need to install iFolder on the first server. Copy the software directory and user data directory to the shared location, then update the iFolder 2.1 configuration to support its new location.

Install NetWare with Apache on each of the other servers in the cluster, using the Basic pattern install option. After you install iFolder on the first server, copy the Web server instance of Apache that supports iFolder to the shared location, leaving the admin server instance behind. Update files on each member server to point to the Web server instance of Apache for iFolder support.

This solution assumes that any other Web-based applications for this cluster will also reside in the cluster's shared volume and in the same instance of Apache. By default, the iFolder and Basic installations do not allow the POSIX Semantic Agent (PSA) module (psa.nss) to load because PSA causes problems for iFolder.

---

**IMPORTANT:** You must make sure that any other Web-based applications you want to install on the cluster do not load or need the PSA module.

---

Non-Web-enabled applications can be installed on servers in the cluster. If you cluster the non-Web-enabled applications, they must share the same shared volume that you defined for the cluster. However, if they are not clustered, they do not need to use the shared volume.

### C.4.1 Configuring Your iFolder Cluster Solution

To configure Novell iFolder 2.1 on Novell Cluster Services for NetWare 6.5 and later:

- 1** On your Domain Name Service (DNS) server, create a Type A Host Resource record with a hostname that you want to assign to your virtual iFolder server. The IP address you associate

with this hostname is the IP address that you want to assign to the virtual server that represents the cluster's shared pool.

For example, you could associate *nif.your-company-name.com* as the DNS hostname of the virtual iFolder server with *192.168.1.1* as the IP address of the virtual server that represents the cluster's shared pool. Replace *nif.your-company-name.com* with the actual DNS hostname and *192.168.1.1* with the actual IP address for your implementation.

- 2 Using the Novell iFolder 2.1 pattern install for NetWare 6.5, install iFolder on the server that you want to be the primary server in the cluster.

For instructions, see [Chapter 4, "Installing iFolder 2.1 on NetWare," on page 41](#).

In [Step 8 on page 43](#), remember to use the iFolder server's DNS hostname that you assigned to the iFolder server in [Step 1 on page 203](#). This allows the installation software to write the iFolder DNS hostname to the following locations:

- ◆ The `sys:\apache2\ifolder\server\httpd_ifolder_nw.conf` file
- ◆ The Novell iFolder client login window
- ◆ The Java applet for Web-based access to iFolder user accounts
- ◆ The PDA HTML for Web-based PDA access to iFolder user accounts

---

**IMPORTANT:** After the install, the iFolder service is configured and is running. Do not allow users to log into the iFolder server to create accounts yet.

---

- 3 On the primary server, stop the iFolder service. To do this, at the server console prompt, enter `stopifolder`
- 4 Using the basic install, install NetWare 6.5 on the other servers that you want to be in the iFolder server cluster. This installs Apache 2.0 software along with the NetWare 6.5 operating system.

Because you are copying the Apache 2.0 software, the Novell iFolder software, and the iFolder user data directory to a shared volume, you only need to install iFolder on the first server.

- 5 On each server that you want to include in your iFolder server cluster, modify the `sys:\system\admsrvup.ncf` file to include the path information for the `apache2.nlm` file. This is necessary because you modify the `sys:\system\autoexec.ncf` in [Step 15 on page 207](#) to remark out the search path. After you copy the Web server instance of Apache to the shared volume in [Step 10 on page 205](#), explicitly stating the path to the server's copy of Apache enables you to find the administration instance of Apache for that server.

Make the following changes on each server in the cluster:

- 5a Map a drive on your workstation to the `sys:` volume of the server where you want to make the change. For example, map `sys:` to drive letter `Z:`.

- 5b Open the `z:\system\admsrvup.ncf` (`sys:\system\admsrvup.ncf`) file in a text editor.

- 5c Modify `apache2.nlm` by prepending it with the path to the file:

```
sys:\apache2\apache2.nlm
```

For example, change

```
load address space = adminsrv apache2.nlm
```

to

```
load address space = adminsrv sys:\apache2\apache2.nlm
```

- 5d Save and close the file.

- 6** On the primary server, install Novell Cluster Services. For details, see the *Novell Cluster Services 1.7 Administration Guide*.

Make sure to add all the NetWare 6.5 servers that you want to be members of the iFolder cluster.

- 7** Create an NSS volume in a pool in the shared devices in your storage area network. For example, create *nifvol* in the *nifpool*.

The basic steps are listed below; see the *Novell Storage Services Administration Guide for NetWare 6.5* for detailed instructions.

- 7a** (Optional) For a fault-tolerant shared-disk solution, create software RAID 1 or RAID 5 devices to use as virtual devices for the shared pool.
- 7b** Enable sharing on each of the devices that contributes space to the pool that you want to share among the cluster server nodes.
- 7c** Create a pool, using the shared devices and cluster-enable the pool. For example, create a new pool named *nifpool*.  
  
NSS creates a virtual server for the cluster-enabled pool that has its own IP address. When you cluster-enable the pool, you must assign an IP address for this purpose. Because you want this virtual server to assume the role of the iFolder server for the cluster, you assign it the same IP address that you used in **Step 1 on page 203**.
- 7d** Create a volume on the cluster-enabled pool. For example, create a new volume named *nifvol*.

Volumes in a cluster-enabled pool are cluster-enabled by default. This NSS volume becomes the central repository for all iFolder software and the iFolder user data. The size of this volume will vary, based on the number of iFolder users you plan to support and the storage quota allocated per user.

- 8** On your workstation, map the primary server's sys: volume to a drive on your workstation.

For example, map sys: to drive *E:*, where *E* is the drive letter you assign.

- 9** On your workstation, map the primary server's shared volume that you created in **Step 7 on page 205** to a drive on your workstation.

For example, map the *nifvol:* volume to drive *F:*, where *nifvol* is the shared volume's name and *F* is the drive letter you assign.

- 10** Using a directory browser, copy the Apache2 directory (physically located at sys:\apache2) and its contents from the mapped sys: volume to the mapped shared volume.

**10a** In a directory browser, select *e:\apache2* on the system volume.

**10b** Click Edit > Copy.

**10c** Select the mapped drive of the shared volume *F:*.

**10d** Click Edit > Paste.

A copy of the apache2 directory now resides at *f:\apache2*, which is actually the storage area *nifvol:\apache2*. This enables the Web software to be shared by all the servers in the iFolder server cluster.

You need to leave the original contents of the Apache 2 software on the sys: volume so that the administrative services of Apache 2 work properly.

- 11** Using a directory browser, move the iFolder user data directory (physically located by default at sys:\iFolder) and its contents from the mapped sys: volume to the mapped shared drive.

**11a** In a directory browser, select *e:\iFolder*, where *iFolder* is the name of the directory on the system volume that you gave to the iFolder user data path in **Step 8 on page 43** of the iFolder installation.

**11b** Click Edit > Cut.

**11c** Select the mapped drive of the shared volume *F:*.

**11d** Click Edit > Paste.

The iFolder directory is now at *f:\iFolder*, which is the storage area *nifvol:\iFolder* shared by designated servers in the iFolder server cluster.

**12** Edit the *nifvol:\apache2\conf\httpd.conf* file you copied to the shared volume in **Step 10 on page 205**.

**12a** In a directory browser, select *f:\apache2\conf\httpd.conf*.

**12b** Open *f:\apache2\conf\httpd.conf* (*nifvol:\apache2\conf\httpd.conf*) in a text editor.

**12c** Modify all occurrences of *sys:/apache2* to *nifvol:/apache2*, where *nifvol* is the name of your shared volume.

For example, search for *sys:\apache2* and replace it with *nifvol:/apache2* so that the Include directive points to the shared volume for the iFolder configuration file. For example, change the following statement:

```
Include sys:/apache2/ifolder/server/httpd_ifolder_nw.conf
```

to this:

```
Include nifvol:/apache2/ifolder/server/httpd_ifolder_nw.conf
```

Make sure to search, using forward slashes and search again, using back slashes in case the usage varies within the file. For example, you must also search for *sys:\apache2* and replace it with *nifvol:\apache2*.

**12d** Save and close the file.

**13** Edit the *nifvol:\apache2\iFolder\server\httpd\_ifolder\_nw.conf* file you copied to the shared volume in **Step 10 on page 205**.

