

Novell NetWare® 6

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NETSTORAGE ADMINISTRATION GUIDE



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Introduction to Novell NetStorage

Novell[®] NetStorage is a feature of NetWare[®] 6 that provides simple Internet-based access to file storage. NetStorage is a Net services software solution that is a bridge between a company's protected Novell network and the Internet. It gives users secure file access from any Internet location, with nothing to download or install on the user's workstation. Files and folders on a Novell network can be accessed using either a browser or Microsoft* Web Folders.

Documentation Conventions

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

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

1

NetStorage Overview and Installation

Overview

Novell® NetStorage is a feature of NetWare® 6 that provides simple Internet-based access to file storage. NetStorage is a Net services software solution that is a bridge between a company's protected Novell network and the Internet. It gives users secure file access from any Internet location, with nothing to download or install on the user's workstation. Files and folders on a Novell network can be accessed using either a browser or Microsoft* Web Folders.

Novell NetStorage includes the following features:

- ◆ Lets users securely copy, move, rename, delete, read, and write files between any Internet-enabled machine and a Novell network.
- ◆ Eliminates the need to e-mail or copy data from one machine to another.
- ◆ Supports Internet standards such as HTTP, HTTPS, HTML, XML, and WebDAV.
- ◆ Provides a gadget for NetWare WebAccess so users can get access to network files and folders by clicking on a gadget on the NetWare WebAccess page.

With NetStorage installed on one NetWare 6 server, users can potentially have access to any NetWare 5 or NetWare 6 server anywhere on your geographically dispersed NetWare network.

NetStorage relies on the power of Novell eDirectory™ to provide a single point of authentication for all network users.

Installing NetStorage

NetStorage can be installed as an optional component during the NetWare 6 installation or it can be installed after the NetWare 6 installation. It is not generally necessary to install NetStorage on every NetWare 6 server on your network. For most networks, you need NetStorage installed on only one server; this might vary depending on the size of your organization and your organization's needs.

During the NetStorage installation, you are prompted for configuration information that is necessary for NetStorage to function properly. If after installing NetStorage, you decide to change the NetStorage configuration you must either reinstall NetStorage or use the NetStorage NSAdmin utility. For more information on the NSAdmin utility, see [Chapter 3, "Using the NetStorage NSAdmin Utility," on page 15](#).

System Requirements

If you have met the requirements for NetWare 6 and have NetWare 6 installed, you have met almost all of the system requirements for NetStorage.

The following list specifies the system requirements for installing and running Novell NetStorage:

- At least one NetWare 6 server in the eDirectory tree where NetStorage will be installed (an eDirectory replica is not required to be on the same server where NetStorage is installed)
- A Netscape* Navigator* 4.7 or later or Internet Explorer 5.0 or later browser or Microsoft Web Folders

Installing Novell NetStorage during the NetWare 6 Installation

- 1** Start the NetWare 6 installation and continue through the install until you get to the screen requiring you to choose either the Express or the Custom installation.
- 2** Select the Custom installation option.

You must select the Custom installation option to install NetStorage during the NetWare 6 installation. You cannot install NetStorage during an Express installation.

You are given the option of installing a new server or upgrading an existing server. NetStorage can be installed using either of these options.

Continue through the installation until you get to the screen that lists the components that can be installed with NetWare 6.

- 3** Check the box for the NetStorage Component along with the other components you want installed with NetWare 6, and then click Next.

Continue to the NetStorage Install screen.

- 4** Specify the IP address or DNS name of a server in your eDirectory tree that has the master replica or a read/write replica of eDirectory.

The primary eDirectory server URL is required for NetStorage to function properly. This does not necessarily have to be the IP address or DNS name of the server where NetStorage is to be installed.

When a user attempts to log in, NetStorage searches the eDirectory database on the server you specify for the User object. If the User object is found, NetStorage attempts to authenticate the user to eDirectory.

If you know the eDirectory context for the users that will use NetStorage, you can add that context to the URL by inserting a colon (:) between the IP address or DNS name and the eDirectory context. The context is optional. If no context is specified, NetStorage searches the entire eDirectory tree on the primary eDirectory server for User objects.

For example, if the IP address of the server is 127.0.0.1 and the eDirectory context for your users is `personnel`, then you would add **127.0.0.1:personnel** to the field.

- 5** (Optional) Specify IP addresses or DNS names of servers in other eDirectory trees that have at least read/write eDirectory replicas, or specify the same IP address or DNS name you used for the primary eDirectory server but with a different context.

You can add two alternate eDirectory server IP addresses or DNS names and context settings. These alternate settings are used to allow NetStorage to find User objects that exist in contexts other than what you specified for the primary eDirectory server. The alternate settings also allow NetStorage to find User objects with the same name in different eDirectory trees. The alternate URL and context settings are optional, but can help provide users with an additional level of access to NetStorage.