**13a** In a directory browser, select *f:\apache2\iFolder\server\httpd\_ifolder\_nw.conf*.

**13b** Open *f:\apache2\iFolder\server\httpd\_ifolder\_nw.conf* (*nifvol:\apache2\iFolder\server\httpd\_ifolder\_nw.conf*) in a text editor.

**13c** Modify all occurrences of *sys:* to *nifvol:*, where *nifvol* is the name of your shared volume.

If the User Data path you set up in the iFolder install is not on the *sys:* volume, you must also search for that volume name and replace it with *nifvol:*.

**13d** Save and close the file.

**14** Edit the *sys:\system\ap2webup.ncf* file so that the Apache 2.0 software starts the instance of Apache that is on the shared volume, then move the modified *ap2webup.ncf* file and *ap2webdn.ncf* to the *apache2* directory on the shared volume (*nifvol:\apache2\ap2webup.ncf*).

**14a** In a directory browser, select *e:\system\ap2webup.ncf*.

**14b** Open *e:\system\ap2webup.ncf* file in a text editor.

**14c** Modify *sys:\apache2* to *nifvol:\apache2*.

**14d** Save and close the file.

**14e** In the directory browser, select *e:\system\ap2webup.ncf* and *e:\system\ap2webdn.ncf*.

**14f** Click Edit > Cut.

**14g** Navigate to the `f:\apache2` (`nifvol:\apache2`) directory.

**14h** Click Edit > Paste.

- 15** On each server that you want to include in your iFolder server cluster, edit the `sys:\system\autoexec.ncf` file so that Apache 2 does not start by default when the servers come up. Otherwise, each server tries to start the iFolder services. You want only Novell Cluster Services to have control over starting iFolder for the cluster.

---

**IMPORTANT:** If you later install additional software on the cluster that also uses Apache, you might need to repeat this step.

---

Make the following changes on each server in the cluster:

**15a** Map a drive on your workstation to the `sys:` volume of the server where you want to make the change. For example, map `sys:` to drive letter *X*.

**15b** In a directory browser, select `x:\system\autoexec.ncf`.

**15c** Open `x:\system\autoexec.ncf` in a text editor.

**15d** Comment out the following commands by placing a pound sign (#) in front of them, as shown.

```
#search add sys:\apache2
#ap2webup
```

You will only see the `ap2webup` command on the primary server where you installed iFolder. The other server nodes in the cluster will not have the `ap2webup` line in their `autoexec.ncf` files.

**15e** Save and close the file.

- 16** Set up Novell Cluster Services to start iFolder by default on reboot of the cluster.

**16a** In the ConsoleOne Properties dialog box, click Scripts > Cluster Resource Load Script.

**16b** Add the following commands to the end of the existing load script:

```
delay 2
search add nifvol:\apache2
ap2webup
```

**16c** Click Apply.

- 17** Set up Novell Cluster Services to stop iFolder services by default on the server down command.

**17a** In the ConsoleOne Properties dialog box, click Scripts > Cluster Resource Unload Script.

**17b** Add the following commands to the beginning of the existing unload script:

```
ap2webdn
```

**17c** Click Apply > Close.

- 18** You must offline the cluster resources, then online the cluster resources by restarting each of the servers in the cluster. For information, see the *Novell Cluster Services 1.7 Administration Guide*.

When the servers come back up, the Novell iFolder primary server will be running iFolder and the hot-standby servers will be live, waiting to be called to action.

Novell iFolder is now configured for Novell Cluster Services.

## C.4.2 Upgrading Cluster Setup to OES NetWare

To upgrade the cluster setup for iFolder to OES NetWare, complete the following:

- 1 Upgrade iFolder on the primary server in the cluster node. This is the server where iFolder is installed.
- 2 After upgrade, get the cluster resource on the primary node.
- 3 Stop iFolder service by executing `stopifolder` at the system console.
- 4 Back up the following:
  - ♦ The cluster volume `nifvol:/apache2/iFolder/server/httpd_ifolder_nw.conf`
  - ♦ The cluster volume `nifvol:/apache2/conf/httpd.conf`
  - ♦ The files `ap2webup.ncf` and `ap2webdn.ncf` in the `nifvol1:/apache2` directory

`nifvol:` = shared volume
- 5 Copy the `sys:\apache2\ifolder` directory to `nifvol:/apache2/ifolder`.
- 6 Replace the `httpd_ifolder_nw.conf` and `nifvol:/apache2/conf/httpd.conf` file with the one that you have backed up in [Step 4 on page 208](#).
- 7 Get the cluster resource offline, and then make it online.  
iFolder server starts with the latest version. You can verify this at the Apache console screen on the server.

## C.5 Configuring iFolder Server Cluster on OES Linux

Support for configuring iFolder Server Cluster on OES Linux in the active/passive mode of clustering is available from OES Support Pack 1 only. Ensure that iFolder 2.1.x is installed on each node in the cluster.

Before proceeding, make sure that OES Linux is configured for clustering based on the instructions given in the *Novell Cluster Services Administration Guide* ([http://www.novell.com/documentation/oes/cluster\\_admin\\_lx/data/h4hgu4hs.html#bktitle](http://www.novell.com/documentation/oes/cluster_admin_lx/data/h4hgu4hs.html#bktitle)).

To configure Novell iFolder 2.1 on Novell Cluster Services for OES Linux SP1 and later:

- 1 You can create file system only on one node of the cluster as follows:

Go to YaST > Partition > Cluster Partition and then create file system. iFolder supports the VFS (REISERFS and EXT3) and NSS file systems.

---

**NOTE:** Ensure that the file system is visible on each node of the cluster.

---

Create file system partition of the required size.

- 1a** For VFS file system, select REISERFS or EXT3 and enter the required size. Do not configure the mount point, leave it blank.

If you configure the mount point, an entry is created in `fstab` and the partition is mounted automatically after the system reboots.

Use `fdisk -l` to view the newly created partition. For example, it might be listed as `/dev/sdc1`.



- 1b For NSS file system, using the NSSMU utility on Linux, select the cluster resource and create a partition
- 2 Ensure that the partition created in **Step 1** is mounted.
  - 2a For VFS file system, create a directory /mnt/ifolder on each node of the cluster. Mount the partition on node 1. For example, mount/dev/sdc1 /mnt/ifolder.
  - 2b For NSS file system, the partition is mounted automatically and is located at /media/nss/VOL1.  
where VOL1 is the NSS volume created by selecting cluster resource on node 1.
- 3 Create a directory called ifolderdata on cluster volume.
- 4 Repeat **Step 5** through **Step 12** for every node in the cluster.  
Do not create an ifolderdata directory on the other nodes because it is already present on the shared resource.
- 5 Configure iFolder 2.x from YaST 2 by executing `yast2 ifolder2` to display the iFolder 2.x LDAP Server Configuration screen.
- 6 In the iFolder 2.x LDAP Server Configuration screen enter the required details as follows:
  - ♦ For LDAP server configuration, select Remote System and then specify the LDAP server IP address and the admin name with context and password.
  - ♦ Click Next to continue.
- 7 Configure iFolder for coexistence mode.
  - 7a Specify the shared resource IP address for the iFolder server.  
This IP address should be valid and have valid DNS name.
  - 7b Specify the Netmask and DNS hostname for the same IP address.
  - 7c Specify the iFolder user data path as to create the ifolderdata directory on the shared resource.
    - ♦ For VFS file system, use the data path /mnt/ifolder/ifolderdata.
    - ♦ For NSS file system, use the data path /media/nss/VOL1/ifolderdata  
where VOL1 is the NSS volume.
  - 7d Click Next to continue, then click Yes to start Apache2.  
iFolder 2.x server is configured.
- 8 Stop the iFolder server on the node by executing the following:  
`/etc/init.d/novell-ifolder stop`
- 9 Remove the following entries for the iFolder server from the file /etc/sysconfig/network/ifcfg-eth-id-xx.xx.xx.xx.xx.xx  
where xx:xx:xx:xx:xx:xx is the hardware address of network card.
  - ♦ IPADDR\_ifdr
  - ♦ NETMASK\_ifdr
 If these entries are not removed, then binding to the node's IP address gives the following error:  
IP address is already in use
- 10 Restart the network by executing the following:  
`/etc/init.d/network restart`

- 11** Modify the `/etc/apache2/listen.conf` configuration file.
- 11a** Make sure the main instance of Apache2 is configured to listen only on the primary IP address and not to all IP addresses or to the cluster resource IP address.
- For example, `Listen 10.1.1.1:80` and `Listen 10.1.1.1:443` are valid. `Listen 80` and `Listen 443` are not valid because they listen on all IP addresses.
- 11b** Restart `apache2` if changes are made to `listen.conf`.
- For example: `/etc/init.d/apache2 restart`.
- 12** Migrate the cluster resource to node 2.
- 13** Mount the shared resource on any one of the Linux nodes and complete [Step 14](#) through [Step 20](#) on that node.
- 14** Create the following directories:
- ◆ For VFS file system, create the following directories on the mount point `/mnt/ifolder` directory of the shared volume
    - ◆ `mkdir -p /mnt/ifolder/etc/opt/novell/ifolder`
    - ◆ `mkdir -p /mnt/ifolder/var/opt/novell/ifolder`
    - ◆ `mkdir -p /mnt/ifolder/srv/www/ifolder`
- Or
- ◆ For NSS file system, create the following directories on the mount point `/media/nss/VOL1` of the shared volume
    - ◆ `mkdir -p /media/nss/VOL1/etc/opt/novell/ifolder`
    - ◆ `mkdir -p /media/nss/VOL1/var/opt/novell/ifolder`
    - ◆ `mkdir -p /media/nss/VOL1/srv/www/ifolder`
- 15** Copy the contents of the following directories
- ◆ For VFS file system:
    - ◆ `/etc/opt/novell/ifolder` to `/mnt/ifolder/etc/opt/novell/ifolder`
    - ◆ `/var/opt/novell/ifolder` to `/mnt/ifolder/var/opt/novell/ifolder`
    - ◆ `/srv/www/ifolder` to `/mnt/ifolder/srv/www/ifolder`
- Or
- ◆ For NSS file system:
    - ◆ `/etc/opt/novell/ifolder` to `/media/nss/VOL1/etc/opt/novell/ifolder`
    - ◆ `/var/opt/novell/ifolder` to `/media/nss/VOL1/var/opt/novell/ifolder`
    - ◆ `/srv/www/ifolder` to `/media/nss/VOL1/srv/www/ifolder`
- 16** Change the ownership of the directories created in [Step 14](#) and the `/mnt/ifolder/ifolderdata` directory to the user `novlifdr` and group `ifdrwww`. Assign the directories permissions of `drwxr-xr-x`.
- Use the following commands format to change permissions:
- For VFS file system:
- ```
chown -R novlifdr:ifdrwww /mnt/ifolder
```
- For NSS file system:
- ```
chown -R novlifdr:ifdrwww /media/nss/VOL1/ifolder
```

```
rights -f <path to ifolder data directory on NSS volume> -r all
trustee novlifdr.<eDir admin context>.<eDir tree name>
```

For example:

```
rights -f /media/nss/VOL1/etc -r all trustee novlifdr.novell.MYTREE
```

where /media/nss/VOL1/etc is the path of the etc directory copied on the NSS volume in [Step 15](#), novell is the local eDirectory admin context, and MYTREE is the local eDirectory tree name

Run the above command for all the directories copied in [Step 15](#) as well as the ifolderdata directory.

**17** Modify the configuration file as follows:

For VFS file system, make the following modifications in the file /mnt/ifolder/etc/novell/ifolder/conf/httpd.conf

- ◆ Change all occurrences of /etc/opt/novell/ifolder to /mnt/ifolder/etc/opt/novell/ifolder
- ◆ Change all occurrences of /var/opt/novell/ifolder to /mnt/ifolder/var/opt/novell/ifolder
- ◆ Change all occurrences of /srv/www/ifolder to /mnt/ifolder/srv/www/ifolder

Or

For NSS file system, make the following modifications in the file /media/nss/VOL1/etc/novell/ifolder/conf/httpd.conf

- ◆ Change all occurrences of /etc/opt/novell/ifolder to /media/nss/VOL1/etc/opt/novell/ifolder
- ◆ Change all occurrences of /var/opt/novell/ifolder to /media/nss/VOL1/var/opt/novell/ifolder
- ◆ Change all occurrences of /srv/www/ifolder to /media/nss/VOL1/srv/www/ifolder

**18** Modify the configuration file as follows:

For VFS file system, make the following changes in /mnt/folder/etc/novell/ifolder/conf/httpd\_ifolder\_unix.conf

- ◆ Change all occurrences of /etc/opt/novell/ifolder to /mnt/ifolder/etc/opt/novell/ifolder.
- ◆ Change all occurrences of /var/opt/novell/ifolder to /mnt/ifolder/var/opt/novell/ifolder.
- ◆ Modify the iFolderServerDNSorIP key to be the DNS name or IP address of the cluster resource. This is a secondary IP address.

Or

For NSS file system, make the following changes in /mnt/folder/etc/novell/ifolder/conf/httpd\_ifolder\_unix.conf

- ◆ Change all occurrences of /etc/opt/novell/ifolder to /media/nss/VOL1/etc/opt/novell/ifolder.
- ◆ Change all occurrences of /var/opt/novell/ifolder to /media/nss/VOL1/var/opt/novell/ifolder.
- ◆ Modify the iFolderServerDNSorIP key to be the DNS name or IP address of the cluster resource. This is a secondary IP address.

**19** Recreate the following link for each node of the cluster using the following command format:

For VFS file system,

```
rm /opt/novell/ifolder/DocumentRoot
```

```
ln -s /opt/novell/ifolder/DocumentRoot /mnt/ifolder/var/opt/novell/ifolder/DocumentRoot
```

Or

For NSS file system,

```
rm /opt/novell/ifolder/DocumentRoot
```

```
ln -s /opt/novell/ifolder/DocumentRoot/media/nss/VOL1/var/opt/novell/ifolder/DocumentRoot
```

- 20 Unmount /mnt/ifolder.
- 21 Open iManager > Cluster > Cluster Options, then browse to select the cluster you want to manage.
- 22 Create a new cluster resource and select an iFolder template. Edit the existing load and unload scripts by specifying IP address of iFolder server, device name and mount point.

For VFS file system:

---

**TIP:** In both scripts, for *aa.bb.cc.dd* use the shared resource IP noted in [Step 7](#) (IP address of the iFolder server).

---

### Load Script

```
#!/bin/bash
./opt/novell/ncs/lib/ncsfuns
mount the file system
exit_on_error mount -t ext3 /dev/sdc1 /mnt/ifolder
add the IP address
exit_on_error add_secondary_ipaddress aa.bb.cc.dd
#setting permissions for ifolder data directory
exit_on_error chown -R novlifdr:ifdrwww /mnt/ifolder/ifolderdata
start iFolder
exit_on_error /usr/sbin/httpd2-worker -k start -f /mnt/ifolder/etc/opt/novell/ifolder/conf/httpd.conf -DSSL
exit 0
```

The examples given here are specific for the EXT3 filesystem. To use REISERFS or EXT2 filesystems, replace the word ext3 in the load script with reiserfs or ext2 as required.

### Unload Script

```
#!/bin/bash
./opt/novell/ncs/lib/ncsfuns
#mount the file system
PID_FILE=/mnt/ifolder/var/opt/novell/ifolder/run/ifolder.pid
stop iFolder
ignore_error killproc -p $PID_FILE -TERM /usr/sbin/httpd2-worker
Wait for all children to terminate
for ((wait=0; wait<120; wait++));
do
if test -f $PID_FILE;
then
 usleep 500000
else
 continue 2
fi
done
```

```

sleep 10
del the IP address
ignore_error del_secondary_ipaddress aa.bb.cc.dd
umount the file system
exit_on_error umount /dev/evms/sda1
return status
exit 0

```

iFolder template for NCS Linux clusters is only for EXT3 or reiserfs file system. To cluster-enable the NSS file system, create the cluster resource and then copy the following cluster load and unload scripts. Place the load script at the end of the existing script, after activating the NSS volume. Place the unload script before deactivating the NSS volume.