- 6** (Optional) Specify the IP address or DNS name and the port number that you assigned to Novell iFolder™.

If you are installing NetStorage during the NetWare 6 installation, you can click the Back button to go back and view the screen where the IP address and port number assignments were made. This does not

necessarily have to be the IP address or DNS name of the server where NetStorage is to be installed.

The iFolder DNS name or IP address and the port number are optional but, if specified, will allow NetStorage users to access and manipulate files and directories in their iFolder directory on the iFolder server.

Installing Novell NetStorage after the NetWare 6 Installation

If you did not install NetStorage during the NetWare 6 installation, you can install it later by completing the following steps:

- 1** Insert the *NetWare 6 Operating System* CD into your NetWare 6 server.
You might need to load CDROM.NLM on the server to access the *NetWare 6 Operating System* CD.
- 2** From the Novell menu on the NetWare 6 console GUI, select Install.
- 3** Click Add and then browse to the root of the *NetWare 6 Operating System* CD.
- 4** Select the PRODUCT.NI file and click OK.
- 5** Check the NetStorage component check box and deselect all other components or products unless you specifically want to install them.
- 6** Continue with [Step 4 on page 11](#) to complete the NetStorage installation.

IMPORTANT: If you install NetStorage after the NetWare 6 installation, you must restart your NetWare 6 server after completing the NetStorage installation.

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Starting and Using NetStorage

Once you install NetStorage, it will start automatically when you start your NetWare 6 server. If NetStorage is not accessible, restart the NetWare 6 server where NetStorage is installed. Also, the date and time on the server running NetStorage should be reasonably close (within a few hours) to the date and time on the machine being used to access NetStorage.

To access NetStorage, do the following:

- 1** Start your browser or Microsoft Web Folders and enter the URL for NetStorage.

The URL is `http://server_ip_address/oneNet/NetStorage/`. Replace *server_ip_address* with the IP address or DNS name of the NetWare 6 server where you installed NetStorage or the IP address you chose for the Apache-based services during the NetWare 6 installation.

If you specified a port number other than port 80 for Apache-based services during the NetWare 6 installation, you must also specify that port number with the URL.

For example, if the IP address for NetStorage is 127.1.1.1 and the port number is 51080, then you would specify **127.1.1.1:51080/oneNet/NetStorage/**.

- 2** Enter your username and password.

NetStorage uses your eDirectory username and password, so you don't need to remember or use a separate username or password.

The NetStorage Web page displays the network files and folders currently accessible for each user. NetStorage reads the user's NetWare login script to determine drive mappings, reads eDirectory User object properties to determine the path to the user's home directory, and then displays a list of files and folders based on mapped drives and home directories.

If you specified alternate IP addresses or DNS names of servers in other eDirectory trees during the NetStorage installation, NetStorage reads the User object properties in the other eDirectory trees and displays those home directories also. This is useful if a user normally logs in to more than one eDirectory tree and you want that user to have access to additional home directories in different eDirectory trees using NetStorage. The User object name must be the same for each eDirectory tree.

NetStorage reads the container, profile and user login scripts only from the primary eDirectory server specified during the installation and displays the user's drive mappings only based on those login scripts.

Users might have specific eDirectory rights to certain files and folders on your network but will not be able to access those files and folders using NetStorage unless login script drive mappings exist to those folders or the files and folders are in the user's home directory. If you want to provide users with NetStorage access to a specific folder, you might have to add a drive mapping command to that folder in a login script (container, profile, or user).

You can use many of the same conventions for expanding and contracting folders and opening files that are available in Windows Explorer. To create new folders or copy, delete, rename, move, or download existing files or folders using a browser, click the Down arrow next to the file or folder.

Clicking the Folder View button in the browser window displays folders in another column and lets you expand and contract folders. The Text View only displays the files and folders in the current directory and does not let you expand or contract folders.

Local files and folders are not accessible using NetStorage. Also, mapping drives or changing login scripts is not permitted.

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Using the NetStorage NSAdmin Utility

The NSAdmin utility is useful if you want to change your NetStorage configuration after NetStorage has been installed. NetStorage configuration information is stored in the NetWare[®] registry and the NSAdmin utility provides an easy method for changing NetStorage registry entries.

Exercise caution when using NSAdmin to change NetWare registry settings. Some NetWare registry entries should be changed only under direction from Novell[®], and changing them could adversely affect NetStorage and your NetWare server.

After changing any registry settings you must reboot your NetWare server for changes to take effect.

To access the NSAdmin utility, do the following:

- 1** Start your browser or Microsoft Web Folders and enter the URL for the NSAdmin utility.