In the load and unload scripts, VOL means cluster NSS volume. Load Script for NSS:

```

add the IP address
exit_on_error add_secondary_ipaddress a.b.c.d
start iFolder
exit_on_error /usr/sbin/httpd2-worker -k start -f /media/nss/VOL/
etc/opt/novell/ifolder/conf/httpd.conf -DSSL
return status
exit 0

```

Unload script:

```

PID_FILE=/media/nss/VOL/var/opt/novell/ifolder/run/ifolder.pid
stop iFolder
ignore_error killproc -p $PID_FILE -TERM /usr/sbin/httpd2-worker
Wait for all children to terminate
for ((wait=0; wait<120; wait++));
do
 if test -f $PID_FILE;
 then
 usleep 500000
 else
 continue 2
 fi
done
del the IP address
ignore_error del_secondary_ipaddress a.b.c.d
return status
exit 0

```

### **23** Restart all the nodes.

iFolder server is now configured to run on the cluster shared resource IP address on Linux.



# Interoperability Issues

# D

This section describes the interoperability of Novell® iFolder® with the following products:

- ◆ [Section D.1, “BorderManager 3.6 and 3.7,” on page 215](#)
- ◆ [Section D.2, “GroupWise 5.5 and Later,” on page 216](#)
- ◆ [Section D.3, “iChain 2.1 and 2.2,” on page 216](#)
- ◆ [Section D.4, “NetDrive,” on page 217](#)
- ◆ [Section D.5, “ZENworks OnDemand 2.0,” on page 217](#)
- ◆ [Section D.6, “SecureLogin,” on page 217](#)
- ◆ [Section D.7, “Port Number Assignments and Availability in Novell Products,” on page 218](#)

## D.1 BorderManager 3.6 and 3.7

### Performance

If you are using a BorderManager® proxy server to redirect requests to your iFolder server, be advised that uploads to the iFolder server are very slow.

To alleviate this problem, enter the following at the BorderManager server console:

```
set tcp delayed ack=off
```

### iFolder Still Connects When Authenticated Proxy Fails

If the proxy settings of the iFolder client fail, the iFolder client tries to connect directly (bypassing the proxy).

When using authenticated proxy, Internal (private) users might still gain access without providing authentication credentials if IP forwarding is enabled. To avoid this, simply make sure that IP forwarding is disabled on the proxy server.

### Port Conflict

When proxy authentication is enabled, the default listening port is 443. If iFolder 2.1 and BorderManager are running on the same server and proxy authentication is enabled, either iFolder or BorderManager will need to listen on a different port.

### NAT Loopback/Boomerang

If iFolder is running on a private segment and public access is allowed (via NAT), a public access address is specified in the iFolder server configuration. All requests to the private address will be forwarded to this public address. When trying to access iFolder from the private segment, the user will encounter the NAT loopback problem and the connection will fail.

The workaround is to use a DNS name as the user access address in the iFolder server configuration, and resolve this name to the public address for public users and to the private address for internal users.

## D.2 GroupWise 5.5 and Later

Do not try to synchronize your GroupWise® archive by setting a GroupWise archive path to the location of your iFolder directory. If you do this, the iFolder client will corrupt the GroupWise archive. This happens because iFolder does not synchronize files as a set and GroupWise needs the files in the archive to be maintained as a set of files.

This problem has been identified for GroupWise; however, similar problems might arise with any database that is implemented as a collection of linked files.

## D.3 iChain 2.1 and 2.2

There are several iChain® and iFolder compatibility issues, which severely limit the use of iChain services for an iFolder system.

### Caching of iFolder Content

We recommend disabling iChain caching of iFolder content. Because iFolder data is private and encrypted, caching might slow, rather than speed, access.

### Using HTTP Instead of HTTPS

When encryption is enabled, the iFolder client encrypts data with 128-bit Blowfish encryption for data transmission and storage on the iFolder server. Thus, iFolder sends all communications between workstations and the iFolder server securely, using http (rather than https).

iChain with Secure Exchange will try to redirect http traffic to https. Because iFolder uses http POSTs, and http POSTs cannot be redirected, these connections will fail with an http 409 error. For this reason, iChain Secure Exchange will work for HTML access only.

### Disabling Secure Exchange

If the iFolder server is behind the proxy server with Secure Exchange disabled, then iFolder Management, Applet, and HTML (PDA) access methods, which require https, will not work. In addition, NetDrive cannot connect to iFolder through iChain if Secure Exchange is enabled. Only iFolder client access will work.

### iFolder 2.1 and iChain 2.1 Interoperability Summary

| iChain 2.1 Configuration                      | iFolder 2.1 Client | iFolder 2.1 Applet | iFolder 2.1 HTML/PDA | NetDrive 4.1 | iFolder 2.1 Management Console |
|-----------------------------------------------|--------------------|--------------------|----------------------|--------------|--------------------------------|
| Authentication = Off<br>Secure Exchange = Off | Yes                | Yes                | No                   | Yes          | No                             |
| Authentication = Off<br>Secure Exchange = On  | No                 | No                 | Yes                  | No           | Yes                            |
| Authentication = On<br>Secure Exchange = Off  | No                 | No                 | No                   | No           | No                             |
| Authentication = On<br>Secure Exchange = On   | No                 | No                 | Yes                  | No           | Yes                            |



## iFolder 2.1 and iChain 2.2 Interoperability Summary

| iChain 2.2 Configuration                                                    | iFolder 2.1 Client | iFolder 2.1 Applet | iFolder 2.1 HTML/PDA Access | NetDrive 4.1 | iFolder 2.1 Management Console |
|-----------------------------------------------------------------------------|--------------------|--------------------|-----------------------------|--------------|--------------------------------|
| Authentication = Off<br>Secure Exchange = Off                               | Yes                | Yes                | No                          | Yes          | No                             |
| Authentication = Off<br>Secure Exchange = On                                | No                 | No                 | Yes                         | No           | Yes                            |
| Authentication = On<br>Authentication Header = Off<br>Secure Exchange = Off | No                 | No                 | No                          | No           | No                             |
| Authentication = On<br>Authentication Header = Off<br>Secure Exchange = On  | No                 | No                 | Yes                         | No           | Yes                            |
| Authentication = On<br>Authentication Header = On<br>Secure Exchange = Off  | Yes                | No                 | No                          | No           | No                             |
| Authentication = On<br>Authentication Header = On<br>Secure Exchange = On   | No                 | No                 | Yes                         | No           | Yes                            |

### Performance

If you are using an iChain proxy server to redirect requests to your iFolder server, be advised that uploads to the iFolder server are very slow, even with caching disabled.

This problem can be alleviated by entering the following at the iChain server console:

```
set tcp delayed ack=off
```

## D.4 NetDrive

If your global client policies include any enforced or hidden settings, the users must log in with the iFolder client to create their iFolder user accounts. Users must activate an iFolder account before attempting to use NetDrive to access the iFolder server.

## D.5 ZENworks OnDemand 2.0

The DeFrame™ client that ships with ZENworks® OnDemand Services™ 2.0 includes iFolder connectivity through NetDrive. This version of NetDrive does not work with iFolder 2.0 and later. Use the NetDrive version that is bundled with iFolder.

## D.6 SecureLogin

SecureLogin will not recognize the iFolder Java applet.

## D.7 Port Number Assignments and Availability in Novell Products

For information about port number assignments and availability in Novell products, see “[Port Number Assignments](http://www.novell.com/documentation/lg/nw6p/index.html?page=/documentation/lg/nw6p/adminenu/data/aclkn27.html)” in the NetWare 6 online documentation (<http://www.novell.com/documentation/lg/nw6p/index.html?page=/documentation/lg/nw6p/adminenu/data/aclkn27.html>).

# Tips and Tricks for Optimizing iFolder

# E

This section describes how to optimize the performance of your Novell® iFolder® 2.1 server, including the following tips and tricks:

- ◆ [Section E.1, “Optimizing the Available Space,” on page 219](#)
- ◆ [Section E.2, “Optimizing Synchronization Delay and Polling Frequency,” on page 219](#)
- ◆ [Section E.3, “Increasing Apache Threads,” on page 219](#)
- ◆ [Section E.4, “Adding More RAM,” on page 220](#)
- ◆ [Section E.5, “Synchronizing iFolder Client Data,” on page 220](#)

## E.1 Optimizing the Available Space

You can improve the performance of your iFolder server by changing the amount of disk space allotted to each iFolder user.

Be careful; allotting large amounts of disk space to users could decrease the iFolder server's performance.

## E.2 Optimizing Synchronization Delay and Polling Frequency

Change the default sync delay parameters if you have thousands of users and you need to improve the iFolder server performance.