The URL is `http://server_ip_address/oneNet/nsadmin/`. Replace *server_ip_address* with the IP address or DNS name of the NetWare 6 server where you installed NetStorage or the IP address you chose for the Apache-based services during the NetWare 6 installation.

If you specified a port number other than port 80 for Apache-based services during the NetWare 6 installation, you must also specify that port number with the URL.

For example, if the IP address for NetStorage is 127.1.1.1 and the port number is 51080, then you would specify `127.1.1.1:51080/oneNet/nsadmin/`.

- 2** Enter your username and password.

The NSAdmin Web page displays a list of links in the left column that are used to access the various pages for editing and viewing NetStorage configuration information in the NetWare registry.

Descriptions and information for each NSAdmin page are described in the following sections:

General

The General page lets you view or edit the following configuration settings:

- ◆ Location

The registered location you want users to enter as part of the NetStorage URL to access NetStorage. The default is oneNet.

If you change this registry setting, you must also edit a configuration file for the change to take effect. To do this, edit the `SYS:\NETSTORAGE\XSRV.CONF` file and change the `/oneNet` setting in the Location section (first section) to the same setting you specified in NSAdmin.

- ◆ Certificate Name

NetIdentity is the default certificate name. It is created automatically during the NetStorage installation. If you purchased a certificate that you want to use or you just want to use a different certificate, enter the certificate name in this field.

Any certificates used by NetStorage should reside in the same eDirectory™ context.

- ◆ Session Timeout

The amount of time in seconds that the session will remain idle before it is terminated. If there is no NetStorage activity for this amount of time, the user will be required to log in again to NetStorage before being allowed file access.

- ◆ Debug Level

This setting should not be changed except under direction from Novell.

- ◆ Janitor Interval

This setting should not be changed except under direction from Novell.

- ◆ Proxy Username and Proxy Password

The admin username and password that you entered when you installed your NetWare server. If you want NetStorage to use a different username and password for administrator access, enter it in the fields provided.

If you click the Set Defaults button the value will be set to whatever value appears in the Default Value column. If there is no value in the Default Value column the value will be set to blank (no value).

- ◆ **Persistent Cookies**

The Persistent Cookies setting can be turned either on or off. With the value set to 0, Persistent Cookies is turned off. Persistent Cookies is turned on (the default) if there is no value or the value is set to anything other than 0.

With Persistent Cookies turned off, the NetStorage session will end when the user closes the current browser or Web folder. Also, if the user has a current instance of NetStorage up in a browser window or web folder and starts up a new browser instance or web folder, the user will be required to re-authenticate.

Turning off Persistent Cookies can be beneficial if you have workstations that are shared because as long as the browser instance is closed down, the next user of the workstation cannot accidentally or intentionally obtain access to your network through NetStorage.

Leaving Persistent Cookies turned on can be beneficial if your workstations are not shared because it prevents users from having to unnecessarily re-authenticate.

If the user selects the Logout option in NetStorage, the NetStorage session will end regardless of whether Persistent Cookies is turned on or off.

Authentication Domains

Lets you change or add the eDirectory server URLs and contexts that are required by NetStorage. This page also lets you change the eDirectory server that is designated as the Primary. See [“Installing Novell NetStorage during the NetWare 6 Installation” on page 10](#) for more information about eDirectory server URLs and contexts.

The following list identifies the functions of the buttons on the Authentication Domains page:

- ◆ Add Domain
Adds another eDirectory server IP addresses or DNS name.
- ◆ Make Primary
Makes the eDirectory server URL listed above the button the Primary.
- ◆ Remove Domain
Removes the eDirectory server URL from the list of URLs used by NetStorage.
- ◆ Remove Context
Removes the context (if there is one) from the eDirectory server URL.
- ◆ Add Context
Adds a context to the eDirectory server URL.

URL Location Handlers

Lets you view the location of the XTier, iFolder™ and NetStorage Admin handlers. The value provides a more intuitive description than what is displayed in the Location column. The Value field should not be changed.

WebDav Provider

Lets you view or edit the following configuration settings:

- ◆ Moniker
The location of the NetStorage WebDav provider (XDAV.NLM). It is the location you want users to enter as part of the NetStorage URL to access NetStorage. The default is NetStorage.
- ◆ Template Directory
The directory for the HTML interface. This setting should not be changed except under direction from Novell.
- ◆ Debug Level
This setting should not be changed except under direction from Novell.

iFolder Storage Provider

Lets you view or edit the following iFolder-specific configuration settings:

- ◆ Root

The name of the root directory for iFolder. The root iFolder directory is a virtual directory, and changing it will change the iFolder directory name users see when accessing their files and directories on the iFolder server. The default is iFolder.