Current defaults:

- ◆ 5-second delay after file activity
- ◆ 20-second server polling interval

To improve performance, make the following changes:

- ◆ 30-second delay after file activity
- ◆ 1-minute server polling interval

## E.3 Increasing Apache Threads

- ◆ [Section E.3.1, “NetWare Servers,” on page 219](#)
- ◆ [Section E.3.2, “Linux Servers,” on page 220](#)

### E.3.1 NetWare Servers

The default number of threads for Apache running on NetWare® is 150. The maximum number of threads is 2,048. Because no persistent connection is maintained, a socket is opened for each 32 KB

of data. This means that you don't need a thread per user session; however, the iFolder Web access does use one thread per connection.

To increase your threads:

- 1 Open the `httpd.conf` file that iFolder uses.
- 2 Search for the `ThreadsPerChild` parameter and increase the number that is listed.

The threads directly correlate with the bandwidth of your network cards. If you have a 100 MB network card, you can set your threads to 312 and max out the network card. If you have a 1 GB card, then you can increase the threads to 2,048 to maximize the card.

## E.3.2 Linux Servers

Linux can handle up to 20,000 threads.

To increase your threads:

- 1 Open the `httpd.conf` file that iFolder uses.
- 2 Increase the default number on the following parameters:
  - ♦ `ThreadLimit`
  - ♦ `MaxClients`
  - ♦ `ThreadsPerChild`

## E.4 Adding More RAM

iFolder uses 16 KB of memory per iFolder active session (or each thread). The minimum requirement of RAM for iFolder is 256 MB. Adding more RAM will improve your disk caching and server performance.

If you have

- ♦ Fewer than 2,000 users, use 256 MB of RAM.
- ♦ Between 2,000 and 4,000 users, increase your memory to 512 MB of RAM.
- ♦ More than 4,000 users, increase your memory to 1 GB of RAM.

## E.5 Synchronizing iFolder Client Data

For instructions on how to synchronize your Internet Explorer bookmarks, Palm\* Desktop Database, and Lotus\* Notes\*, see the *Novell iFolder 2.1 User Guide*.

Do not try to synchronize your GroupWise® archive by setting a GroupWise archive path to a location in your iFolder directory. If you do this, the iFolder client will corrupt the GroupWise archive. This happens because iFolder does not synchronize files as a set (it synchronizes just the changed portions of a file) and GroupWise needs the files in the archive to be maintained as a set of files.

This problem has been identified for GroupWise; however, similar problems might arise with any database that is implemented as a collection of linked files.

# Frequently Asked Questions

# F

This section answers typical questions asked by administrators of Novell® iFolder® 2.1 server software, including the following:

- ◆ [Section F.1, “What is an iFolder server?,” on page 222](#)
- ◆ [Section F.2, “Can I synchronize my home directory on the network with my local iFolder directory?,” on page 222](#)
- ◆ [Section F.3, “Can I restore files if a user has deleted them from a local iFolder directory?,” on page 222](#)
- ◆ [Section F.4, “Are the users' iFolder files stored encrypted on their local workstations?,” on page 222](#)
- ◆ [Section F.5, “How many directories can each user have in an iFolder account?,” on page 222](#)
- ◆ [Section F.6, “Is there a maximum file size that can be synchronized to the iFolder server?,” on page 222](#)
- ◆ [Section F.7, “What is the maximum storage quota for an iFolder account?,” on page 223](#)
- ◆ [Section F.8, “How many concurrent connections to iFolder accounts does each iFolder server support?,” on page 223](#)
- ◆ [Section F.9, “What is the key factor that limits the number of users an iFolder server can support?,” on page 223](#)
- ◆ [Section F.10, “When a user makes changes to a file, what portion of the file is sent across the wire to the iFolder server?,” on page 223](#)
- ◆ [Section F.11, “What happens to a user's files if the user changes the location of the local iFolder directory?,” on page 223](#)
- ◆ [Section F.12, “After installing iFolder 2.1 on a Microsoft 2000 server with IIS and Active Directory, I cannot create an iFolder\\_ServerAgent.,” on page 224](#)
- ◆ [Section F.13, “After installing iFolder 2.1 on a Microsoft 2000 server with IIS and Active Directory, I cannot create a new user with the iFolder Management Console.,” on page 224](#)
- ◆ [Section F.14, “Why do my users have trouble logging in to the iFolder server across the Internet, but can log in while on the corporate network?,” on page 224](#)
- ◆ [Section F.15, “When I attempt downloading the iFolder client from the server page, instead of downloading the client, it shows junk characters? How can I resolve this?,” on page 224](#)
- ◆ [Section F.16, “Why am I not able to see the available updates even though my redcarpet server has the later version of novell-ifolder-client than that I have on my Linux box?,” on page 224](#)
- ◆ [Section F.17, “Why do I get a “Pass phrase recovery access denied” error when I try to recover a user pass phrase?,” on page 225](#)
- ◆ [Section F.18, “iFolder 2.1.3 on Windows 2003 Server FAQs,” on page 225](#)

Additional Questions

For an additional listing of questions and answers that have been submitted by Administrators and iFolder users, see the following:

- ♦ Ask the Experts section of the [iFolder Cool Solutions Q&A Collection](http://www.novell.com/coolsolutions/ifmag/ask_the_experts.html) ([http://www.novell.com/coolsolutions/ifmag/ask\\_the\\_experts.html](http://www.novell.com/coolsolutions/ifmag/ask_the_experts.html))
- ♦ [Novell iFolder 2.1 User Guide](#)

## **F.1 What is an iFolder server?**

An iFolder server is simply a server that is running the iFolder server software and some type of Web services, like the Apache Web service or IIS Web service.

## **F.2 Can I synchronize my home directory on the network with my local iFolder directory?**

No. iFolder hooks into the local file system; therefore, iFolder is unable to track changes from network drives.

## **F.3 Can I restore files if a user has deleted them from a local iFolder directory?**

Yes. However, you will need to restore that user's iFolder directory from your tape backup to another iFolder server. See [Section 17.10, "Restoring Deleted or Corrupted Files,"](#) on page 162.

## **F.4 Are the users' iFolder files stored encrypted on their local workstations?**

No, if an account is enabled for encryption, the iFolder data is encrypted only when it travels across the connection between the workstation and the server and when it is stored on the iFolder server.

## **F.5 How many directories can each user have in an iFolder account?**

iFolder supports up to 32,765 directories within a user's local iFolder directory. If the user exceed this number, iFolder stops writing to the local directory and data loss is likely. Typical iFolder users are unlikely to exceed this upper limit with normal use.

Periodically monitor the number of directories in your local iFolder directory. Reorganize your folders, as needed, to keep the number of directories below this upper limit.

## **F.6 Is there a maximum file size that can be synchronized to the iFolder server?**

An individual file must be smaller than 4 GB.

## **F.7 What is the maximum storage quota for an iFolder account?**

The maximum size for an iFolder account is 8 TB.

## **F.8 How many concurrent connections to iFolder accounts does each iFolder server support?**

The iFolder server can support 5,000 to 10,000 concurrent connections to iFolder accounts.

## **F.9 What is the key factor that limits the number of users an iFolder server can support?**

The largest limiting factor on the number of users is the storage capacity available on the iFolder server.

## **F.10 When a user makes changes to a file, what portion of the file is sent across the wire to the iFolder server?**

iFolder synchronizes only the changed portions of a file on a 4 KB block level via an active network or Internet connection. Only the changes, or delta blocks, are sent across the wire and the iFolder server will reconcile the changes.

## **F.11 What happens to a user's files if the user changes the location of the local iFolder directory?**

The user must manually copy the iFolder files to the new location. To do this, complete the following steps:

- 1** Double-click the old iFolder shortcut on the desktop.
- 2** Click Edit > Select All.
- 3** Click Edit > Cut.
- 4** Close the window.
- 5** Double-click the new iFolder shortcut on the desktop.
- 6** Click Edit > Paste.
- 7** Log in and synchronize the files.

## **F.12 After installing iFolder 2.1 on a Microsoft 2000 server with IIS and Active Directory, I cannot create an iFolder\_ServerAgent.**

Look in the Active Directory Users and Computers utility to determine if the user actually exists. If it does, it probably means that you do not have a valid Service Pack 3 installed on your Microsoft 2000 IIS server. Reinstall Service Pack 3.