- ◆ Passphrase Form Protocol

HTTPS is the default. This field should not be changed unless you want users' passphrases to be sent in clear text.

- ◆ iFolder Server

The DNS name and port number for the iFolder server. This setting shouldn't need to be changed unless you are changing the iFolder server you users will access.

If you click the Set Defaults button the value will be set to whatever value appears in the Default Value column. If there is no value in the Default Value column the value will be set to blank (no value).

- ◆ Secure Port

The port number that HTTPS is running on. This setting normally does not need to be changed. The default is 443.

- ◆ Debug Level

This setting should not be changed except under direction from Novell.

NetWare Storage Provider

Lets you view or edit the following configuration settings:

- ◆ Home Name

This text will be displayed on the NetStorage Web page and will be followed by the tree name and path to the user's home directory. The user might have home directories in multiple trees, in which case multiple paths will be displayed.

The default is Home@. You might want to change this if you want to reference home directories with a different word or in a language other than English. See the Alternate Tree Name bullet item below for more information on configuring NetStorage to display multiple home directories.

- ◆ Drive Name

This text will be displayed on the NetStorage Web page and will include the drive letter being referenced followed by the path to the mapped drive. The user's login script on the primary tree is parsed by NetStorage to gather information on mapped drives. You might want to change this if you want to use a different word or words to reference mapped drives on the NetStorage Web page.

- ◆ Debug Level

This setting should not be changed except under direction from Novell.

- ◆ Public Directory Name

This registry key provides a way for any NetStorage user to make documents or files available to other NetStorage users.

A public directory can be automatically created in each user's home directory by NetStorage. If public directories are created by NetStorage, all users in the same eDirectory context will have Read and File Scan rights to the other users' public directories.

If you don't want public directories created in users' home directories, leave this field blank (the default).

If you want public directories created in users' home directories enter the name for the public directories. For example, if you enter **My Public Files** as the name for the public directories, a folder named My Public Files will be created at the root of each user's home directory the first time the user logs in using NetStorage.

To access a public directory, users need to add *~username* at the end of the URL used to access NetStorage. For example if you want to access the public directory for a user named jsmith, you might enter a URL similar to **http://file.i-login.net/oneNet/NetStorage/~jsmith**.

- ◆ Alternate Tree Name

When a user's home directory is displayed by NetStorage, the name of the eDirectory tree is also displayed. With this configuration field, you can substitute the tree name that users see in NetStorage to something that might be more intuitive. For example, if the tree name is **SERVICES2** and you want users to see **i-Login** you would enter **SERVICES2/i-Login** in this configuration field. The eDirectory tree name and the substitute name are separated by a slash.

NetStorage has the capability of accessing user home directories in multiple eDirectory trees. Multiple tree pairs can be listed with the pairs separated by a comma. If you want to substitute eDirectory tree names in more than one tree, separate the pairs by a comma and the tree name substitutions by a slash. An example of this is **SERVICES2/i-Login, SERVEME2/Staging**. The tree name is not case sensitive.

- ◆ **Container Search Height**

Specifies the number of container levels (from where the user object is located) that NetStorage will search up in the directory tree for the container login script. The default is 1, which is the same level used by Novell client software.

If you specify a number greater than the number of container levels in the directory tree, NetStorage will search up to and including the root container in the tree. If you specify 0, NetStorage will only search the container where the user object is located.

General Provider Settings

Lets you view the location of the Home Directory, Mapped Drives, iFolder, and XFile stores. The value provides a more intuitive description than what is displayed in the Location column. The Value field should not be changed.

Components

Configuration Settings on this page should not be changed except under direction from Novell.

Current Sessions

Displays a report with information on the current NetStorage sessions. The report is in XML format and can be customized with a parser to provide specific information.

Session

Displays the username and I/O Request information specific to your current NetStorage session.

Resource Usage

Displays a detailed report of resource utilization (memory, etc.) for NetStorage. The report is in XML format and can be customized with a parser to provide specific information.

Statistics

Displays a report with information on things like server up time, login failures, number of NetStorage sessions, etc. The report is in XML format and can be customized with a parser to provide specific information.

WebDAV Server

Lets you view or edit the protocol, IP address, and port number of your Web server. These settings do not normally need to be changed unless you change the IP address or port number of your Web server or you want to change to secure mode.

By default the servlet will make a request using the same IP address and port number that was used by the client making the servlet request. Tomcat uses non-secure mode by default. If you change the protocol to secure mode (https://), you must configure Tomcat for secure mode (SSL) and change the port number to a secure port. Changing to a secure protocol and port number will slow down network communication because all requests must be repeatedly encrypted and unencrypted.

Servlets do not require SSL to be secure because servlet requests stay on the Web server and aren't sent over the wire. This eliminates the need and the overhead of SSL.