## **F.13 After installing iFolder 2.1 on a Microsoft 2000 server with IIS and Active Directory, I cannot create a new user with the iFolder Management Console.**

Look in the Active Directory Users and Computers utility to determine if the user actually exists. If it does, it probably means you do not have a valid Service Pack 3 installed on your Microsoft 2000 IIS server. Reinstall Service Pack 3.

## **F.14 Why do my users have trouble logging in to the iFolder server across the Internet, but can log in while on the corporate network?**

The browser is probably picking up the private IP address of the iFolder server instead of the public IP address. To solve this problem, make sure that the public IP address is the one used in the ifolder\_nav.html file in the sys:\apache\ifolder\documentroot\html directory. Then enter a static NAT that translates the public IP address to the private IP address, and make sure that the ports used for iFolder are not blocked at the firewall.

## **F.15 When I attempt downloading the iFolder client from the server page, instead of downloading the client, it shows junk characters? How can I resolve this?**

The Apache web server does not recognize the .rpm extension of the iFolder client for Linux and sends the file across as text. This causes the rpm to be displayed as junk characters instead of displaying a dialog box to download the client.

This happens only in case of an upgrade install to OES. OES overlay install should not have this problem.

Right click the Download Linux Client link and select Save Target As to download the client.

## **F.16 Why am I not able to see the available updates even though my redcarpet server has**



## the later version of novell-ifolder-client than that I have on my Linux box?

To view the available updates for iFolder client run `rug se novell-ifolder-client` at the command line.

To upgrade to new client, run `rug in novell-ifolder-client` at the command line.

Through redcarpet Software Update client, select Search tab, type `novell-ifolder-client` and click Enter. This lists all the available updates, select the one listed as newer, click Mark for Installation, and click Run Now.

## F.17 Why do I get a “Pass phrase recovery access denied” error when I try to recover a user pass phrase?

The iFolder administrator has entered the wrong security passphrase while attempting to recover a user’s passphrase. Ensure that you have entered the correct security passphrase. If you have not set a security passphrase as yet, see [Section 17.5, “Configuring the Security Passphrase,” on page 153](#) and retry.

## F.18 iFolder 2.1.3 on Windows 2003 Server FAQs

- ♦ [Section F.18.1, “Why is the iFolder Administration page displaying error message such as “The application called an interface that was marshalled for a different thread”? What can I do to resolve this?,” on page 225](#)
- ♦ [Section F.18.2, “Why is the iFolder Advanced Search failing with the error “Bad Request \(Invalid URL\)”?,” on page 225](#)
- ♦ [Section F.18.3, “The iFolder login is failing for a multi-home Web site. What can I do to resolve this?,” on page 226](#)
- ♦ [Section F.18.4, “iFolder fails to work after renaming domain controller. What can I do to resolve this?,” on page 226](#)

### F.18.1 Why is the iFolder Administration page displaying error message such as “The application called an interface that was marshalled for a different thread”? What can I do to resolve this?

The reason for this could be that the IIS Web site is configured to run in the IIS 5.0 isolation mode with security level set to `Medium`.

To resolve this, set the Security level to `Low`.

### F.18.2 Why is the iFolder Advanced Search failing with the error “Bad Request (Invalid URL)”?

The advanced search might be made on a context. Use the simple search page to search for the users.

### F.18.3 The iFolder login is failing for a multi-home Web site. What can I do to resolve this?

To resolve this, use the IP address instead of DNS name for the following settings:

- ❑ The `iFolderServerDNSorIP` and `iFolderServerSecureDNSorIP` attributes of the iFolder Server object

To do this,

- 1 In the iFolder Administration page, select the Global Settings > iFolder Servers.
- 2 In the iFolder Servers page, select the Server for which the multi-home Web site login is failing.
- 3 In the Host DNS or IP field of the selected server page, change the DNS name of the server to the IP address.

- ❑ Connection information for the client login.

- ❑ In the registry key located at

```
My Computer\H
KEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\iFolderS
erver
```

Change the following:

- ◆ Replace the value of `iFolderServerDNSorIP` with the IP address of the iFolder Server.
- ◆ Replace the value of `ServerDNSorIP` with IP address of the iFolder Server.

### F.18.4 iFolder fails to work after renaming domain controller. What can I do to resolve this?

In the registry key located at

```
My Computer\H
KEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W3SVC\iFolderServe
r
```

Change the following attribute values, if applicable, from old Domain Controller name to new/changed Domain controller name.

- ◆ `iFolderServerDNSorIP`
- ◆ `LdapHost`
- ◆ `ServerDNSorIP`

Restart the IIS.

## F.19 Localization FAQs

- ◆ [Section F.19.1, “What localized languages does the iFolder server support?,” on page 227](#)

## **F.19.1 What localized languages does the iFolder server support?**

iFolder Server supports six languages (French, German, Italian, Portuguese, Russian, and Spanish) for OES NetWare and 13 (Chinese Simplified, Chinese Traditional, Czech, French, German, Hungarian, Italian, Japanese, Polish, Portuguese, Russian, Slovak, Spanish and English) for OES Linux OES.

For iFolder client on Windows, the client should be of same language and code page as the iFolder server. Therefore, each language has a separate client.

However, for iFolder client on Linux, the same client supports all languages. But the code page between the client and server should be the same.



# Uninstalling iFolder 2.1 on a Red Hat Linux 8 Server



This section describes the following uninstall tasks for Novell® iFolder® 2.1 as installed on Red Hat Linux 8:

- ♦ [Section G.1, “Uninstalling iFolder 2.1 from a Red Hat Linux 8 Server,” on page 229](#)
- ♦ [Section G.2, “Removing iFolder 2.1 Objects from the eDirectory Schema,” on page 229](#)
- ♦ [Section G.3, “Uninstalling Apache 2.0.43,” on page 230](#)

To uninstall iFolder 2.1.2 on supported versions of Enterprise Linux, see “[Uninstalling NNLS Components](#)” in the *Novell Enterprise Linux Services Installation Guide*.

## G.1 Uninstalling iFolder 2.1 from a Red Hat Linux 8 Server

- 1 Stop Apache by entering this line at the command prompt:

```
/usr/local/apache2/bin/apachectl stop
```

- 2 To remove the iFolder files, enter these lines at the command prompt:

```
cd /root
rm -rf /usr/local/ifolder < program files >
rm -rf /usr/local/ifolderdata < user data >
```

- 3 To go to the /usr/local/apache2/conf/ directory, enter this line at the command prompt:

```
cd /usr/local/apache2/conf
```

- 4 Using a text editor, remove the following line from the /usr/local/apache2/conf/httpd.conf file:

```
include /usr/local/ifolder/Server/httpd_ifolder_unix.conf
```

- 5 Start Apache by doing one of the following:

- ♦ For clear text, enter the following command:

```
/usr/local/apache2/bin/apachectl start
```

- ♦ For SSL, enter the following command:

```
/usr/local/apache2/bin/apachectl startssl
```

## G.2 Removing iFolder 2.1 Objects from the eDirectory Schema

- 1 Start ConsoleOne® by entering this line at the command prompt:

```
/usr/ConsoleOne/bin/ConsoleOne
```

- 2 Select the tree in the eDirectory schema.
- 3 Click File > Authenticate.
- 4 Expand the tree, then select the organization.

Objects appear in the right panel.

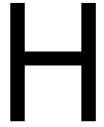
- 5** Delete all users who were made iFolder users.
- 6** Delete the following objects:
  - ♦ iFolder\_ServerAgent
  - ♦ iFolder\_Settings
  - ♦ iFolder\_ldapXX
  - ♦ iFolder\_serverXX
- 7** Remove the iFolder eDirectory schema extensions.
  - 7a** Click Tools > Schema Manager > Classes.
  - 7b** Delete the following:
    - ♦ iFolderLDAP
    - ♦ iFolderServer
    - ♦ iFolderSettings
    - ♦ iFolderUser
  - 7c** Click Tools > Schema Manager > Classes.
  - 7d** Delete the 14 items that begin with iFolder\*.
- 8** Close ConsoleOne.

## G.3 Uninstalling Apache 2.0.43

To remove Apache 2.0.43 from your Linux server, enter this line at the Linux command prompt:

```
rm -rf /usr/local/apache2
```

# Product History of iFolder



This section compares the different versions of Novell® iFolder® to clarify which operating systems, directories, and other components are supported in each of the following versions of iFolder:

- ◆ **iFolder Standard Edition**

- ◆ **iFolder 1.0:** Independent product release that includes cross-platform support for NetWare and Windows
- ◆ **iFolder 1.01:** Bundled release for support of Novell NetWare® 6
- ◆ **iFolder 1.03:** Bundled release for support of Novell NetWare 6 with Support Pack 1 (Consolidated Support Pack 8)

- ◆ **iFolder 2.0 Professional Edition:** Independent product release for additional cross-platform support of Linux and UNIX

- ◆ **iFolder 2.1**

- ◆ **iFolder 2.1:** Independent product release for additional support of Microsoft Active Directory with Windows 2000 with Service Pack 3
- ◆ **iFolder 2.1.1:** Bundled release with Novell NetWare 6.5 for support of only Novell NetWare 6.5
- ◆ **iFolder 2.1.2:** Bundled release with several products for support of only those operating systems

Novell Nterprise™ Linux Services for support of only the Enterprise Linux operating systems, as defined in the *Novell Nterprise Linux Services Installation Guide*.

Novell NetWare 6.5 Support Pack 1 for support of only Novell NetWare 6.5 Support Pack 1

Novell Nterprise Linux Services Support Pack 1 for support of only the Enterprise Linux operating systems, as defined in the *Novell Nterprise Linux Services Installation Guide*. In addition to English, this second release of iFolder 2.1.2 included localized versions of the iFolder 2.1.2 client in German, Spanish, French, Italian, Japanese, Portuguese, and Russian.

- ◆ **iFolder 2.1.3 :** Bundled release with Novell ZenWorks 6.5 for support of Windows 2003 and Windows 2000 server.
- ◆ **iFolder 2.1.4 :** Released with Novell Linux Desktop 9.
- ◆ **iFolder 2.1.5 :** Bundled release with Open Enterprise Server 1.0 for NetWare and Open Enterprise Server 1.0 for Linux.
- ◆ **iFolder 2.1.6 :** Bundled release with Open Enterprise Server 1.0 for NetWare Support Pack 1 and Open Enterprise Server 1.0 for Linux Support Pack 1.
- ◆ **iFolder 2.1.7: :** Bundled release with Open Enterprise Server 1.0 for NetWare Support Pack 2 and Open Enterprise Server 1.0 for Linux Support Pack 2.

This section discusses the following topics:

- ◆ [Section H.1, “Network Operating Systems Support,” on page 232](#)
- ◆ [Section H.2, “Directory Services Support,” on page 233](#)

- ◆ Section H.3, “Workstation Operating Systems Support for iFolder Client,” on page 233
- ◆ Section H.4, “Web Server Support,” on page 233
- ◆ Section H.5, “iFolder User Access Support,” on page 234
- ◆ Section H.6, “Feature Support,” on page 235
- ◆ Section H.7, “Server Platform Options Included in Your Release,” on page 235

## H.1 Network Operating Systems Support

| Network Operating System      | 1.0             | 1.01 (Bundled NetWare 6.0) | 1.03 (Bundled NetWare 6.0 SP1) | 2.0             | 2.1            | 2.1.1 (Bundled NetWare 6.5) | 2.1.2 (Bundled NetWare 6.5 SP1) | 2.1.2 (Bundled NLS & NLS SP1) | 2.1.3 | 2.1.5  | 2.1.6 | 2.1.7 |
|-------------------------------|-----------------|----------------------------|--------------------------------|-----------------|----------------|-----------------------------|---------------------------------|-------------------------------|-------|--------|-------|-------|
| NetWare 5.1                   | SP 3            | NA                         | NA                             | SP 4            | SP 5           | NA                          | NA                              | NA                            | NA    | NA     | NA    | NA    |
| NetWare 6.0                   | No              | Yes                        | SP 1                           | SP 1            | SP 2           | NA                          | NA                              | NA                            | NA    | NA     | NA    | NA    |
| NetWare 6.5                   | No              | No                         | No                             | No              | No             | Yes                         | SP 1                            | NA                            | SP 2  | SP 3   | SP4   | SP5   |
| Windows NT 4                  | Service Pack 6A | NA                         | NA                             | Service Pack 6A | No             | No                          | No                              | No                            | NA    | NA     | NA    | NA    |
| Windows 2000                  | Service Pack 1  | NA                         | NA                             | Service Pack 2  | Service Pack 3 | NA                          | NA                              | NA                            | Yes   | No     | No    | No    |
| Red Hat Linux                 | No              | No                         | No                             | 7.2             | 8              | NA                          | NA                              | NA                            | No    | No     | No    | No    |
| Red Hat Enterprise Linux AS   | No              | No                         | No                             | No              | No             | No                          | NA                              | 2.1                           | No    | No     | No    | No    |
| Red Hat Enterprise Linux ES   | No              | No                         | No                             | No              | No             | No                          | NA                              | 2.1                           | No    | No     | No    | No    |
| SUSE* Linux Enterprise Server | No              | No                         | No                             | No              | No             | No                          | NA                              | 8                             | No    | 9 SP 1 | 9 SP2 | 9 SP3 |
| Sun* Solaris                  | No              | No                         | No                             | 8               | No             | No                          | No                              | No                            | No    | No     | No    | No    |
| Windows 2003                  | No              | No                         | No                             | No              | No             | No                          | No                              | No                            | Yes   | No     | No    | No    |



## H.2 Directory Services Support

| LDAP Directory Service     | 1.0 | 1.01 (Bundled) | 1.03 (Bundled) | 2.0 | 2.1   | 2.1.1 (Bundled) | 2.1.2 (Bundled) | 2.1.3 | 2.1.5 | 2.1.6 | 2.1.7 |
|----------------------------|-----|----------------|----------------|-----|-------|-----------------|-----------------|-------|-------|-------|-------|
| Novell eDirectory™         | 8.0 | 8.5            | 8.5            | 8.6 | 8.6.2 | 8.6.2           | 8.7.3           | 8.7.3 | 8.7.3 | 8.7.3 | 8.7.3 |
| Microsoft Active Directory | No  | No             | No             | No  | Yes   | NA              | NA              | Yes   | No    | Yes   | No    |

## H.3 Workstation Operating Systems Support for iFolder Client

| Workstation Operating System     | 1.0 | 1.01 (Bundled) | 1.03 (Bundled) | 2.0     | 2.1     | 2.1.1 (Bundled) | 2.1.2 (Bundled) | 2.1.3 | 2.1.4 | 2.1.5 | 2.1.6 | 2.1.7 |
|----------------------------------|-----|----------------|----------------|---------|---------|-----------------|-----------------|-------|-------|-------|-------|-------|
| Windows 95                       | Yes | Yes            | Yes            | Yes     | No      | No              | No              | No    | No    | No    | No    | No    |
| Windows 98 or 98SE               | 98  | 98             | 98             | 98/98SE | 98/98SE | 98SE            | 98SE            | No    | No    | No    | No    | No    |
| Windows ME                       | Yes | Yes            | Yes            | Yes     | Yes     | Yes             | No              | No    | No    | No    | No    | No    |
| Windows NT 4 Professional        | Yes | Yes            | Yes            | Yes     | No      | No              | No              | No    | No    | No    | No    | No    |
| Windows 2000 Professional        | Yes | Yes            | Yes            | Yes     | Yes     | Yes             | Yes             | Yes   | Yes   | Yes   | Yes   | Yes   |
| Windows XP Home and Professional | No  | No             | No             | Yes     | Yes     | Yes             | Yes             | Yes   | Yes   | Yes   | Yes   | Yes   |
| Novell Linux Desktop             | No  | No             | No             | No      | No      | No              | No              | Yes   | Yes   | Yes   | Yes   | Yes   |
| SUSE 9.2                         | No  | No             | No             | No      | No      | No              | No              | No    | No    | Yes   | Yes   | Yes   |
| SUSE 9.3                         | No  | No             | No             | No      | No      | No              | No              | No    | No    | No    | Yes   | Yes   |

## H.4 Web Server Support

| Web Server                 | 1.0    | 1.01 (Bundled) | 1.03 (Bundled) | 2.0    | 2.1    | 2.1.1 (Bundled) | 2.1.2 (Bundled) | 2.1.3 | 2.1.5 | 2.1.6 | 2.1.7 |
|----------------------------|--------|----------------|----------------|--------|--------|-----------------|-----------------|-------|-------|-------|-------|
| Apache on NetWare          | 1.3.20 | 1.3.20         | 1.3.20         | 1.3.26 | 1.3.27 | 1.3.27          | 1.3.27          | Yes   | Yes   | Yes   | Yes   |
| Apache on Linux or Solaris | NA     | NA             | NA             | 2.0.39 | 2.0.43 | NA              | 2.0.48          | NA    | Yes   | Yes   | Yes   |

| Web Server          | 1.0             | 1.01<br>(Bundled) | 1.03<br>(Bundled) | 2.0             | 2.1            | 2.1.1<br>(Bundled) | 2.1.2<br>(Bundled) | 2.1.3 | 2.1.5 | 2.1.6 | 2.1.7 |
|---------------------|-----------------|-------------------|-------------------|-----------------|----------------|--------------------|--------------------|-------|-------|-------|-------|
| IIS on Windows NT 4 | Service Pack 6A | NA                | NA                | Service Pack 6A | No             | No                 | No                 | NA    | No    | No    | No    |
| IIS on Windows 2000 | Service Pack 1  | NA                | NA                | Service Pack 2  | Service Pack 3 | NA                 | NA                 | Yes   | No    | Yes   | No    |
| IIS on Windows 2003 | NA              | NA                | NA                | Service Pack 2  | Service Pack 3 | NA                 | NA                 | Yes   | No    | Yes   | Yes   |

## H.5 iFolder User Access Support

| iFolder User Access Method                   | iFolder Standard Edition (1.0, 1.01, 1.03) | iFolder 2.0 Professional Edition         | iFolder 2.1 (2.1, 2.1.1, 2.1.2, 2.1.3)                                    | iFolder 2.1.4 | iFolder 2.1.5                                                                       | iFolder 2.1.6                                                                       | iFolder 2.1.7                                                                       |
|----------------------------------------------|--------------------------------------------|------------------------------------------|---------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Novell iFolder Windows client                | Yes                                        | Yes                                      | Yes                                                                       | No            | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |
| Novell iFolder Windows client, using a proxy | No                                         | Yes                                      | Yes, plus authentication                                                  | No            | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |
| Web browser support                          | IE 5.0 or 5.5<br>Netscape* 4.7             | IE 5.0 or later<br>Netscape 4.7; not 6.0 | IE 5.0 or later<br>Netscape 7<br>Mozilla 1.4                              | No            | IE 5.0 or later<br>Mozilla 1.7<br>Firefox 1.0<br>KDE 3.2<br>Konqueror or Safari 1.2 | IE 5.0 or later<br>Mozilla 1.7<br>Firefox 1.0<br>KDE 3.2<br>Konqueror or Safari 1.2 | IE 5.0 or later<br>Mozilla 1.7<br>Firefox 1.0<br>KDE 3.2<br>Konqueror or Safari 1.2 |
| Web browser access (HTML or PDA)             | No                                         | Yes                                      | Yes                                                                       | No            | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |
| iFolder Java applet                          | No                                         | Sun JVM 1.3                              | For 2.1 and 2.1.1: Sun JVM 1.3 to 1.4.1_02<br>for 2.1.2: Sun JVM 1.4.1_02 | No            | No                                                                                  | No                                                                                  | No                                                                                  |
| Thin client support via Novell NetDrive      | No                                         | 4.1                                      | 4.1                                                                       | No            | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |

| iFolder User Access Method         | iFolder Standard Edition (1.0, 1.01, 1.03) | iFolder 2.0 Professional Edition | iFolder 2.1 (2.1, 2.1.1, 2.1.2, 2.1.3) | iFolder 2.1.4 | iFolder 2.1.5 | iFolder 2.1.6 | iFolder 2.1.7 |
|------------------------------------|--------------------------------------------|----------------------------------|----------------------------------------|---------------|---------------|---------------|---------------|
| Novell iFolder Linux client        |                                            |                                  |                                        | Yes           | Yes           | Yes           | Yes           |
| Thin Client Support via NetStorage |                                            |                                  | Yes                                    |               | Yes           | Yes           | Yes           |

## H.6 Feature Support

| Feature                                                | iFolder Standard Edition (1.0, 1.01, 1.03) | iFolder 2.0 Professional Edition | iFolder 2.1x | iFolder 2.1.5 | iFolder 2.1.6 | iFolder 2.1.7 |
|--------------------------------------------------------|--------------------------------------------|----------------------------------|--------------|---------------|---------------|---------------|
| Passphrase recovery                                    | No                                         | Yes                              | Yes          | Yes           | Yes           | Yes           |
| Large-scale deployment of multiple iFolder servers     | No                                         | Yes                              | Yes          | Yes           | Yes           | Yes           |
| User control of location of local iFolder directory    | No                                         | Yes                              | Yes          | Yes           | Yes           | Yes           |
| Report generator                                       | No                                         | Yes                              | Yes          | Yes           | Yes           | Yes           |
| iFolder Linux client                                   | No                                         | No                               | No           | Yes           | Yes           | Yes           |
| Download iFolder Linux client from iFolder server page | No                                         | No                               | No           | Yes           | Yes           | Yes           |
| NetStorage as default web client                       | No                                         | No                               | No           | Yes           | Yes           | Yes           |

## H.7 Server Platform Options Included in Your Release

If you purchase an independent release of Novell iFolder, it contains all of the platforms supported. However, if your release is bundled with an operating system, the bundle contains support for only that operating platform. The following table shows the operating platforms you can expect in your release of Novell iFolder. See [Section H.1, “Network Operating Systems Support,” on page 232](#) to see the versions of the operating systems that your release supports.

| Network Operating System        | 1.0 | 1.01 (Bundled NetWare 6.0) | 1.03 (Bundled NetWare 6.0 Sp1) | 2.0 | 2.1 | 2.1.1 (Bundled NetWare 6.5) | 2.1.2 (Bundled NetWare 6.5 SP1) | 2.1.2 (Bundled NNLS & NNLS SP1) | 2.1.3 | 2.1.5 | 2.1.6 | 2.1.7 |
|---------------------------------|-----|----------------------------|--------------------------------|-----|-----|-----------------------------|---------------------------------|---------------------------------|-------|-------|-------|-------|
| NetWare 5.1                     | Yes | No                         | No                             | Yes | Yes | No                          | No                              | No                              | No    | No    | No    | No    |
| NetWare 6.0                     | No  | Yes                        | Yes                            | Yes | Yes | No                          | No                              | No                              | No    | No    | No    | No    |
| NetWare 6.5                     | No  | No                         | No                             | No  | No  | Yes                         | Yes                             | No                              | Yes   | Yes   | Yes   | Yes   |
| Windows NT 4                    | Yes | No                         | No                             | Yes | No  | No                          | No                              | No                              | No    | No    | No    | No    |
| Windows 2000                    | Yes | No                         | No                             | Yes | Yes | No                          | No                              | No                              | Yes   | No    | No    | No    |
| Red Hat Linux 8                 | No  | No                         | No                             | Yes | Yes | No                          | No                              | No                              | No    | No    | No    | No    |
| Red Hat Enterprise Linux AS 2.1 | No  | No                         | No                             | No  | No  | No                          | No                              | Yes                             | No    | No    | No    | No    |
| Red Hat Enterprise Linux ES 2.1 | No  | No                         | No                             | No  | No  | No                          | No                              | Yes                             | No    | No    | No    | No    |
| SUSE Linux Enterprise Server 8  | No  | No                         | No                             | No  | No  | No                          | No                              | Yes                             | No    | No    | No    | No    |
| Sun Solaris                     | No  | No                         | No                             | Yes | No  | No                          | No                              | No                              | No    | No    | No    | No    |
| Windows 2003                    | No  | No                         | No                             | No  | No  | No                          | No                              | No                              | Yes   | No    | Yes   | No    |
| SUSE Linux Enterprise Server 9  | No  | No                         | No                             | No  | No  | No                          | No                              | No                              | No    | Yes   | Yes   | Yes   |

If you have a bundled version of iFolder and you want to use it on another operating platform, you can purchase the full product and download Novell iFolder 2.1 at the [Novell Product Downloads Web site \(http://download.novell.com\)](http://download.novell.com).